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41 Pages

भारतीय चिकित्सा केन्द्रीय परिषद
आयुष मंत्रालय, भारत सरकार के अधीन एक सांविधिक निकाय
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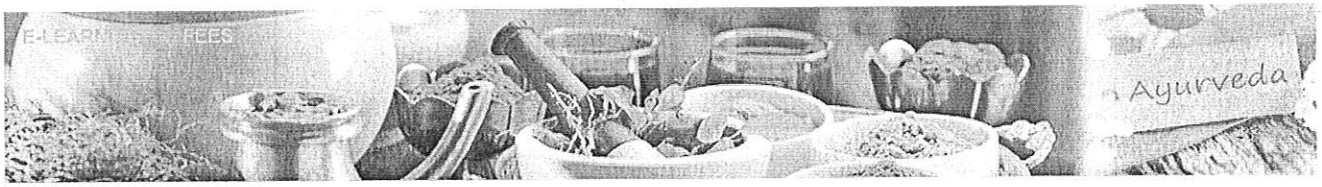

CENTRAL COUNCIL OF INDIAN MEDICINE

NEW DELHI

SYLLABUS FOR POST – GRADUATE COURSE IN AYURVED

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M.D./M.S.-AYURVEDA PRELIMINARY

PAPER-I

RESEARCH METHODOLOGY AND MEDICAL STATISTICS

PART-A

RESEARCH METHODOLOGY

1 Introduction to Research

A. Definition of the term research
B. Definition of the term anusandhan
C. Need of research in the field of Ayurveda

2 **General guidelines and steps in the research process**
A. Selection of the research problem
B. Literature review: different methods (including computer database) with their advantages and limitations
C. Defining research problem and formulation of hypothesis
D. Defining general and specific objectives
E. Research design: observational and interventional, descriptive and analytical, preclinical and clinical, qualitative and quantitative
F. Sample design
G. Collection of the data
H. Analysis of data.
I. Generalization and interpretation, evaluation and assessment of hypothesis.
J. Ethical aspects related to human and animal experimentation.
K. Information about Institutional Ethics Committee (IEC) and Animal Ethics Committee (AEC) and their functions. Procedure to obtain clearance from respective committees, including filling up of the consent forms and information sheets and publication ethics.

3 **Preparation of research proposals in different disciplines for submission to funding agencies taking EMR-AYUSH scheme as a model.**

4. **Scientific writing and publication skills.**
a. Familiarization with publication guidelines- Journal specific and CONSORT guidelines.
b. Different types of referencing and bibliography.
c. Thesis/Dissertation: contents and structure
d. Research articles structuring: Introduction, Methods, Results and Discussions (IMRAD)

5 **Classical Methods of Research.**
Concept of Pratyakshadi Pramana Pariksha, their types and application for Research in Ayurveda.
Dravya-, Guna-, Karma-Parikshana Paddhati
Aushadhi-yog Parikshana Paddhati
Swastha, Atura Pariksha Paddhati
Dashvidha Parikshya Bhava
Tadvidya sambhasha, vadmarga and tantrayukti

6 **Comparison between methods of research in Ayurveda (Pratigya, Hetu, Udaharana, Upanaya, Nigaman) and contemporary methods in health sciences.**

7. Different fields of Research in Ayurveda
Fundamental research on concepts of Ayurveda
a. Panchamahabhuta and tridosha.
b. Concepts of rasa, guna, virya, vipak, prabhav and karma
c. Concept of prakriti-saradi bhava, ojas, srotas, agni, aam and koshtha.

8. Literary Research-
Introduction to manuscriptology: Definition and scope. Collection, conservation, cataloguing.
Data mining techniques, searching methods for new literature; search of new concepts in the available literature. Methods for searching internal and external evidences about authors, concepts and development of particular body of knowledge.

9. Drug Research (Laboratory-based)- Basic knowledge of the following:
Drug sources: plant, animal and mineral. Methods of drug identification.
Quality control and standardization aspects: Basic knowledge of Pharmacopoeial standards and parameters as set by Ayurvedic Pharmacopoeia of India.
Information on WHO guidelines for standardization of herbal preparations. Good Manufacturing Practices (GMP) and Good Laboratory Practices (GLP).

10. Safety aspects: Protocols for assessing acute, sub-acute and chronic toxicity studies. Familiarization with AYUSH guidelines (Rule 170), CDCSO and OECD guidelines.

11. Introduction to latest Trends in Drug Discovery and Drug Development
-Brief information on the traditional drug discovery process
-Brief information on the latest trends in the Drug Discovery process through employment of rational approach techniques; anti-sense approach, use of micro and macro-arrays, cell culture based assays, use of concepts of systems biology and network physiology
-Brief introduction to the process of Drug development

12. Clinical research:
Introduction to Clinical Research Methodology identifying the priority areas of Ayurveda
Basic knowledge of the following:-

Observational and Interventional studies
Descriptive & Analytical studies
Longitudinal & Cross sectional studies
Prospective & Retrospectives studies
Cohort studies
Randomized Controlled Trials (RCT) & their types
Single-case design, case control studies, ethnographic studies, black box design, cross-over design, factorial design.
Errors and bias in research.
New concepts in clinical trial- Adaptive clinical trials/ Good clinical practices (GCP)
Phases of Clinical studies: 0,1,2,3, and 4.
Survey studies -
Methodology, types, utility and analysis of Qualitative Research methods. Concepts of in-depth interview and Focus Group Discussion.

13. Pharmacovigilance for ASU drugs. Need, scope and aims & objectives. National Pharmacovigilance Programme for ASU drugs.

14. Introduction to bioinformatics, scope of bioinformatics, role of computers in biology. Introduction to Data base- Pub med, Medlar and Scopus. Accession of databases.

15. Intellectual Property Rights- Different aspect and steps in patenting. Information on Traditional Knowledge Digital Library (TKDL).

PG 1st Year Syallabus-3

PART–B **40 marks**

MEDICAL STATISTICS **Teaching hours: 80**

1 **Definition of Statistics :** Concepts, relevance and general applications of Biostatistics in Ayurveda

2 **Collection, classification, presentation, analysis and interpretation of data** (Definition, utility and methods)

3 **Scales of Measurements -** nominal, ordinal, interval and ratio scales.
Types of variables – Continuous, discrete, dependent and independent variables.
Type of series – Simple, Continuous and Discrete

4 **Measures of Central tendency** – Mean, Median and Mode.

5 **Variability:** Types and measures of variability – Range, Quartile deviation, Percentile, Mean deviation and Standard deviation

6 **Probability**: Definitions, types and laws of probability,

7 **Normal distribution**: Concept and Properties, Sampling distribution, Standard Error, Confidence Interval and its application in interpretation of results and normal probability curve.

8 **Fundamentals of testing of hypotheses:**
Null and alternate hypotheses, type I and type 2 errors.
Tests of significance: Parametric and Non-Parametric tests, level of significance and power of the test, 'P' value and its interpretation, statistical significance and clinical significance

9 **Univariate analysis of categorical data:**
Confidence interval of incidence and prevalence, Odds ratio, relative risk and Risk difference, and their confidence intervals

10 **Parametric tests:** 'Z' test, Student's 't' test: paired and unpaired, 'F' test, Analysis of variance (ANOVA) test, repeated measures analysis of variance

11 **Non parametric methods:** Chi-square test, Fisher's exact test, McNemar's test, Wilcoxon test, Mann-Whitney U test, Kruskall – Wallis with relevant post hoc tests (Dunn)

12 **Correlation and regression analysis:**
Concept, properties, computation and applications of correlation, Simple linear correlation, Karl Pearson's correlation co-efficient, Spearman's rank correlation.
Regression- simple and multiple.

13 **Sampling and Sample size computation for Ayurvedic research:**
Population and sample. Advantages of sampling, Random (Probability) and non random (Non-probability) sampling. Merits of random sampling. Random sampling methods- simple random, stratified, systematic, cluster and multiphase sampling. Concept, logic and requirement of sample size computation, computation of sample size for comparing two means, two proportions, estimating mean and proportions.

14 **Vital statistics and Demography**: computation and applications - Rate, Ratio, Proportion, Mortality and fertility rates, Attack rate and hospital-related statistics

15 **Familiarization with the use of Statistical software** like SPSS/Graph Pad

PRACTICAL

100 marks

I. RESEARCH METHODOLOGY

Teaching hours 120

PRACTICAL NAME

1 **Pharmaceutical Chemistry**
Familiarization and demonstration of common lab instruments for carrying out analysis as per API

2 **Awareness of Chromatographic Techniques**
Demonstration or Video clips of following:
- Thin-layer chromatography (TLC).
- Column chromatography (CC).
- Flash chromatography (FC)
- High-performance thin-layer chromatography (HPTLC)
- High Performance (Pressure) Liquid Chromatography (HPLC)
- Gas Chromatography (GC, GLC)

4 **Pharmacognosy**
Familiarization and Demonstration of different techniques related to:-
Drug administration techniques- oral and parenteral.
Blood collection by orbital plexuses puncturing.
Techniques of anesthesia and euthanasia.
Information about different types of laboratory animals used in experimental research
Drug identification as per API including organoleptic evaluation

5 **Pharmacology and toxicology**
Familiarization and demonstration of techniques related to pharmacology and toxicology

6 **Biochemistry (Clinical)**
Familiarization and demonstration of techniques related to basic instruments used in a clinical biochemistry laboratory – semi and fully automated clinical analyzers, electrolyte analyzer, ELISA- techniques, nephelometry.
Demonstration of blood sugar estimation, lipid profiles, kidney function test, liver function test. HbA1, cystatin and microalbumin estimation by nephelometry or other suitable techniques.
Interpretation of the results obtained in the light of the data on normal values.

7 **Clinical Pathology**
Familiarization and demonstration of techniques related to basic and advanced instruments used in a basic clinical
pathology lab. Auto cell counter, urine analyzer, ESR, microscopic examination of urine.

8 **Imaging Sciences**
Familiarization and demonstration of techniques related to the imaging techniques.
Video film demonstration of CT-Scan, MRI-scan and PET-scan.

9 **Clinical protocol development**

II. MEDICAL STATISTICS

Practical hours:20

Statistical exercise of examples from Topic number 4, 5, 8-12, 14, 15.
Records to be prepared.
Distribution of marks (practical):

1. Instrumental spotting test – 20 marks
2. Clinical protocol writing exercise on a given problem – 20 marks
3. Records:
4. Research methodology -10 Mark
5. Medical statistics -10 marks
6. Viva- Voce -40 Marks

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2. Drug Survey by Mayaram Uniyal
3. Fahn A (1981). Plant Anatomy 3rd Edition Pergamon Press, Oxford
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8. Laboratory Guide for- The Analysis of Ayurved and Siddha Formulations – CCRAS, New Delhi.
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Biochemistry and Laboratory techniques:

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Research methodology:

1. Alley, Michael. The craft of scientific writing. Englewood Cliffs. N.N. Prentice 1987.
2. Ayurvediya Anusandhan Paddhati – P.V. Sharma
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Drug research and development:

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2. Research guidelines for evaluating the safety and efficacy of herbal medicines. (1993). . WHO- (Regional Office for Western Pacific – Manila) ISBN 92 9061 110 3 (NLM Classification: WB 925).

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Biotechnology and Bio-informatics:

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Clinical Evaluation:

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Medical Statistics:

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M.D.-AYURVEDA PRELIMINARY

1. AYURVED SAMHITA & SIDDHANTA (Ayurvedic Compendia & Basic Principles)

PAPER-II — **THEORY- 100 marks**

Practical- Viva-Voce-100

PART–A — **50 marks**

1. Learning and Teaching methodology available in Samhita- Tantrayukti, Tantraguna, Tantradosha, Tachchilya, Vadamai Kalpana, Arthashraya, Trividha Gyanopaya, teaching of Pada, Paada, Shloka, Vakya, Vakyartha, meaning and scope different Sthana and Chatushka of Brihatrayee.
2. Manuscriptology - Collection, conservation, cataloguing, Critical editing through collation, receion (A critical revision of a incorporating the most plausible elements found in varying sources), emendation (changes for improvement) and tex criticism (critical analysis) of manuscripts. Publication of edited manuscripts.
3. Concept of Bija chatustaya (Purush, Vyadhi, Kriyakaal, Aushadha according to Sushrut Samhita).
4. Introduction and Application of Nyaya (Maxims) - Like Shilaputrak Nyaya, Kapinjaladhikaran Nyaya, Ghunakshara Nya Gobalivarda Nyaya, Naprishtah Guravo Vadanti Nyaya, Shringagrahika Nyaya, Chhatrino Gacchhanti Nya Shatapatrabhedana Nyaya, Suchikatah Nyaya.
5. Importance and utility of Samhita in present era.
6. Importance of ethics and principles of ideal living as mentioned in Samhita in the present era in relation to life style disorder
7. Interpretation and co-relation of basic principles with contemporary sciences.

PART-B — **50 marks**

1. Definition of Siddhanta, types and applied examples in Ayurveda.
2. Ayu and its components as described in Samhita.
3. Principles of Karana-Karyavada, its utility in advancement of research in Ayurveda.
4. Theory of Evolution of Universe (Srishti Utpatti), its process according to Ayurveda and Darshana.
5. Importance and utility of Triskandha (Hetu, Linga, Aushadh) and their need in teaching, research and clinical practice.
6. Applied aspects of various fundamental principles: Tridosha, Triguna, Purusha and Atmanirupana, Shatpadartha, Ahi Vihara. Scope and importance of Pariksha (Pramana).
7. Importance of knowledge of Sharir Prakriti and Manas Prakriti.
8. Comparative study of Principles of Ayurveda and Shad Darshanas.

1. **REFERENCE BOOKS:-**

1	Charak Samhita	Chakrapani commentary
2	Sushrut Samhita	Dalhana Commentary
3	Ashtanga Samgraha	Indu commentary
4	Ashtanga Hridaya	Arundutta and Hemadri commentary
5	Vaisheshika Darshan	Prashastapada Bhasya
6	Nyaya Darshan	Vatsyayan Bhasya Patanjala
7	Yoga Darshan	Vyas Bhasya
8	Vedantsara	
9	Sarvadarshan Samgraha	
10	Bhartiya Darshan	Baldev Upadhayaya

11	Ayurved Darshanam	Acharya Rajkumar Jain

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M.D.-AYURVEDA PRELIMINARY

RACHANA SHARIR
(Anatomy

PAPER-II Theory 100 marks

PART-A 50 marks

1. Basic principles of Sharira, Purushavichaya, Rashi Purusha, Karma Purusha (Shad Dhatuj Purusha), Chaturvimshati Purus Ek Dhatu Purusha. Relevant principles described in the Sharirasthan of Sushrut Samhita, Charak Samhita, Ashtang Sang and Ashtang Hridaya.
2. Basic principles of Garbha Sharira in Ayurveda: Definitions of Garbha, Shukra Shonita Siddhanta, Dauhrida, Matri Garbhotpattikar bhava.
1. Types of tissues, histological study of liver, spleen, uterus, kidney, endocrine glands, mammary gland, skin, tongue, lur bronchi, bones, muscles, cartilages and nervous tissue.

PART-B 50 mar

1. Paribhasha Sharira (Anatomical terminology)
2. Pramana Sharira – Anguli and Anjali Pramana, Sama pramana Sharira, Ayama – Vistara and their prognostic values.
3. Fundamental aspects of Asthi, Sandhi, Peshi Sharir.
4. Fundamental aspects of Sira, Dhamani, Srotas – Definitions, Siravedha, Avedhya Sira. Fundamental aspect of Srotomc Sthana.
5. Fundamental aspects of Koshtha and Koshthang: Hridaya, Yakrit, Vrikka, phuphphusa, Aantra, Pleeha, Adhivrikkagrar Basti, Paurushagranthi, Amashaya, Agnyashaya and Vrishana.
6. Fundamental aspects of Uttamangiya Sharir – Introduction to Nervous system - development, divisions, neuron–structu types, functional anatomy.
7. Mrita shodhan (as per Sushruta) and Mrita Samrakshana (preservation method of human cadaver).

PRACTICAL 100 mar

Contents:

1. Practical study of bones
2. Practical study of organs
3. Practical study of surface and radiological anatomy.
4. Shava Vichhedana – detailed dissection of the whole body.
5. Practical study of location of Marma
6. Demonstration of histology slides (10 slides)

1. **Distribution of marks (Practical)**

1. Spotting - 20 Marks
2. Surface Anatomy - 20 Marks
3. Dissection - 30 Marks
4. Imaging Anatomy – Basic Principles and Application - 10 Marks
5. Viva-Voce - 20 Marks

REFERENCE BOOKS:

1. Relevant matters of Brihatrayee and Laghutrayee
2. PratyakshaShariram - GananathSen
3. AbhinavaShariram - Damodar Sharma Gaur
4. Parishadyam Sabdartha Shariram - Damodara Sharma Gaur
5. Brihat Shariram - P S Varier
6. Shiva Samhita
7. Gray's Anatomy - Latest Edition
8. Human Anatomy - B D Chaurasia
9. Cunnigham's Companion to Manual of Practical Anatomy.Vol I, II & III
10. Developing Human - Keith L Moore &Persaud
11. Clinically oriented Anatomy - Keith L Moore
12. Clinically oriented Neuro Anatomy - Richard Snell
13. Surface and Radiological Anatomy - Halim
14. Grant's Methods of Anatomy -Grant
15. Grant's dissector -Grant
16. Human Embryology -I. B. Singh
17. Ayuervediya Human Anatomy - G. M. Kanthi

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M.D.-AYURVEDA PRELIMINARY

3.KRIYA SHARIR
(Physiology)

PAPER-II **Theory 100 Marks**

PART-A **50 marks**

1. Theory of Loka-Purusha Samya
2. Theory of Panchamahabhuta
3. Physiological aspects of Samanya – Vishesha siddhanta
4. Concepts of Tridosha and Triguna
5. Concept of Dhatu
6. Concept of Mala
7. Description of Ojas
8. Process of Ahara Parinama including Aharaparinamakara Bhava and Asta Ahara Vidhi Visesayatana
9. Physiological importance of Agni, its classification and functions
10. Dhatuposana theories
11. Concepts of Atma, Manas and Indriya.
12. Concepts of Prakriti and Ashtavidha Sara.
13. Concept of Srotas

PART-B **50 mar**

Description of essential and relevant understandings related to contemporary physiology, both general physiology systemic physiology.

1. Essentials of cell physiology – organization of cell.
2. Membrane physiology- transport across cell membrane, action potentials and resting membrane potentials.
3. Homeostasis- negative and positive feedback mechanisms.
4. Genetic code, its expression and regulation of gene expression.
5. Essentials of cardiovascular physiology- cardiac cycle, regulation of heart rate and blood pressure.
6. Essentials of respiratory physiology- regulation of respiration-chemical and neural, gaseous exchange, transportation of gas
7. Gastrointestinal physiology- various digestive juices and their actions, gastrointestinal hormones, enteric nervous system.
8. Nervous system physiology- ANS, somatic nervous system, reflexes, general and special sensations, higher mental functic functions of brain, brainstem and spinal cord.
9. Blood: Blood cells-RBCs, WBCs, platelets, plasma proteins and immunity.
10. Muscle physiology: properties and mechanisms of contraction of skeletal, cardiac and smooth muscles.
11. Physiology of excretion- mechanism of urine formation, micturition.
12. Endocrine physiology: Classification of hormones, hormones secreted by pituitary, thyroid, parathyroid, adrenal glands, pin pancreas and their functions.
    Study of male and female reproductive system: functions of reproductive hormones.

PRACTICAL

100 mar

Contents:

Ayurvedic practicals

Assessment of Prakriti
Assessment of Sara
Pramana Pariksha

Hematology

Hemoglobin estimation
Total RBC count
Total WBC count
Differential leukocyte count
Packed cell volume (PCV)
ESR
Bleeding time
Clotting time
Blood grouping and Rh typing

Urine examination -

Physical examination- Specific gravity and reaction of urine

Chemical examination

Albumin test
Sugar test
Ketone bodies
Bile salts and pigments

Distribution of marks (Practical)

1. Laboratory Practical - 20
2. Human Experiment - 15
3. Spotting - 15
4. Prakriti Saradi pariksha - 20
5. Practical Record - 10
6. Viva-voce - 20

REFERENCE BOOKS:

1. Ayurvediya Kriyasharir - Ranjit Rai Desai
2. Kayachikitsa Parichaya - C. Dwarkanath
3. Prakrit Agni Vigyan - C. Dwarkanath
4. Sharir Kriya Vigyan - Shiv Charan Dhyani
5. Abhinava Sharir Kriya Vigyana - Acharya Priyavrata Sharma
6. Dosha Dhatu Mala Vigyana - Shankar Gangadhar Vaidya
7. Prakrita Dosha Vigyana - Acharya Niranjana Dev
8. Tridosha Vigyana - Shri Upendranath Das
9. Sharira Tatva Darshana - Hirlekar Shastri
10. Prakrita Agni Vigyana - Niranjana Dev
11. Deha Dhatvagni Vigyana - Vd. Pt. Haridatt Shastri
12. Sharir Kriya Vigyana (Part 1-2) - Acharya Purnchandra Jain
13. Sharir Kriya Vigyana - Shri Moreshwar Dutta Vd.
14. Sharira Kriya Vijnana (Part 1-2) - Nandini Dhargalkar
15. Dosha Dhatu Mala Vigyana - Basant Kumar Shrimal

16. Abhinava Sharir Kriya Vigyana - Dr. Shiv Kumar Gaur
17. Pragyogik Kriya Sharir - Acharya P.C. Jain
18. Kaya Chikitsa Parichaya - Dr. C. Dwarkanath
19. Concept of Agni - Vd. Bhagwan Das
20. Purush Vichaya - Acharya V.J. Thakar
21. Kriya Sharir - Prof. Yogesh Chandra Mishra
22. Sharir Kriya Vigyana - Prof. Jayaram Yadav & Dr. Sunil Verma
23. Basic Principles of Kriya-Sharir (A treatise on Ayurvedic Physiology) by -Dr. Srikant Kumar Panda
24. Sharir Kriya – Part I & II - Dr. Ranade, Dr. Deshpande & Dr. Chobhe
25. Human Physiology in Ayurveda - Dr Kishor Patwardhan
26. Sharirkriya Vignyan Practical Hand Book - Dr.Ranade, Dr.Chobhe, Dr. Deshpande
27. Sharir Kriya Part 1&2 - Dr.R.R.Deshapande, Dr.Wavhal
28. Textbook of Physiology - Gyton & Hall
29. Review of medical physiology - William Ganong
30. Essentials Of Medical Physiology - Sembulingam, K.
31. Concise Medical Physiology - Chaudhari, Sujit. K.
32. Fundamental of Anatomy & Physiology - Martini
33. Principals of Anatomy & Physiology - Tortora & Grabowski

34. Human Physiology - Richards, Pocock
35. Samson Wrights Applied Physiology, Keele, Neil, joels
36. Brainstem Control of Wakefulness And Sleep - Steriade, Mirce
37. An Introduction to Human Physiology - Green, J.h.
38. Ancient Indian Medicine - Kutumbiah P.
39. Biographical History of Indian Medicine - Srikanthamurthy KR
40. Ayurveda Kriya Sharira - Yogesh Chandra Mishra
41. Textbook of Medical Physiology - Indu Khurana
42. Tridosha Theory - Subrahmanya Shastri
43. Statistics in Medicine - K. Syamalan

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M.D.-AYURVEDA PRELIMINARY

4. DRAVYAGUNA VIGYAN
(Materia Medica & Pharmacology)

PAPER-II **Theory 100 Marks**

PART-A **50 marks**

1. Panchamahabhuta siddhanta, Samanya Vishesha siddhanta, Tridosha siddhanta. Extensive study on classifications of Dra as described in Brihattrayi.
2. Applied aspects of Rasa, Guna, Virya, Vipaka and Prabhava
3. Applied aspects of Aushdha karma with reference to Sharngadhara and Bhavaprakasha
4. Importance of Namarupa vigyan and concept of basonyms and synonyms of Dravyas
5. Applied knowledge of Bhaishajya Prayoga (marga, kalpana, matra, anupana, sevan, kala etc.)

PART-B **50 mar**

6. Basic principles of Desha pravichara, Dravya sangrahana (collection), Samrakshana (preservation)
7. Evolution of Dravyaguna vigyan with special emphasis on Nighantus
8. Prashasta bheshaj lakshana
9. Profound knowledge on applied aspects of Agrya aushadha
10. Methodology of studying controversial, pratinidhi (substitute), apamishrana (adulterant) and unidentified dravya
11. Pharmacognosy and its relevance in Dravyaguna vigyan
12. An integrated study of Charakokta Bheshaj pariksha and scientific method of drug evaluation with special reference to qua safety and efficacy
13. Brief knowledge and importance of clinical pharmacology
14. General principles of various good cultivation practices, collection practices, storage practices and manufacturing practices
15. Pharmacovigilance and ADR issues
16. Knowledge on the Ayurvedic Pharmacopoeia of India, The Formulary of India and international pharmacopoeias

PRACTICAL **100 mar**

Contents:

1. Field visits for the Identification of important classical medicinal plants (Minimum two visits to neighboring forest areas)
2. Macroscopic and microscopic identification of minimum two plants of each of prayojyanga (useful parts of plants)
3. Preliminary study of pharmacoepial standards (API) of minimum 5 plants
4. Minimum two experiments on Animals

Distribution of marks (Practical)

1. Herbarium sheets -10 Marks
2. Practical of macroscopic and microscopic identification of prayojyanga (one part of the plant) -30 Marks
3. Practical record book of pharamcopoeial standards and animal experimentations -10 Marks
4. Spotting -30 Marks
5. Viva-voce -20 Marks

REFERENCE BOOKS:

1	Abhinav Buti Darpan (Vol.1-2)	-	Vd. Roop Lal Vaishya
2	Aushadna Vigyna Shastra	-	Acharya Pt. Vishvanatha Dwidevi
3	Ayurvediya Aushadnkarma vigyana	-	Acharya V.J. Thakur

4	Bedi Vanaspati Kosha	-	Prof. Ramesh Bedi
5	Bhaishajyaguna Vigyana	-	Dr. Alakhnarayan Singh
6	Bhav Prakash Nigantu (English)	-	Shreekanthamurti
7	Bhav Prakash Nighantu	-	With Vd. Krishna Chandra Chunekar commentary
8	Bhrinad dravyagunadarsha	-	Mahendra Kumar Shastri
9	Classical Uses of Medicinal Plants	-	Acharya Priyavrata Sharma
10	Controversial Medicinal Plants	-	Vd. G. Bapa Lal
11	Dalhana Ka Dravyaguna Shastra Ke Kshetra Me Yogadana	-	Vd. Shiv Kumar Vyas
12	Dravyaguna Kosha	-	Acharya Priyavrata Sharma
13	Dravyaguna Sutram	-	Acharya Priyavrata Sharma
14	Dravyaguna Vigyana	-	Dr. Gyanendra Pandey
15	Dravyaguna Vigyana(Vol. 1-2)	-	Acharya Yadavji Tikram Ji
16	Dravyaguna Vijyana	-	Dr. V.M. Gogate
17	Dravyaguna Vigyana (Vol. 1-5)	-	Acharya Priyavrata Sharma
18	Dravyaguna Shastrum	-	Vaidya G.A. Phadake
19	Dravyaguna Vijyana	-	Dr. A.P. Deshpande
20	Dravyagunavijnana basic Principles	-	Prof.D.S.Lucas
21	Forgotten Healers (Indian Medicinal Plants)	-	Dr. Prakash Pranjape
22	Glossry of Vegetable Drugs in Bhrittrayis	-	Thakur Balwant Singh & Vd. Krishna Chandra Chunekar
23	Introduction to Dravyaguna	-	Acharya Priyavrata Sharma
24	Kriyatamka Aushadi Parichaya	-	Acharya Pt. Vishvanath Dwidevi
25	Materia Medica	-	Acharya Ghosh
26	Nighantu Adarsh (Vol. 1-2)	-	Vd. Bapa Lal
27	Pharmacological basis of Medical Practice	-	Goodman & Gillman
28	Pharmacology and Pharmacotherapeutics	-	Satoskar Bhandarkar & Ainapure
29	Prayogatamaka Dravyaguna Vigyana	-	Dr. Maya Ram Uniyal
30	Priya nighantu	-	Acharya Priyavrata Sharma
31	Raspanchaka/Dravyaguna Siddhanta	-	Prof. Shivcharan Dhyani
32	System of Plant Nomenclature in Ayurveda	-	Dr. Gyanendra Panday
33	Text Book of Pharmaconogy	-	Trees & Valis
34	Textbook of Dravyaguna	-	Dr.K.Nishteswar
35	Unani Dravyaguna Vigyana	-	Hakim Daljeet Singh

36	Useful parts of Charaka, Sushurut, and Vagbhata.	-	
37	Uttarakand Ki Vanaspatiya	-	Dr. Gyanendra Pandey
38	Vanoaushadi Darshika	-	Thakur Balwant Singh
39	Vanoaushadi Nidarshika	-	Dr. Ram Sushil Singh
40	Vedic Vanaspatiyan	-	Dr. Dinesh Chandra Sharma
41	Pharmacopia of India –all the volumes		
42	Database on medicinal plants all the volums of CCRAS		
43	Aurveda formulary of india – all the volums		
44	All the nighantoos		
45	Laghutrayi		

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M.D.-AYURVEDA PRELIMINARY

5. RASA SHASTRA AND BHAISHAJYA KALPANA
(Iatrocemistry & Pharmaceuticals Science)

PAPER-II Theory 100 mar

PART-A 50 mar

1. Fundamental principles of Rasa Shastra and Bhaishajya Kalpana, introduction to Rasachikitsa, Ashuddha and Apal Bhasma- sevan Dosha and its management, introduction to Aushadha Sevan Kaal and Prayoga Marga (routes administration).
2. Introduction to basic principles of Aushadha Yoga (formulations).
3. Classification of Rasa Dravya - concept and relevance.
4. Introduction to principles of Aushadha Nirmana, concept of Shodhan, Marana, Jarana, Murcchhana, Sattvapatan : Amritikarana.
5. Concept of Kashaya, Panchavidha Kashaya and other Kalpana.
6. Concept of Rasashala, Rasa Mandapa with introduction to pharmacy in accordance with the Good Manufacturing Practi (GMP).
7. Critical study of Rasa Ratnasamuchchaya, Rasendra Chintamani, Rasa Tarangini, Sharngadhara Samhita, Chakradutta : Bharat Bhaishajya Ratnakara with special reference to Aushadha-Nirmana.

PART-B 50 mar

1. Introduction to methods of analytical, toxicity, experimental and clinical validation of classical and proprietary Ayurve formulations.
2. Introduction to new dosage forms.
3. Introduction to advance instruments of analysis like XRD, XRF, SEM-E-Dax, ICP analysis, Chromatography: TLC, chromatography, HPTLC, concept of Nanotechnology and its relevance to Aushadha-Nirman.
4. Concept of Pharmacopoeia and Formulary with introduction of 'The Ayurvedic Pharmacopoeia of India' (API) and ' Ayurvedic Formulary of India' (AFI).
5. Introduction to databases of medicinal plants published by CCRAS, ICMR and others.

PRACTICAL 100 mar

Contents:

1. Shodhan, Marana, Amritikarana of Rasa Dravya (10 practicals)
2. Preparation of different dosage forms (10 forms)
3. Pharmacop oeial standards of raw and prepared drugs (20 practicals)

Raw Materials

1. Minerals and Metals

Mineralogical Identification **Mineralogical Identification**

1. Physical form - Crystal and Amorphous
2. Hardness on Moh's scale
3. Brittleness test
4. Fracture and Cleavage
5. Streak test
6. Luster

2. Plant Material

Macroscopic and Microscopic examination

a. Orgnaoleptic testing
b. Estimation of Foreign materials
c. Microbial load
d. Moisture content
e. Determination of ash value - total, water soluble and acid Insoluble ash
f. Specific gravity
g. Solubility- water and alcohol
h. Extract values- water and alcohol
i. TLC
j. Determination of optical density
k. Refractive index
l. Aflatoxins

m. Limit tests for heavy metals
n. pH estimation

Prepared dosage forms:

1. Solid dosage forms

Rasaushadhi

a) Bhasma and Pishti Parıksha
b) Determination of Particle size
c) Limit tests for heavy metals
d) Determination of moisture content, specific gravity, pH and acid value.

Kasthaushadhi

a. Powders (Churna)

1. Particle size
2. Bulk density
3. Solubility
4. Estimation of Foreign material
5. Microbial load
6. Moisture content
7. Determination of ash value - total, water soluble and acid insoluble ash
8. Solubility - water and alcohol
9. Extract values - water and alcohol
10. TLC
11. Determination of Optical density
12. Refractive Index
13. Aflatoxins
14. Limit tests for Heavy metals
15. pH Value estimation

b. Tablets

1. Uniformity in weight and size
2. Tablet hardness
3. Tablet friability
4. Tablet disintegration
5. Tablet dissolution

c. Semisolid dosage forms

a. Moisture content
b. Sugar content
c. Microbial load

d. Liquids

- pH value
- Specific gravity
- Determination of refractive index
- Acid value
- Viscosity
- Saponification value
- Iodine value

Note:

- All practicals should be performed in accordance with Authoritative Text Books of Schedule-I of D.C.Act-1940.
- All practicals related to Pharmacopoeial Standards should be performed in accordance with Methods Published in Protocol testing of ASU Medicines and Laboratory Guidelines for the Analysis of Ayurveda & Siddha Formulations published by De of AYUSH, Government of India.

Distribution of marks (Practical)

- Practical Record Book - 10 Marks
- Practicals related to Preparation of Drugs
  - Major practical- one - 20 Marks
  - Minor practical- one - 10 Marks
- Drug analysis
  - Major practical- one - 20 Marks
  - Minor practical- one - 10 Marks
- Spotting - 10 Marks
- Viva-voce - 20 Marks

REFERENCE BOOKS:

1. Rasahridaya Tantra
2. Rasarnava
3. Rasaratna Samuccahaya
4. Ayurved Prakasha
5. Rasendrachudamani
6. Rasendra Chintamani
7. Rasatarangini

8. Rasapraksha Sudhakar
9. Rasamrita
10. Rasa Chandanshu : CCRAS Publication
11. Sharangadhara Samhita
12. Sharangadhara Darpan (BP Pandey)
13. Bhavaprakasha
14. Yoga Ratnakara
15. Bhaishajya Ratnavali
16. Siddha Bhaishajya Manimala
17. Bharat Bhaishajya Ratnakara
18. Rasayoga Sagara
19. Siddha Bhaishajya Manimala
20. Sahasrayoga
21. Siddha Yoga Sangraha – Yadavaji Trikamji Acharya
22. Vaidyaka Paribhasha Pradeepa

23. Ayurvediya Aushadhikarana – Puranik and Dhamanakar
24. Dravyaguna Vijnan Part - 1 and 2 - Yadavji Trikamji
25. Chakradatta - Ratnaprabha, Relevant Parts from Charaka Samhita, Sushruta Samhita, Kashyapa Samhita, Ashta Sangraha, Ashtanga Hridaya,
26. Remington: Science and Practice of Pharmacy
27. Theory and Practice of Industrial Pharmacy – Leon Lachman *et al*
28. Clinical Pharmacology, KD Tripathi
29. Clinical Pharmacology, Lawrence Benette
30. Drug Discovery and Evaluation (Pharmacological assays) HG Vogel
31. Pharmacological Basis of therapeutics – Goodman and Gilman
32. Data Base of Medicinal Plants of CCRAS
33. Quality and Standards of Medicinal Plants – ICMR publication
34. Quality Control of Ayurvedic Drugs – PLIM, Gaziabad
35. Ayurvedic Pharmacopeia of India
36. Ayurvedic Formulary of India
37. Indian Pharmacopeia
38. British Pharmacopeia
39. United States Pharmacopeia
40. Pharmacopeia Codex
41. Current Good Manufacturing Practices
42. Drugs and Cosmetic Act 1940 and Rules 1945 with latest amendments
43. Drugs and Magic remedies (Objectionable advertisement) Act-1954
44. Prevention of Food Adulteration (PFA) act
45. Laws pertaining to Narcotics
46. Factory and Pharmacy Acts
47. Consumer Protection Act -1986
48. Brief information on the peer reviewed journals, official websites and other official search engines along with their links (rele with the subject)
49. Rutleys Elements of Mineralogy
50. Bhasma Vigyaniyam
51. Kupipakva Vigyaniyam
52. Anupana Manjari

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M.D.-AYURVEDA PRELIMINARY

6. AGADTANTRA AVUM VIDHI VAIDYAKA
(Toxicology & Forensic Medicine)

PAPER-II — Theory 100 mar

PART-A — 50 mar

1. Introduction to Agadatantra, its sequential development, traditional and contemporary toxicology.
2. Examination of poisons as per contemporary and Ayurvedic methods.
3. Ancient and contemporary classification of Visha.

4. Knowledge about Sthavara visha, Jangama visha and Kritrima visha, their clinical and pathological manifestations : management.
5. Garavisha and Dushi visha, signs, symptoms and management with contemporary relevance.
6. Vishajanya Janapadodhvamsaniya Roga (community health problems due to poisons) - environmental pollution, wa pollution, soil pollution, air pollution etc, their features and management according to ancient and contemporary concepts.
7. Concept of Viruddhahara with contemporary views.
8. Definition of Vyavahara Ayurveda.
9. Fundamentals of Vyavahara Ayurveda. Courts of law in India and legal procedures.
10. Chathurvinshati upakrama (24 management procedures).

PART-B **50 mar**

1. Introduction to Forensic medicine.
2. Techniques of pathology, pharmacology, pharmacognosy and microbiology used in toxicology.
3. Death and its medico-legal aspects (Medical Thanatology), Medico-legal autopsy, Legal procedures in clinical forer medicine.
4. Forensic Science Laboratory:- Structure and functions
5. Introduction to Medical Jurisprudence.
6. Laws related to medical profession. Ancient practice of medical jurisprudence in india.
7. Ancient and contemporary fundamentals of medical ethics.
8. Madya visha (Alcoholism).
9. Diagnosis and Management of food poisoning.
10. General and Emergency medical management of poisoning including preparation, administration and complications antidotes, antivenoms, antisera.
11. Management of the toxic manifestations caused by the contact poisons (paduka, vastra, abhushana, mukhalepa- vishaba etc).
12. Diagnosis and management of dermatological manifestations of Visha.
13. Death due to poisoning, duty of physician in poisoning and cases of suspected poisoning.
14. Post mortem findings in poisoning.

PRACTICAL **100 mar**

Contents:

Clinical Postings

Case records – 20 cases (Postmortem/ poisoning/dermatological/medico legal cases)

Distribution of marks (Practical)

1. Case records (20 Cases) - 20 Marks
2. Bedside clinical case taking
3. Long Case - 20 Marks
4. Short Case - 10 Marks
5. Identification of specimens, models and equipments of jurisprudence importance. - 15 Marks
6. Spotting related to Visha, Upavisha and other poisonous drugs - 15 Marks
7. Viva-voce -20 marks

REFERENCE BOOKS:

1. Useful Portion of Charak-Sushrut-Vagbhata
2. Dravyaguna Vigyan - Acharya Yadavji
3. Aushadhigunadharma Shastra - Pt Visvanath Dvivedi
4. Kriyatmat Aushada parichaya Vigyan - Pt Visvanath Dvivedi
5. Ayurvedic Vyadhi Vigyan - Acharya Yadavji Trikamji
6. Madhavanidan with Madhukosha commentary
7. Sharangadhara Samhita
8. Yogaratnakara
9. Aushadigunadharma Shastra - PtGangadhara Shastri Gune
10. Rasendracintamani
11. Rasaratna samuchhaya
12. Vishavigyan - Dr. Krishna Kumar
13. Related matter of Kautilya Artha Shastra
14. Harmekhlatantra
15. Anupana manjari
16. Ayurvedprakash
17. System of clinical Medicine - Savil
18. Forensic Pharmacy -B.M. Mhithai
19. Hand book of Forensic Medicine and toxicology - Dr. P.V. Chadha
20. Viva Forensic Medicine and toxicology - L.C. Gupta
21. Forensic Medicine and Ethics - J.P. Narena
22. Modi's Medical Jurispudence and Toxicology
23. The essentials of forensic medicine and toxicology -Dr.K.S. Narayan Reddy
24. Medical Laws and Ethics - Dr. H.S. Mehta

25. M.R.K. Krishnan's Handbook of Forensic Medicine
26. Text book of Medical Jurisprudence and Toxicology - Dr. C.K. Parikh
27. Atlas of Forensic Medicine - Dr. Tomio Watenbe
28. Medico legal Post Mortems (Atlas) - Dr. Parikh and Others
29. Textbook of Forensic Medicine and Toxicology - Dr.V.V. Pillay
30. Textbook of Forensic Medicine and Toxicology - Dr. Karmakar
31. Textbook of Forensic Medicine and Toxicology - Dr. Singhal
32. Textbook of Forensic Medicine and Toxicology - Dr. Krishnan Vij
33. Forensic Pathology - Dr. Bernard Knight
34. Textbook of Forensic Medicine and Toxicology - Lyon's
35. Pocket picture guide to Forensic Medicine - Gower's Medical Publication
34. Forensic Medicine - Simpson Knight
35. Taylor's Principles and Practical of Medical Jurisprudence - J and A Churchis
36. Doctor and Law - Singhal
37. Textbook of Toxicology - Singhal
38. Medicine Harrison's Principal of Internal Medicine
39. Agad Tantra - Dr.Shekhar Namboodri

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1. Modern Medical Toxicology - Dr. V.V.Pillay
2. Critical care toxicology - Bruent Wallace
3. Diagnosis and Management of common poisoning- Agarwal wali
4. Colour Atlas of Forensic Medicine - Govindaiah
5. Guidelines of poisons - W.H.O.
6. Doctors patients relationships - Dr.Lavekar
7. Bhavaprakasha.
8. Vishavaidya Jyotsnika -- English translation By VPSV Ayurveda college, Kottakkal.
9. Lakshnamritham.
10. Toxicology, Ayurvedic perspective - VPSV Ayurveda college, Kottakal
11. Text book of Agadatantra - Edited By Dr Huparikar, Dr. Joglekar
12. Agadatantra ki Pathyapustaka - Edited By Dr Huparikar, Dr. Joglekar
13. Vyavahar Ayurveda Vigyanam - Dr.Indramohan Jha (Sachchan)

1. Forensic Medicine - Dr. B. Umadathan
2. Visha Chikitsa - Dr. M. Balakrishnan Nair
3. Park Text book of Preventive and Social Medicine. - K. Park
4. Environmental Science and Biotechnology - Theory Practice - A.G. Murukesan &C. Rajakumari
5. Veterinary Toxicology - Dr. Satish K. Gargi
6. Guide to Drinking Water Quality (3 Volumes) - WHO Publication
7. A short Text Book of Medical Entomology - H.S. Bhatti, R. Sehgal, R.C. Mahajan.

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M.D.-AYURVEDA PRELIMINARY

7. SWASTHAVRITTA & YOGA

(Preventive, Social Medicine & Yoga)

PAPER-II Theory 100 mar

PART A 50 marks

1. Importance and relevance of Swasthavritta and Community Medicine. History of community medicine.
2. Concept of health and disease as per Ayurveda and Modern Medicine. Various definitions and dimensions of health as Ayurveda and World Health Organization.
3. Relevance of Dinacharya, Ratricharya and Ritucharya in Health Promotion.
4. Basic concept of Vega. Concept of Adharaniya and Dharaniya Vega in health promotion and prevention of diseases \ examples.
5. Concept of Trayopastambha in health promotion and prevention of diseases.
6. Concept of nutrition as per Ayurveda and modern science.
7. Concept of Vyadhikshamatva. Concept of Bala and Ojas in relation to health.
8. Role of Panchakarma in preventive medicine.
9. Role of Rasayana in promotion of health and prevention of diseases. Scope of Rasayana in Geriatrics and Reproductiv Child Health.

10. The concept of Ashtanga Yoga and its relation to health. Concept of Moksha.
11. Basic concepts of Nisargopachara including Panchabhautika Chikitsa.

PART B **50 mar**

1. Concept of Janapadodhwamsa and tools of its prevention.
2. Principles of Epidemiology. Definitions in infectious disease epidemiology.
3. Concept of disease control and intervention strategies.
4. Levels of disease prevention
5. Basic principles of Samkramak Vikara- causes, modes of disease transmission, epidemiological triad
6. Principles of Health Education
7. Environmental Health- concept of water, soil and air purification as per Ayurveda and modern science.
8. Introduction to Meteorology
9. Role of Swasthavritta in maternal and child health care.
10. National Population Policy, National Health Policy as per Alma Ata Declaration and Role of Ayurveda therein.
11. Role of Swasthavritta in communicable and non-comminicable diseases and life style disorders.
12. Biomedical waste management.
13. National health programmes.

PRACTICAL **100 mar**

Contents:

1. Duty in OPD and IPD with regard to Pathyapathya, Yoga and Nisargopachar
2. Preparation of different Kritanna Kalpana
3. Practice of the following

A. Pratimarsha Nasya
B. Anjana
C. Kavala and Gandusha
D. Abhyanga
E. Udvartana
F. Prayogika Dhoomapana
G. Matra basti

4. Health awareness lectures to the community (minimum 5)
5. Participation in observance of National & International days related to health.
6. Proficiency in performing the following Asanas

Standing Postures- Ardhakatichakrasana, Padahastasana, Ardhachakrasana, Trikonasana.
Sitting postures- Swasthika, Gomukha, Padmasana, Vajrasana, Bhadrasana, shashankasana, Ushtrasana, Pashchimottanasana, Suptavajrasana, Ardhamatsyendrasana, Siddhasana.
Supine Postures- Pavanamuktasana, Sarvangasana, Matsyasana, Halasana, Chakrasana, Shavasana.
Prone postures- Bhujangasana, Shalbhasana, Dhanurasana, Makarasana.

Distribution of marks (Practical)

1. Records - 20 Marks
2. Long Procedures - 20 Marks
3. Short Procedures - 10 Marks
4. Spotting - Aahar dravyas, Family Planning Devices, Vaccine/Serum and Models/Specimens, Naturopathic and Yogic specimens etc. - 10 Marks
1. Yogasana - 20 Marks
2. Viva-voce - 20 Marks

REFERENCE BOOKS:

1. Relevant portions of Charak, Sushruta, Vagbhata (AshtangHrudaya), Ashtang Samgraha, Sarangadhara, Bhavaprakasha, Madhavanidan&Yogaratnakara, Bhela Samhita with the respective commentaries
2. Swasthavritta Samuchaya –VaidyaPtRajesvarDuttaShastri
3. Swasthya Vignyana -Dr.B.G.Ghanekarshastri
4. Prakritika Chikitsa -Kedarnath Gupta
5. Reddy's Comprehensive Guide to Swasthavritta –Dr.P.Sudhakar Reddy

- Swastha Vigyan - Dr.MukundswaroopVerma
- Ayurvediya Hitopdesh - Vd.RanjitRai Desai
- Yoga and Ayurveda - Dr.Rajkumar Jain
- Swasthvritta Vigyan - Dr.Ramharsha Singh.

1. Swasthvrittam - Dr.BramhanandTripathi

2. Ayurvediya Swasthvrittam - Vd.Jalukar
3. Hathayog Pradipika – SwatmaramYogendra (Kaivalyadhama)
4. YogikYog Paddhati – BharatiyaprakrutikChikitsaPadhat
5. Yogik Chikitsa -ShriKedarnath Gupta
6. Prakrutik Chikitsa Vigyan – Verma
7. Janasankhyashikshasidhanta evam Upadesa - S.C.Seel
1. Swasthvritta - Dr.Shivkumar Gaud
2. Health and Family Welfare - T.L.Devra
3. SachitraYogasan Darshika - Dr.IndramohanJha
4. Preventive and Social medicine - J.K.Park
5. Yogadeepika - Shri. B.K.S. Iyengar
6. Swasthavritta - Vd.Sakad
7. Positive Health - Dr.L.P.Gupta
8. Biogenic Secretes of Food In Ayurveda - Dr.L.P.Gupta
9. Yoga and Yogikchikitsa - Ramharsha Singh
10. The Foundation of Contempary Yoga - R.H.Singh
11. Yogasidhanta evum Sadhna - H.S.Datar
12. Patanjal Yoga Sutra – Maharshi Patanjali, Karambelkar
13. Prakrutik Chikitsa Vidhi - Sharan Prasad
14. Text book of Swasthavritta - Dr.Ranade, Dr.Bobade, Dr.Deshpande
15. Gherand Samhita
16. Bio-Statistics - B.K. Mahajan
17. Swasthavritta Vidnyan - Dr.Mangala Gauri
18. Community Medicine - Baride and Kulkarni.
19. Light on Yoga - Shri. B.K.S. Iyengar
20. Light on Pranayama - Shri. B.K.S. Iyengar
21. Light on Patanjala Yogasutra - Shri. B.K.S. Iyengar
22. Shiva Samhita – Kaivalyadhama
23. Gheranda Samhita – Kaivlyadhama
24. Swasthavritta Vigyan – Vd. Patrikar Vijay
25. Swasthavritta – Vd Yashwant Patil and Vd. Vhawal
26. Food and Nutrition – Swaminathan
27. Preventive and Social Medicine – Mahajan
28. Preventive and Social Medicine – B.N.Ghosh
29. Preventive and Social Medicine – Gupta
30. Yoga and Nisargopachar - Vd. Prama Joshi

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M.D.-AYURVEDA PRELIMINARY

8. ROGA NIDANA AVUM VIKRITI VIGYAN
(Pathology and Diagnostic Procedure)

PAPER-II **Theory 100 mar**

PART-A **50 mar**

1. Understanding of Samprapti of diseases in Charaka Nidana Sthana in contemporary context
2. Clinical aspects of Dosha, Dhatu, Upadhatu, Mala, Agni, Ama, Srotas and Indriya
3. Understanding of the role of Trividha Avasthapaka in the vitiation of Dosha
4. Concept of Nanatmaja and Samanyaja Vikara
5. Clinical application of Avarana in diagnosis of various diseases
6. Clinical application of Shatkriyakala in diagnosis of diseases.
7. Clinical and applied aspects of concept of Upadrava and Arista

PART-B **50 mar**

1. Ayurvedic interpretation of various laboratory investigations to derive treatment principles.
2. Interpretation of various Rogi Bala and Roga Bala technique to plan Chikitsa Sutra
3. Clinical examination of Deha Bala, Roga Bala, Agnibala And Chetas Bala
4. Knowledge of current diagnostic tools like ECG, X-Ray, CT scan, MRI and USG

PRACTICAL **100 mar**

Contents:

1. Duty in hospital OPD and IPD.
2. Duty in pathology laboratory.
3. Case taking – 25 cases
4. Performance of pathology and biochemistry practicals – 10 cases
5. Interpretation of ECG, EEG, X-ray, CT-Scan, MRI and USG

Distribution of marks (Practical)

1. Case record (25 Cases) - 10 marks
2. Bed side clinical case taking
3. Long case - 20 Marks
4. Short case - 10 Marks
5. Laboratory Practicals - 20 Marks
6. Interpretation of ECG, EEG, X-ray, CT-Scan, MRI and USG– 10 Marks
7. laboratory experiment record - 10 marks
8. Viva-voce - 20 Marks

REFERENCE BOOKS:

1. Madhav Nidan (Madhukosha Commentary)
2. Relevant portions of Charak Samhita, Sushrut Samhita and Vagbhata
3. Doshakaranatwa Mimamsa - Acharya P.V. Sharma
4. Nadi pariksha - Vb Athavale
5. Nadi Pariksha – - GP Upadhyay
6. Rogi Pariksha vidhi - Acharya Priyavrata Sharma
7. Nidan Panchak - Shivcharan Dhyani

8. Vyadhivigyan I and II - Yadav Thrikamji
9. Ayurvediya Roga Vargikaran - Vd. Ramanat Vd. Gurdip Singh
10. Ayurvediya Nidan Evum Chikitsa Ke Siddhanta - Prof. Ram Harsh Singh
11. Clinical methods in Ayurveda - K. R . S. Murthy
12. Parameswarappa's Ayurvediya Vikriti Vigyan & Roga Vikriti Vigyan - Dr. P.S. Byadgi.
13. Oxford Handbook of Clinical Examination and Practical Skills
14. Symptoms & Signs in Clinical Medicine - Chamberlains
15. Hutchison's Clinical Methods
16. Bedside Clinics in Medicine Part- I & II - Kundu
17. Practical Pathology - Dr. K. Uma Chaturvedi
18. Medical Laboratory Technology - R. Sood
19. Clinical Diagnosis and Management by Laboratory methods - Todd, Sanford and Davidson

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M.D.-AYURVEDA PRELIMINARY

9.CHHAYA AVUM VIKIRAN VIGYAN

(Imaging and Radio diagnosis)

PAPER-II **Theory- 100 mar**

PART A **50 mar**

1. Objectives of Chhaya avum Vikiran Vigyan.
2. History,development and concept of Chhaya avum Vikiran vigyan
3. Poorva karma (preparatory measures) related to Chhaya avum Vikiran Vigyan in relation to consultant, technical staff and patients (with their attendants) including counseling and consent.
4. Review of fundamental principles of Ayurveda.
5. Shishyopanayan regarding the Chhaya avum Vikiran Vigyan – introduction of Chhaya avum Vikiran department and hospit unit, guidelines for their use, do's and don'ts, discipline, duties and responsibilities.
6. Ethical and legal issues related to Chhaya avum Vikiran Vigyan.
7. Precautions and preventions in Chhaya avum Vikiran Vigyan unit.
8. Environmental issues related to Chhaya avum Vikiran Vigyan. Impact of used radiological energies on environment.
9. Disposing and recycling of radiological materials. Biomedical waste disposal management in Chhaya avum Vikiran Vigyan.
10. Management of Chhaya avum Vikiran Vigyan department. Relation between consultant, student, technical staff, patients (wi their attendants).
11. Basic concept of research methodology related to Chhaya avum Vikiran Vigyan.

PART B **50 mar**

1. Preliminary knowledge of various modalities of Chhaya avum Vikiran Vigyan.
2. Efficiency and limitations of various radiological modalities.

3. Introduction of surface and applied anatomy, patho-physiology related to Chhaya avum Vikiran Vigyan.
4. Preliminary knowledge of equipments related to radiology.
5. Selection of appropriate radiological modalities- basis of selection, correct radiological investigation advice, further assessments and diagnostic advice.
6. Management of emergencies in radiology section, electrical and mechanical violent emergencies, radiation hazards and its preventive measures.
7. Pharmacology and application of emergency drugs, analgesics, muscle relaxants, fluids, plasma expanders, oxygen and various contrast media used in Radio-diagnosis and imaging.
8. Drug and contrast media reactions and shock - its management, cardio-cerebro-pulmonary resuscitation (CCPR), endo-tracheal intubation, tracheostomy.
9. Anesthesiology related to radiology.
10. Short review of common diseases, frequently investigated in the Chhaya avum Vikiran Vigyan department especially their clinical findings, anatomical and patho-physiological changes.
11. Skills of transfer of knowledge- Teaching methodology, audio-visuals preparation and presentations.
12. Knowledge of Information Technology – relevant to radiology.
13. Record keeping.
14. Documentation, books and journals, research paper writing.

PRACTI CAL 100 mar

Contents:

- Evaluation of knowledge of functioning of equipments
- Evaluation of knowledge of Chhaya avum Vikiran Vigyan procedures
- Management of Chhaya avum Vikiran vigyan department
- Management of emergencies in Chhaya avum Vikiran Vigyan unit
- Personality development assessment.
- Basic knowledge of concepts of radiological interpretations

Distribution of Marks (practical):

1. Case Records of 25 patients 20
2. Chhaya avum Vikiran Vigyan procedures -
1. Long procedure 20
2. Short procedure 10
3. Identification and functioning of instruments and equipments 15
4. Interpretation of Radiograph and images 15
5. Viva Voce 20

REFERENCE BOOKS:-

Shusruta Samhita Relevant part
Charak Samhita - do-
Astang Hridaya/Sangrah - do-
Text Book of Radiographic Positioning and Related Anatomy - By Kenneth L Bontrager, John P Lampignano
Radiographic interpretation to general practitioner -W.H.O.
Procedures in diagnostic Radiology - By T. Doyle, W. have, K. Thomson.
Radiographic positioning - By Clark
Radiobiology for the Radiologist - By Curry T S , Dowdey J E , Murry R C
Farr's Physics for Medical Imaging - By Penelope Allisy-Roberts , jerry Williams
Fundamental of Diagnostic Radiology - By Brant.
Diagnostic Imaging - By Federle
Diagnostic Imaging - By Peter Armstrong , Martin Wastie , Ansrea Rockall
Gastrointestinal radiology - R.L. Eisenberg
Uro-radiology - T.Sherwood, A.J.Davidson, .B.Talner
Grainger and Allison's Diagnostic Radiology -Text book of medical imaging
Text Book in Radiology and Imaging - By D. Sutton.
Introduction to Vascular Ultrasonography - By Zwiebel , Pellerito
Text book in Ultrasonography - By Roumack
Manual of Medical Diagnostic Ultrasonography - By W.H.O. Scientific group.

Computed Tomography & MRI of the whole body - By Hagga.
Surface and Radiological Anatomy - By A. Halim
X-Ray equipment for student Radiographers - By DN and MO Chesney
Clinical Sonography , A Practical Guige - By Roger C. Sanders , Tom Winter
Ultrasonography in obstretics and gynaecology -Callen
Standard Journals like Indian Journal of Radiology. Radiology,Radiological clinics of north America,British Journal of Radiology etc.
Audio-visual aids -CDs & DVDs

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M.D.-AYURVEDA PRELIMINARY

10.KAYACHIKITSA
(Genral Medicine)

PAPER-II **Theory- 100 mar**

PART A **50 mar**

1. Understanding of fundamental concepts of Kayachikitsa like Vriddhi and Kshaya of Dosha, Dushya, Mala with Amshaamsha Kalpana, Srotodushti, Khavaigunya, Agni, Ama (Saama and Nirama Dosha, Dhatu & Mala). Aavarana, Rogamarga, Ashayapakarsha, Dosha Gati, Kriyakala. Aushadha Sevana Kala, Anupana, Pathya-Apathya and their scientific relevance during health and disease.
2. Detailed knowledge of Rogi Roga Pariksha including detailed history taking and systemic examination of patient. Clinical implementation of Dwividha Pariksha, Trividha Pariksha, Chaturvidha Pariksha, Panchavidha Pariksha, Shadvidha Pariksha Ashtavidha Pariksha, Dashvidha Parikshya Bhavas and Prakrityadi Dashvidha Pariksha.
3. Principles of Kayachikitsa in disease management including Shodhana, Shamana and Naimittika Rasayana.
4. Introduction of the basic principles of Modern medicine, Homeopathy, Unani, Siddha, Tibetan Medicine, Yoga and Naturopat and their relevance in light of the basic principles of Ayurvedic medicine.

PART B **50 mar**

1. Chikitsa Siddhanta of Pranavaha, Annavaha, Udakavaha, Rasadi Dhatuvaha, Malavaha & Manovaha Srotovikara.
2. Emergency medicine: Acute Severe Asthma, pulmonary oedema, myocardial infarction, cerebro-vascular accidents, wat and electrolyte imbalance, haemorrhage, syncope, seizure, coma, hyperpyrexia, hypertensive encephalopathy.
3. Knowledge of conducting various medical procedures like infusions, tapping, lumbar puncture, Ryle's tube insertion, catheterization, tractions, water seal drainage, Cardio Pulmonary Ressucitation.
4. Basic knowledge of underlying principles of ECG, TMT, echo cardiography, vascular doppler studies, EEG, EMG, X-Ray, USG, CT scan, MRI, PET and their interpretation.
5. Knowledge of common Ayurvedic formulations and preparations used in treatment:

Churna- Triphala, Sitopaladi, Lavanbhaskara, Hingvashtaka, Avipattikara, Gangadhara, Shaddharana, Sudarshana, Panchasakara, Ajmodadi.
Kashaya- Dashamula, Rasnasaptaka, Asanadi, Pathyadi, Phalatrikadi, Punarnavashtaka, Gojivhadi, Mahamanjishthadi, Drakshadi Kashaya.
Asavas-Arista- Amritarishta, Kanakasava, Chitrakasava, Saraswatarishta, Ashwagandharishta , Chandanasava.

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Vati- Sanjivani, Chandraprabha, Agnitundi, Chitrakadi, Khadiradi, Vyoshadi, Shankha Vati, Shiva Gutika.
Guggula-Kalpana-Triphalaguggula, Kaishoraguggula, Trayodashangaguggula, Simhanadaguggula, Yogarajaguggula, Gokshuradi guggula, Kanchanaraguggula.
Rasaushadhi- Tribhuvanakirti Rasa, Arogyavardhini Rasa, Shwasakuthara Rasa, Rasamanikya Rasa, Smritisagara Rasa, Lakshmivilasa Rasa, Sutshekhara Rasa, Pravala Panchamrita Parpati, Hemagarbhapottali Rasa.
Taila- Mahanarayana Taila, Pindataila, Prasarinyadi Taila, Ksheerabala Taila, Brihat Saindhavadi Taila, Panchaguna Taila, Amritadi Taila, Marichyadi Taila, Mahamasha Taila.
Ghrita- Mahatriphaladi Ghrita, Brahmi Ghrita, Panchtikta Guggulu Ghrita, Sukumara Ghrita, Dadimadya Ghrita, Kantakari Ghrita, Kalyanaka Ghrita.
Lehya- Chyavanaprasha Avaleha, Kushmanda Avaleha, Ashwagandha Avaleha, Agastya Hareetaki Rasayana, Drakshavaleha, Vasavaleha, Amrita-Bhallataka Rasayana.

PRACTI CAL **100 mar**

Content:-
Daily hospital duties in OPD, IPD and casualty
Bed-side case taking – 25 patients
Distribution of marks (practical):
1. Case records of 25 Patients in detail 20 marks

2. Bedside clinical case taking-

Long case	20 marks
Short case	10 marks
3. Medical procedures/laboratory work	15 marks
4. Instruments and spotting	15 marks
5. Viva voce	20 marks

REFERENCE BOOKS-

Charak Samhita	-Cakrapanidutta commentry
Sushrut Samhita	-with all available commentaries.
Ashtang Samgraha	–Indu commentary
Ashtang Hridaya	–Arundutta and Hemadri commentry
Cikitsadarsha	- Pandit Rajesvardutta Shastri
Kayachikitsa	- Ramaraksha Pathak
Rog Pariksha Vidhi	- Priyavrat Sharma
Panchakarma Vigyan	- Haridas Sridhar Kasture
Ayurved Nidan Chikitsa Siddhanta	- Prof. R.H.Singh.
Kayachikitsa Vol. I-IV.	- Prof. Ajay Kumar

Davidson's Principles and Practice of Medicine.
API Text Book of Medicine.
Harrison's Text Bok of Medicine.
Cecil Text Book of Medicine.
Relevant texts of concerned subjects.

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M.D.-AYURVEDA PRELIMINARY

11. MANO VIGYAN AVAM MANAS ROGA
(Psychiatry)

PAPER-II — **Theory- 100 mar**

PART A — **50 mar**

1. Concept of Manas in Sankhya, Yoga, Nyaya, Vaisheshika, Purva Meemamsa, Vedanta, Bouddha, Tantra and Purana. Philosophical concepts in Ayurveda and its applications.
2. Basic principles of Ayurveda psychology - Srishti utpatti, Triguna, Loka purusha samya Siddhanta, determination of Purusha according to Dhatubheda, Chikitsadhikrita purusha in a psycho somatic axis, Perception and cognition in Ayurveda. Dosha, Dhatu, Agni, Mala Vigyanam and its psychosomatic importance, 'Shariramapi Sattvamanuvidhiyate Sattvam Cha Shariram'. Concept of Dharma, Artha, Kama and Moksha, concept of Apunarbhava in Ayurveda, Trividha Eshana.
3. Introduction to psychoanalytical concept – Id, Ego, Super ego. Concept of mind in Western psychology
4. Concept of Mana in Ayurveda, Mano Nirupana, Manaswarupa, Sthana, Vishaya, Karma, Guna and Dosha. Manovyapara, Gyanotpatti, Gyanotpattau Manaso Dayittwam. Manas as 'Cheshta Pratyayabhutam Indriyanam Indriyo-Pakramaniyam'. Atı nirupana, Atmaguna.
5. Psychological Processes – Attention and perception, intelligence, creativity, motivation, emotion, sex and other drives, state consciousness, learning, memory, cognition and dream, knowledge of developmental psychology.
6. Understanding of Manasika bhava / Manovikara and their importance in Manasroga Nidana and Chikitsa – Iccha, Dwesha, Sukha, Dukha, Lobha, Moha, Krodha, Shoka, Vilapa, Preeti etc. Emotional aspects of human behaviour.
7. Manovaha Sroto Nirupana, basics of neurophysiology, neurotransmitters, psychoneuroimmunology, physiological basis in human behaviour, influence of nervous system on human behaviour, sensory systems, autonomic nervous system, study of Ojas, Gyanendriya and Buddhi.
8. Satvikadi Kayanam samanya gyanam, basic concepts of personality, Sattvabala and mental disorders.
9. Manasroga samanya nidana, Pragyaparadha- samkshipta vivarana. Vibhramsha of Dhee, Dhriti and Smruti, Mano Dosha a Sharir Dosha in psychopathogenesis, Sadvritta and its importance.
10. Relation of psychology with parapsychology.

PART B — **50 mar**

1. Basic understanding of Sattva Pariksha , utility of Trividha, Shadvidha, Ashta Sthana, Dashavidha and Srotopariksha in psychiatric practice, Vikriti pariksha- Vibhrama of Mano -Buddhi- Samgya Gyan-Smriti-Bhakti-Sheela-Cheshta and Achara.
2. Psychiatric examination- Mental status examination, mini mental status examination, cognitive assessment with higher men functions, personality and self in psycho analysis, basic psychiatric assessment inventories- Hamiltons scale, Bech's invent GRISS questionnaire, Weschlers' scale for intelligence.
3. Clinical psychology – General psychology with schools of psychology, theories of personality development, social dimensior of behavior and current issues, doctor patient relationship, patient interviewing and study of therapeutic relationship. Basic knowledge about anxiety disorders, delusional disorders, phobic disorders, lying, stealing, juvenile delinquency. Mental hygiene and behaviorism.
4. Technical terms used in psychiatric practice, general symptoms of psychiatric disorders, classification of psychiatric disorder as per DSM and ICD classifications.

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5. Basic knowledge about organic psychosis, psychoneurosis, Schizophrenia, mood disorders, personality disorders, sexual perversions, sleep disorders and mental retardation.
6. Basic understanding of Bhuta, Graha and Bhutavidya. Hetu, Lakshana and Samprapti of Unmada, Apasmara, Atattwabhinivesha, Grahavesha, Bhutonmada, Gadodvega, Yoshapasmara, Madatyaya.
7. Nidra and Swapna, its types and role in psychopathogenesis.
8. Basic understanding of Chikitsa bheda, descriptions of general and specific principles of Kayachikitsa, its practical applicatic in Manasroga, Daivavyapashraya, Yuktivyapashraya, Satvavajaya chikitsa and Dravya-adravya chikitsa, Manodosha Samai chikitsa, basic treatment principles in Manasika vyadhi, Panchkarma and its application in Manasika roga, Importance of Rasayana and Vajikarana therapies in Psychiatric practice, Medhya rasayana.
9. General knowledge in the basic management principles of psychiatric disorders in modern medicine.Basic knowledge on psychopharmacology, forensic psychiatry, community psychiatry, liaison psychiatry, child psychiatry and geriatric psychiatry.
10. Application of psychiatric knowledge in other specialities viz. Kayachikitsa, Agadatantra, Shalya, Shalakya, Prasuti- Stri Rog and Kaumarabhritya.
11. Psychosomatic disorders, psychological understanding on essential hypertension, asthma and other allergic disorders, psoriasis, IBS, ulcerative colitis, CAD, tension /vascular headaches, pseudopsychosis, hyperemesis gravidarum, enuresis, diabetes mellitus, obesity, autoimmune disorders, neoplasm and psychosexual disorders.
12. Basic understanding of diagnostic applications- Haematological, biochemical, serological, histopathological, imaging - ECG, EEG, USG, MRI scan, CT scan, PET scan in psychosomatic, psychiatric and neuro- psychiatric practices.

PRACTI CAL **100 mar**

Contents:

1. Daily hospital duties in OPD, IPD and casualty
2. Practical Record Book
1. Psychiatric – 5 cases
2. Psychosomatic – 5 cases
3. Paediatric / Geriatric Psychiatry – 5 cases
4. Psychosexual / Substance abuse – 5 cases
3. Psychiatric Inventories- MMSE, Hamilton Anxiety Depression Rating Scale, Brief Psychiatric Rating Scale, Bech's Depressi Inventory, Weschlers' scale, GRISS questionnaire -2 Cases each
4. Manasa Bhava assessment scales- Sattvabala, Manasa Kaya, Smriti, Buddhi, Raja and Tama rating, Manas Bhava Pariksh 2 cases each

Distribution of marks (Practical)

1. Case records of Patients in Detail (25 Cases) - 20 Marks
2. Bedside clinical case taking
   - Long case - 20 Marks
   - Short case - 10 Marks
   - Procedure - 15 Marks
   - Instruments & Spotting - 15 Marks
   - Viva - voce - 20 Marks

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REFERENCE BOOKS:

1. Related matter of Charak, Sushrut and Vagbhata and other ancient texts with commentaries
2. Prachin Manovikara Vigyanm - Ayodhya Prasad Achal
3. Ayurvediya Padarth Vigyan - Ranjit Rai Deshai
4. Ayurved Darshan - Acharya Rajkumar Jain
5. Purusha Vichaya - Prof. V.J. Thakkar
6. Ayurvediya Manas Vigyan - Prof. Ram Harsh Singh
7. Yoga evum Ayurved - Acharya Rajkumar Jain
8. Basic principles of Ayurvediya Padartha Vigyan - Dr Yogesh Chandra Mishra
9. Synopsis of Psychiatry - Harold kaplon and Benjamin saddock
1. Oxford textbook of Psychiatry - Michaeal Gerlder, Paul Harrison
1. General psychology and Abnormal psychology - S.K. Mangal
2. A text book of Post Graduate Psychiatry - Neeraj Ahuja
3. Mind in Ayurveda and other Indian Traditions - A.R.V.Murthy
4. Psychopathology in Indian medicine - Satyapal Gupta
5. Body- Mind-Spirit Integrative Medicine - Prof. Ram Harsh Singh
6. Rationale of Ayurveda Psychiatry - Dr. A.R.V. Murthy
7. Foundations of contemporary Yoga and Yoga Therapy - Prof. Ram Harsh Singh
8. Stress and its Management - Dr. K.N. Udupa
9. Concept of Mind - Edited by Prof. C.R. Agnivesh, Kottakkal
10. Kayachikitsa - Part 3 - R. R. Pathak and Vidhyadhar Shukla
11. Panchakarma Illustrated - Prof. Shrinivasa Acharya

12. Unified Dimensions of Ayurvedic Medicine - Dr. J.S. Tripathi
13. Essential Psychiatry - Bhatia MS
14. Sahassrayoga - Nishteswar and Vaidyanath

1. Ayurveda and the Mind - David Frawley
2. Manasa Roga Vijnana - Balakrishna
3. Comprehensive Textbook of Psychiatry - Kaplan and Sadock's
4. Psychiatry for medical students - Robert J Waldinger
5. Introductions to Psychology - Morgan / King.

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D.-AYURVEDA PRELIMINARY

12.RASAYAN & VAJIKARAN
(Rejuvenation & aphrodisia)

PAPER-II **Theory- 100 mar**

PART A **50 mar**

1. Concept of Bheshaja, classification and understanding of Swasthasya Urjaskara and Artasya Roganut.
2. Etymology, derivation, definition, synonyms and scope of Rasayana, Vajikarana & Vrishya.
3. Historical aspects of Rasayana & Vajikarana
4. Rasayana-Vajikarana Arha & Anarha
5. Classification of Rasayana & Vajikarana.
6. Knowledge of Dosha, Dhatu & Mala.
7. Knowledge of Dhatu Parinamana & Poshana Nyaya.
8. Detailed knowledge of Shukradhatu, Shukra, Retas, Veerya, Rupadravya, Prashastha Sukra Lakshana, Sukrasaara Purush
9. Knowledge of Sukravahasrotas, Sukradhara Kalaa.
10. Concept of Ojas.
11. Knowledge of Prakriti, Sara & Satwa.
12. Knowledge of concept of Agni: all components of Agni, levels of Agnimandya, Agnimandyajanya Vikara.
13. Principles of Panchakarma and application in Rasayana & Vajikarana.

PART B **50 mar**

1. Applied anatomical & physiological aspects of male reproductive system.
2. Applied aspects of physiology of puberty.
3. Spermatogenesis.
4. Basics of genetics. Bija and it components.
5. Applied aspects of reproductive endocrinology.
6. Semen formation, knowledge of various components of semen.
7. Basics of applied pharmacology related to Rasayana & Vajikarana.
8. Knowledge of metabolism and metabolic disorders.
9. Basics of Geriatrics.

PRACTI CAL **100 mar**

Contents:-

1. Daily hospital duties in OPD, IPD and casualty.
2. Assessment of Saara – Shukrasaara and Shukra-Asaara –10 patients.
3. Rasayan and Vajikarana in geriatric patients – 10 patients.
4. Semen analysis- Retopariksha – 10 cases.
5. Uttarbasti – 5 cases.
6. Technique of psychosexual counseling.
7. Applied knowledge of assessment scales pertaining to Vajikarana /sexual functions.
8. Practical aspects of Panchakarma pertaining to Rasayana & Vajikarana.

Distribution of Marks (practical):

1. Case records of patients-
   (15 case of Rasayana; 10 cases of Vajikarana) 20 marks
2. Bedside clinical case taking-
   Long case 20 marks
   Short case 10 marks
3. Semen analysis and lab investigations 20 marks

4. Instruments and spotting 10 marks
4. Viva voce 20 marks

REFERENCE BOOKS:-

1. Relevant chapters from Brihatrayee and Laghutrayee and their commentaries
2. Panchakarma by Prof.H.S. Kasture
3. Kayachikitsa Vol I & II (Including Panchakarma, Rasayana & Vajikarana) by Prof. RH Singh
4. Illustrative Panchakarma by Dr Sreenivasa Acharya
5. Campbell-Walsh Urology by
   Alan J. Wein MD PhD (Hon)
   ,
   Louis R. Kavoussi MD
   ,
   Andrew C. Novick MD
   ,
   Alan W. Partin MD PhD
6. Clinical Endocrinology 2013 The (Clinical Medicine Series) by MD., CG Weber
7. Sex and Human Loving -Masters and Johnson
8. Diagnosis and treatment of functional Infertility by Lunenfeild B, Insler V, Glezerman M (eds) Black well scientific publication Berlin.
9. Human reproduction conception and contraception. He fez ESE (ed) Harpar and Row publications, New York
10. Infertility- Practical guide for the physician, Hommond GM, Talbert LM (eds) Black well scientific publications, Oxford
11. Rasayana vajeekarana- Darpan by Om prakash Upadhyaya, Soi Balachandra yantralaya, Manavashram, Jaipur
12. Vatsayana kamasutra
13. Ananga ranga
14. Kelikutuhala
1. Infertility manual by kamini Rao
2. Advanced infertility management- Mehroo Hansotia
3. Endocrine and Reproductive systems – Sanders
18. Proceedings of WHO Symposium on advances in fertility regulation, Moscow: USSR
19. WHO Laboratory Manual for the examination of semen and sperm. Cambridge Uni. Press
20. WHO (1973) Reproductive function in the human male. World Health Organization, Geneva(Mannual)
21. WHO (1975): Scientific group on the epidemiology of infertility. The epidemiology of infertility, Geneva (Technical Report Ser No. 5820 37 P)
22. Decision making in infertility; DeCherney AH, Polan ML, Lee RD, Boyers SP (Eds), JP Brothers, New Delhi
23. Handbook of sexual Dysfunction by Richard Balon, R. Taylor Segraves pub. By Taylor and Francis Group Florida
24. The Sperm Cell (Production, Maturation, Fertilization, Regeneration) by Christoper J. De Jonge, Christoper L.R. Barratt, Cambridge University Press
25. Kaplan and Saddocks Synopsis of Psychiatry, Lippincott Williams and Wilkins

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M.D.-AYURVEDA PRELIMINARY

13.PANCHKARMA

(Five Therapeitic proedure)

PAPER-II **Theory- 100 mar**

PART A **50 mar**

1. Chikitsa and its classifications; Antah-Parimarjana and Bahir-Parimarjana Chikitsa
2. Principles of Chikitsa, Kriyakal, Shadvidha and Dvividha Upakrama and role of Panchakarma therein.
3. Applied aspects of Trividha, Shadvidha, Ashta Vidha and Dasha Vidha Pariksha.
4. Applied anatomy and physiology of cortex, cranial and peripheral nerves. Methods of physical examinations of central nervc system: sensory system, motor examination-muscle power and tone, superficial and deep reflexes, difference of upper and lower motor neuron lesions. Tremors and coordination.
5. Functions of various single muscles and groups of muscles, applied anatomy and physiology of joints. Methods of examinat of locomotor system. Differential diagnosis of Amavata (rheumatoid arthritis), Vatarakta (gout) and Sandhivata (osteoarthriti Examination of lumbar and cervical disorders including Gridhrasi (sciatica) and Vishvachi (Brachial neuralgia).
6. Applied anatomy and physiology of cardiovascular and respiratory systems, functions of capillaries and its permeability. Methods of examination of respiratory and cardiovascular system. Interpretation of spirometry and ECG findings.
7. Knowledge and method of examination of various skin lesions.
8. Applied anatomy of stomach, small intestine and large intestine. Detailed examination of gastro-intestinal system.

PART B **50 mar**

1. Definition of Karma. Trividha Karma for Shodhana.
2. Importance of Panchakarma in health and disease.
3. Indications and contraindications for Shodhana. Applied aspects of Koshtha and Agni.
4. Importance of Purva and Pashchata Karma in Shodhana. Parihara Vishaya for Panchakarma.
5. Samsarjana Krama. General knowledge of various Aushadha and Ahara Kalpana used for Panchakarma.

6. Areas of research in Panchkarma.
7. Knowledge of equipments and instruments used in Panchkarma in ancient times and the possible modifications therein now Knowledge of quality standards of NABH (National Accreditation Board of Hospitals) for Ayurveda, guidelines for establishm and management of eco-friendly Panchkarma theatre including management of biomedical waste.

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PRACTI CAL **100 mar**

1. Duty in Panchakarma ward and theatre.
2. Performance of 5 Cases each of Snehana, Svedana, Vamana, Virechana, Basti and Nasya with maintaining of detailed record.
3. Record of detailed examination of 25 patients treated with Panchakarma and effects observed thereon.

Distribution of marks (practical):

1. Case records of 25 patients in detail	20 marks
2. Performance of long Karma	20 marks
3. Performance of short Karma	10 marks
4. Panchakarmal procedures	15 marks
5. Instruments and spotting	15 marks
6. Viva voce	20 marks

REFERENCE BOOKS:

1	Charak Samhita with commentary of Ayurved Dipika by Chakrapanidatta and Jalpakalpa taruby Gangadhara	
2	Sushrutha Samhita with the Nibhandha Samgraha commentary of Dalhana and Nyayachandrika panjika of Gayadasa on nidansthana	
3	Ashtang Hridaya with Sarvanga sundara and Ayurved rasayana commentaries	
4	Ashtanga Sangraha with Shashilekha commentery	
5	Bhela Samhita	
6	Kashyapa Samhita	
7	Bhavaprakasha of Bhavamishra	
8	Sharangadhara Samhita	
9	Vangasen	
10	Gadanigraha	
11	Ayurvediya Panchkarma chikitsa	Dr Mukundilal Dwivedi
12	Panchkarma Vigyan	Dr Haridas Shreedhar Kasture
13	Illustrated Panchkarma	Dr.G Srinivasa Acharya
14	Ayurveda-Principles and Practice of Panchakarma	Dr. Mandip and Dr Gurdip Singh
15	The Panchkarma Treatment of Ayurved with Kerala Specialities	Dr. T.L. Devaraj
16	Panchkarma Therapy	Dr. R.H. Singh
17	Principles and practice of vasti	Dr. Vasudevan Nampoothiri and Dr. L. Mahadevan
18	Claiton's Physiotherapy	
19	Teddy's Physiotherapy	
20	Harrison's Principles of Inernal Medicines	
21	Guyton's Physiology	

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M.S.-AYURVEDA PRELIMINARY

14. PRASUTI AVUM STRI ROGA
(Gynecology & obstetrics)

PAPER-II **Theory- 100 mar**

PART A 50 mar

1. Concept of Tridosha, Dhatu, Upadhatu, Agni, Pancha Mahabhuta in relation to Prasuti and Stri Roga.
2. Concept of Artava and Shukra.
3. Concept of Rasa, Guna, Veerya, Vipak and Karma of Dravya used in Prasuti and Stri Roga.
4. Action and adverse drug reaction related to commonly used plants and Rasa Aushadhi in Prasuti and Stri Roga.
5. Concept of Pathya- Apathya in relation to Prasuti and Stri Roga.
6. Concept of Garbhadhan and Garbha.
7. Concept of Vrana and Vrana dushti.
8. Concept of special therapies of Ayurved used in Prasuti and Stri Roga.
9. Concept of Ashtavidha Shastra Karma,Yantra & shastra used in Prasuti and Stri Roga

PRACTI CAL 100 mar

1. Applied anatomy and physiology of genito-urinary system, abdomen, pelvis, pelvic floor, anterior abdominal wall, inguinal ligament, inguinal canal, vulva, rectum and anal canal.
2. Abnormal development, structure and function of female and male urogenital systems
3. Development, structure and function of placenta, umbilical cord and amniotic fluid.
4. Physiological and neuro-endocrinal changes during puberty, adolescence and menstruation.
5. Introduction of hormones related with gynaecology and obstetrics. Ovulation, fertilization, climacteric and menopause. Biophysical and biochemical changes in uterus and cervix during pregnancy and labour.
6. Pre-natal, Natal and Post natal counseling and examination.
7. Pharmacological study of drugs used in gynaecology and obstetrics.
8. Knowledge of diagnostic techniques used in gynaecology and obstetrics.
9. Basic Knowledge of pathological and biochemical investigation used in gynaecology and obstetrics.
10. Ethics, law and Acts Related to gynaecology and obstetrics – laws of abortion and adoption.
11. Knowledge of contraception and sterilization procedures.
12. Pre-operative and post operative care in gynaecology and obstetrics.

PRACTI CAL 100 mar

Contents:

1. Hospital duties in OPD, IPD, labor room, OT and casualty
2. History taking and counseling - 25 cases.
3. Labor cases - observation/performing - 10 cases
4. Knowledge of instruments required in gynaecology and obstetric practices.
5. Ayurvedic diagnostic and therapeutic procedures.
6. Fluid therapy and blood transfusion.
7. Contraception and sterilizations.

8. Pre-operative, operative and post operative procedures.

Distribution of marks (Practical)

1. Case records of Patients in Detail (25 Cases) - 20 Marks
2. Bedside clinical case taking
   - Long case - 20 Marks
   - Short case - 10 Marks
1. Procedures - 15 Marks
2. Identification of instruments, X-ray etc & Spotting - 15 Marks
3. Viva - voce - 20 Marks

REFERENCE BOOKS:

1. Related matter from all tha samhitas and their commentaries.
2. Prasuti tantra evum stree roga by prof Tewari P V
3. Concepts of gynecology Dr Nirmala G Joshi.
4. Prasuti Tantra Prof. M. Dwivedi
5. Stree roga vigyan - Dr VNK Usha
6. Navya prasuti Vigyan Dr Pooja Bharadwaja
7. Text book of gynaecology-Berek and Novak.
8. Text book of obstetrics- Williums
9. Text book of obstetrics- D C Dutta
10. Text book of gynaecology - D C Dutta
11. Gabbe's normal and problem pregnancies.
12. Human embryology by Saddler.
13. Jeffcoat's principles of gynaecology
14. Te linde's gynaecological surgery.

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M.D.-AYURVEDA PRELIMINARY

15. KAUMARBHRITYA - BALA ROGA

(Pediatrics)

PAPER-II **Theory- 100 mar**

PART A **50 mar**

1. Development of Kaumarbhritya tantra including ancient and modern literature. Strength of Ayurveda specific to child health care.
2. Vayobheda (Classification of age) according to different classics
3. Anatomical and physiological differences in child compared to adult.
4. Ayurvedic consideration of physiology and pathology of Dosha, Dhatu, Mala, Oja, Agni, Prakriti (sharirika-manasika), Kaya ε Dhatuposhana in children.
5. Basic Concepts of growth and development, and its assessment.
6. Ayurvedic and modern clinical methods of examination of healthy and diseased newborn and children.
7. Knowledge of modern diagnostic tools like clinical and laboratory investigations, X-ray, USG, MRI etc.
8. Fundamentals of Ayurvedic treatment for childhood disorders.
9. Applied pharmacological considerations: Ayurvedic and modern concepts of drug doses, administration, distribution, metabolism, excretion, and other important factors of consideration.
10. National programs related to pediatrics.
11. Childhood Samskara
12. Principles of Child Psychology (Ayurvedic & modern concepts)

PART B **50 mar**

13. Concept of Bala Rasayana and its application in physical and mental health of children.
14. Concept of Vyadhi-Kshamatva avam Vardhanopaya. Concept of immunity and immune enhancing measures including immunization.
15. Concept of Dhupana and Raksha karma and their clinical application in pediatric practice
16. Basic concepts of single drugs commonly used in pediatric practice with special reference to their karma like- Guduchi, Yastimadhu, Mandukaparni, Shankhapushpi, Ativisha, Pippali, Maricha, Shunti, Haritaki, Amalaki, Tulasi, Bhumyamalaki, Daruharidra, Haridra, Vidanga, Katuki, Dadima, Brahmi, Ashvagandha, Shatavari, Bala, Kampillaka, Trivrita, Jyotishmati, Vacha, Jeevanti, Rasna, Shatavari, Anantamula (Krishna Sariva), Durva, Khadir, Tankana, Tambula, Jatamansi, Sphatika.
17. Knowledge of their ingredients, indications, precautions and specific considerations including adverse drug reactions (ADR) commonly used Ayurvedic formulations in pediatric practice e.g. Aravindasava, Baalachaturbhadra Churna, Kumarakalyana Rasa, Saraswatarista, Swarnaprashana (Kashyapa Samhita), Kumaryasava, Kushmanda Rasayana (Sharangdhar), Ashvagandha Rasayana (Ashtanga Hridaya), Brahmi Ghrita, Kalyanaka Ghrita, Talishadi Churna, Sitopaladi Churna, Haridr Khanda, Krimikuthara Rasa, Mugdha Rasa, Dantodbheda-Gadantaka Rasa, Rajanyadi Churna (Ashtanga Hridaya), Samvardhana Ghrita, Ashta Mangal Ghrita.
18. Methods of preparation of various specific Kalpana (e.g. Lehya, Syrup, drops etc.) according to needs of children.
19. Common instruments and their application in new born care and general pediatric practice.
20. Specific considerations in research methods related to Pediatrics.
21. Regulatory laws related to child health management.

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PRACTI CAL **100 mar**

Contents:

1. a) In-patient case history record -(25 Patient)
   b) Child Health record - (50 Case)
1. Involvement in Outreach and National programs:
2. School Child health checkup
3. Adolescent education
4. Adolescent counseling etc
3. Pediatric ward/nursery management.

Distribution of marks (Practical)

1. a) Case History Record - (25 Patient) - 10 Marks
   b) Child Health record - (50 Case) - 10 Marks
2. Bed side clinical case taking
1. Long Case - 20 Marks
2. Short Case - 10 Marks

3. Procedures/ Kriya Kalpa - 15 Marks
4. Identification of instruments & Spotting - 15 Marks
5. Viva-voce - 20 Marks

REFERENCE BOOKS:

1. Kashyapa Samhita Complete Hindi translation by Satyapal Vidhyalankara English translation by Prof. Premvati Tiwari
2. Principles & practice of Pediatrics in Ayurveda: CHS Shastry
3. Child Health Care in Ayurveda: Abhimanyu Kumar
4. Ayurvedic Concepts of human Embryology: Abhimanyu Kumar
5. Kaumarbhritya by Prof. D.N. Mishra
6. Kaumarbhritya Ke Antargata Balgraho Ka Kramika Evam Vaigyanika Adhyana by Prof. Chanchal Sharma
7. Notes on Kaumarbhritya-by Dr. Dinesh K S
8. Pran - Pratyagamanam-by Dr. B.M. Singh
9. Ayurveda Dwara Matra Evam Shishu Paricharya by Dr. KS Patel, V.K. Kori & Rajgopal S.
10. Kaumarbhritya related references from Charaka Samhita, Sushruta Samhita Vagbhata etc.
11. Clinical Methods in Paediatrics by Meharban Singh
12. Pediatrics Emergencies by Meharban Singh
13. Essential Pediatrics O.P. Ghai
14. Text Book of Pediatrics Nelson
15. Care of New Born by Meharban Singh

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M.S.-AYURVEDA PRELIMINARY

16.SHALYA TANTRA – SAMANYA
(General Surgery)

PAPER-II **Theory- 100 mar**

PART A **50 mar**

1. Etymology and definition of Shalya Tantra.
2. Scope and importance of Shalya Tantra.
3. Study of Sushruta Samhita Sutra Sthana.
4. Study of modern surgical clinical methodology.
5. Applied anatomy, physiology and surgical pathology of common surgical conditions including relevant Ayurvedic aspect.
6. Applicability of Shat Kriyakala in the pathogenesis of surgical diseases.
7. Applicability of Prakriti in understanding the causes and role of treatment in surgical diseases.
8. Applicability of basic principles of Ayurveda in Rogi Pariksha (Trividha, Shadvidha, Ashtavidha and Dashavidha Pariksha) a latest investigations.
9. Concept of Rakta according to Sushruta.
10. Introduction of clinical and diagnostic methods in Shalya Tantra - X-rays, U.S.G., Endoscopies (for diagnostic and treatment purposes), MRI, CAT scanning and other recent diagnostic tools.
11. Concept and applicability of Sadhya-Asadhya (Prognosis) - Arishtha lakshana.
12. Knowledge of life saving drugs.
13. Emergency conditions and its management.
14. Diagnosis and management of Pranashtha Shalya.

PART B **50 mar**

- Yantra and Shastra – Surgical Instruments - Ancient and recent advances.
- Sterilization – methods and types.
- Basic knowledge of Sangyaharan – Anaesthesia - Types, methods, indications, contraindications, complications and its management.
- Concept of Trividha Karma – Purva, Pradhana and Pashchat.
- Ashtavidha Shastra Karmas.
- Bandhana Karma – Ancient and recent advances.
- Kshara Karma – Introduction, types, method of various preparations like Kshara, Kshara Varti, Kshara Pichu and applicatior
- Kshara Sutra – Method of preparation, standardization and applications.
- Agnikarma – Introduction, types and applications.
- Raktamokshana – Introduction, types and applications.
- Application of Panchakarma therapy in surgical practice.
- Scope of Pathya-Apathya in the management of surgical diseases.

PRACTI CAL **100 mar**

Content:-

1. Hospital duties in OPD, IPD, OT and casualty
2. Case record – 25 cases
3. Surgical cases - observation/performing- 10 cases
4. Knowledge of instruments required in surgical practices.
5. Ayurvedic diagnostic and therapeutic procedures.
6. Fluid therapy and blood transfusion.
7. Contraception and sterilizations.
8. Pre-operative, operative and post operative procedures.

Distribution of marks (practical):

1. Case records of 25 Patients in detail	20 marks
2. Bedside clinical case taking-	
Long case	20 marks
Short case	10 marks
3. Identification of instruments, X-ray etc	15 marks
4. Medical procedures	15 marks
5. Viva voce	20 marks

REFERENCE BOOKS:-

1. Sushruta Samhita
2. Ashtanga Sangraha
3. Ashtanga Hridaya
4. Charaka Samhita
5. The Surgical instruments of the Hindus - Girindranath Mukhopadhyaya
6. Shalya Tantra Samuchchaya - Pandit Ramadesh Sharma
7. Shalya Vigyan (Part 1-2) - Dr. Surendra Kumar Sharma
8. Shalya Samanvaya (Part 1-2) - Vd. Anantaram Sharma
9. Shalya Pradeepika - Dr. Mukund Swaroop Verma
10. Soushruti - Dr. Ram Nath Dwivedi
11. Clinical Shalya Vigyan - Dr. Akhilanand Sharma
12. Bhagna Chikitsa - Dr. Prabhakar Janardhan Deshpande
13. Kshara sutra management in anorectal ailments and Dr. Kulwant Singh. - Dr. S.K. Sharma, Dr. K.R.Sharma
14. Anorectal diseases in Ayurveda - Dr. Sizoria and Dr. Praveen Kumar Chowdary.
15. Adhunika Shalya Chikitsa Siddanta - Dr. Katil Narshingham Udupa
16. Agnikarma Technology Innovation - Dr. P.D. Gupta
17. Shalya Tantra Ke Siddhant - Dr. K.K.Takral
18. Recent advances in the management of Arshas /Haemorrhoids - Dr. P. Hemantha Kumar

1. Arsha Evum Bhagander Mein sutra Avacharan- Vd. Kanak Prasad Vyas
2. Recent advances in Kshara Sutra - Dr. M. Bhaskar Rao
3. Leech application in Ayurveda - Dr. M. Bhaskar Rao
4. Kshara Sutra - Dr. S.N.Pathak
5. Shalya Shalakya Tantra - Vd. S.G. Joshi
6. Surgical ethics of Ayurveda - Dr. D.N. Pande
7. Text book of Surgery - Sabistan
8. Operative Surgery – Rob and smith

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1. Bailey and Love's Short Practice of Surgery Mann and R.C.G. Russell - Norman.S. Williams, Charles.V.
2. Fractures and Joint Injuries - Watson-Jones
3. Text books of Operative Surgery - Farquharsons'
4. Principles of Surgery - Schwartz
5. Emergency Surgery -Hamilton Bailey's
6. Surgical pathology - Willing Worth

1. Clinical methods in surgery - S. Das
2. Textbook of Operative Surgery - S. Das
3. Shalya Vigyan (Sachitra) - Anantram Sharma
4. Anushastra Karma - Dr. D.N. Pande
5. Concept of Vrana is Ayurveda - Dr. Lakshman Singh
6. Significance for Poorva Karma in Surgical Patient - Dr. Lakshman Singh
7. Sangyaharan Prakash - Dr. D.N. Pande
8. A concise Text Book of Surgery - S. Das
9. A manual on Clinical Surgery - S. Das
10. A System of Surgical Diagnosis - T.N. Patel
11. A Practical Guide to Operative Surgery - S. Das
12. Drugs and Equipment for Anaesthesia - Arun kumar
13. Manual of Surgical Instruments - M.M. Kapur

14. Ward Procedures	- Patel Mansukh. B
15. Recent trends in the management of Arshas / Haemorrhoids	- Dr. P. Hemantha Kumar
1. Primary Anaesthesia	- Maurice King
2. Synopsis of Anaesthesia	- Lee
3. Clinical Anatomy/ Surgical Anatomy	- John E.Skandalakis
4. Surgical Instruments of the Hindus	- Girindharnath Mukopadyay
5. Outline of Orthopedics	- John Crawford Adams and David Hamblen. L
6. Outline of Fracture	- John Crawford Adams
7. Recent trends in the management of Bhagandara / Fistula-in-ano	- Dr. P. Hemantha Kumar
8. Principles and Practice of Agnikarma	- Dr. Anand Kumar and Dr. Kanchan Shekokar.
9. Manipal Manual of Surgery	- Dr. Rajgopal Shenoy

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M.S.-AYURVEDA PRELIMINARY

17.SHALYA - KSHARA KARMA AVUM ANUSHASTRA KARMA
(Para Surgical Procedure including Minimal invasive Surgery)

PAPER-II **Theory- 100 mar**

PART A **50 mar**

1. Etymology and definition of Shalya Tantra.
2. Scope and Importance of Shalya Tantra.
3. Study of Sushrut Samhita Sutra Sthana 1- 46 chapters.
4. Study of modern surgical clinical methodology.
5. Applied anatomy, physiology and surgical pathology of common surgical conditions including relevant Ayurvedic aspect.
6. Applicability of Shat Kriyakala in the pathogenesis of surgical diseases.
7. Applicability of Prakriti in understanding the causes and role of treatment in surgical diseases.
8. Applicability of basic principles of Ayurveda in Rogi Pariksha (Trividha, Shadvidha, Ashtavidha and Dashavidha Pariksha) and latest investigations.
9. Concept of Rakta according to Sushruta.
10. Introduction of clinical and diagnostic methods in Shalya Tantra - X-rays, U.S.G., Endoscopies (for diagnostic and treatment purposes), MRI, CAT scanning and other recent diagnostic tools.
11. Concept and applicability of Sadhya-Asadhya- Prognosis – Arishtha Lakshana.
12. Knowledge of life saving drugs.
13. Emergency conditions and its management.
14. Diagnosis and management of Pranastha Shalya.

PART B **50 mar**

1. Yantra and Shastra – Surgical Instruments - Ancient and recent advances.
2. Sterilization – methods and types.
3. Basic knowledge of Sangyaharn – Anaesthesia - Types, methods, indications, contraindications, complications and its management.
4. Concept of Trividha Karma – Purva, Pradhana and Pashchat.
5. Ashtavidha Shastra Karmas.
6. Bandhana Karma – Ancient and recent advances.
7. Kshara Karma – Introduction, types, method of various preparations like Kshara, Kshara Varti, Kshara Pichu and applications.
8. Kshara Sutra – Method of preparation, standardization and applications.
9. Agnikarma – Introduction, types and applications.
10. Raktamokshana – Introduction, types and applications.
11. Application of Panchakarma therapy in surgical practice.
12. Scope of Pathya-Apathya in the management of surgical diseases.

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PRACTICAL **100 mar**

Content :-

1. Hospital duties in OPD, IPD, OT and casualty
2. Case record – 25 cases

3. Parasurgical cases - observation/performing- 10 cases
4. Knowledge of instruments required in parasurgical practices.
5. Ayurvedic diagnostic and therapeutic procedures.
6. Fluid therapy and blood transfusion.
7. Pre-operative, operative and post operative procedures.

Distribution of marks (practical):

1. Case records of 25 Patients in detail	20 marks
2. Bedside clinical case taking-	
Long case	20 marks
Short case	10 marks
3. Identification of instruments, X-ray etc.	15 marks
4. Medical procedures	15 marks
5. Viva voce	20 marks

REFERENCE BOOKS :-

- Sushruta Samhita
- Ashtanga Sangraha
- Ashtanga Hridaya
- Charaka Samhita
- The Surgical instruments of the Hindus - Girindranath Mukhopadhyaya
- Shalya Tantra Samuchchaya - Pandit Ramadesh Sharma
- Shalya Vigyan (Part 1-2) - Dr. Surendra Kumar Sharma
- Shalya Samanvaya (Part 1-2) - Vd. Anantaram Sharma
- Shalya Pradeepika - Dr. Mukund Swaroop Verma
- Soushruti - Dr. Ram Nath Dwivedi
- Clinical Shalya Vigyan - Dr. Akhilanand Sharma
- Bhagna Chikitsa - Dr. Prabhakar Janardhan Deshpande
- Kshara sutra management in anorectal ailments and Dr. Kulwant Singh. - Dr. S.K. Sharma, Dr. K.R.Sharma
- Anorectal diseases in Ayurveda - Dr. Sizoria and Dr. Praveen Kumar Chowdary.
- Adhunika Shalya Chikitsa Siddanta - Dr. Katil Narshingham Udupa
- Agnikarma Technology Innovation - Dr. P.D. Gupta
- Shalya Tantra Ke Siddhant - Dr. K.K.Takral
- Recent advances in the management of - Dr. P. Hemantha Kumar
- Arshas / Haemorrhoids
- Arsha Evum Bhagander Mein sutra Avacharan - Vd. Kanak Prasad Vyas
- Recent advances in Kshara Sutra - Dr. M. Bhaskar Rao
- Leech application in Ayurveda - Dr. M. Bhaskar Rao
- Kshara Sutra - Dr. S.N.Pathak
- Shalya Shalakya Tantra - Vd. S.G. Joshi
- Surgical ethics of Ayurveda - Dr. D.N. Pande
- Text book of Surgery - Sabistan
- Operative Surgery - Rob and smith

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1. Bailey and Love's Short Practice of Surgery - Norman.S. Williams, Charles.V. Mann and R.C.G. Russell
2. Fractures and Joint Injuries - Watson-Jones
3. Text books of Operative Surgery - Farquharsons'
4. Principles of Surgery - Schwartz
5. Emergency Surgery -Hamilton Bailey's
6. Surgical pathology - Willing Worth
7. Clinical methods in surgery - S. Das
8. Textbook of Operative Surgery - S. Das
9. Shalya Vigyan (Sachitra) - Anantram Sharma
10. Anushastra Karma - Dr. D.N. Pande
11. Concept of Vrana is Ayurveda - Dr. Lakshman Singh
12. Significance for Poorva Karma in Surgical Patient - Dr. Lakshman Singh
13. Sangyaharan Prakash -Dr. D.N. Pande
14. A concise Text Book of Surgery - S. Das
15. A manual on Clinical Surgery - S. Das
16. A System of Surgical Diagnosis - T.N. Patel
17. A Practical Guide to Operative Surgery - S. Das
18. Drugs and Equipment for Anaesthesia - Arun kumar
19. Manual of Surgical Instruments - M.M. Kapur
20. Ward Procedures - Patel Mansukh. B
21. Recent trends in the management of - Dr. P. Hemantha Kumar
22. Arshas / Haemorrhoids
23. Primary Anaesthesia - Maurice King
24. Synopsis of Anaesthesia - Lee
25. Clinical Anatomy/ Surgical Anatomy - John E.Skandalakis
26. Surgical Instruments of the Hindus - Girindharnath Mukopadyay

27. Outline of Orthopedics - John Crawford Adams and David
28. Hamblen. L
29. Outline of Fracture - John Crawford Adams
30. Recent trends in the management of - Dr. P. Hemantha Kumar
31. Bhagandara / Fistula-in-ano
32. Principles and Practice of Agnikarma - Dr. Anand Kumar and
33. Dr. Kanchan Shekokar.
34. Manipal Manual of Surgery - Dr. Rajgopal Shenoy

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M.S.-AYURVEDA PRELIMINARY

18.ASTHI SANDHI AND MARMAGAT ROGA
(Orthopedics and management of vital points)

PAPER II Theory- 100 mar

PART A 50 mar

1. Etymology and definition of Shalya and Shalya Tantra. Scope and importance of Shalya Tantra.
2. Dosha, Dhatu, Mala and Sarotas vigyan.
3. Knowledge of ancient and recent Yantra and Shastra – Surgical instruments. Ashtavidha Shastra Karma and their applicatic in surgical practice.
4. Trividha Karma – Purva, Pradhan and Pashchat Karma. Modern principles of pre-operative and post-operative care. Clinica application of Purva and Pashchat Karma in modern surgery.
5. Asepsis and Antisepsis. Sterilisation (Nirjantukikarana)-methods and types. O.T. Fumigation.
6. Surgical infections – Sepsis, Cellulitis, Erysepelas, Tetanus, Gas gangrene, Hepatitis, HIV- AIDS etc. Handling and care of H and Hepatitis positive patients. Knowledge of conditions like Bacteraemia, Septicaemia, Toxaemia and Pyaemia
7. Concept of Shock - Its varieties etiopathogenesis and management – Cardio-pulmonary resuscitation (CPR), Endo-tracheal intubation and Tracheostomy.
8. Drug reactions and Anaphylaxis – Management.
9. Sushruta's concept of Rakta and Raktasrava – Haemorrhage – Types, Patho-physiology, clinical features and management Concept of Raktastambhana – Haemostasis. Blood transfusion – Indications, blood groups, components, compatibility and complications with management.
10. Shatkriyakaala and its applicability in the pathogenesis of surgical diseases.
11. Knowledge of Prakriti and its impact on pathogenesis, clinical features and treatment of orthopedic diseases.
12. Rogi and Rog Pariksha (Trividha, Shadvidha, Ashtavidha and Dashavidha Pariksha) and its application in the diagnosis of diseases.
13. Vranashopha and Inflammation, Nadivrana and Sinuses / Fistulae, Vidradhi and abscesses.
14. Swellings – Arbuda and Tumours, Granthi and Cysts.
15. Anu Shastra Karma like Ksharakarma, Agnikarma, Raktavasechana etc. and their application in orthopedic practice.
16. Pranashta Shalya Vigyan.
17. Fluid, Electrolyte, Acid Base Balance and Nutrition
    1. Introduction to physiology of fluids and electrolytes.
    2. Dehydration and over hydration.
    3. Specific electrolyte losses, symptomatology and management of Acidosis, Alkalosis and Acid-Base balance.
    4. Various replacement fluids in surgery, mode of administration and complications.
    5. Nutrition – pre-operative, peri-operative and post-operative.
    6. Intravenous fluid therapy.
18. Knowledge of imaging and diagnostic techniques – X-ray, Ultra Sonography, CT scan, MRI and recent advances.

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PART B 50 mar

1. Scope of Asthi Sandhi evam Marmaghata Roga specialty and its importance. Historical aspect of Ayurvedic and modern orthopedics and Marma.
2. Marma Sharira – Etymological derivation, definition, basic concept of Marma, origin, classification, Pramana. Consequences Marmaghata and their management.
3. Vrana Vigyan – Etiology, classification, symptomatology, prognosis and management principles of Nija and Sadyo Vrana. Concept of Shashti Upakrama. Seevana and Suturing, Vrana Bandhana and Bandaging. Modern concept of Wounds and Ulcers, their classification and management principles. Recent wound closure techniques, suture materials, dressing, bandaging materials and techniques. Mechanism of wound healing.
4. Bhagna - Etiology, classification, general management principles, complications and prognosis of the skeletal injuries according to Ayurved and Modern aspect. Mechanism of bone healing.

5. Itrathadagdha and Burns - Etiology, classification, symptomatology, prognosis and management principles. Knowledge of Burns Shock, its prevention and management principles.
6. Principles of initial care of injured person. Handling of poly trauma patient. ARDS (Acute Respiratory Distress Syndrome). Crush Syndrome, Thromboembolism, Fat Embolism syndrome and their management.
7. Systemic response to injury.
8. Pharmacology of emergency drugs, antibiotics, NSAIDs. Opiates, central muscle relaxants.
9. Anesthesiology related to Orthopedics. Pharmacology of local anesthetics and vasoconstrictors. Knowledge of local anesthe techniques like local anesthetic infiltration, various blocks (e.g. ring block, nerve block, plexus block, field block, hematoma block, costal block etc.) Spinal and epidural blocks.
10. Medico-legal aspects in orthopedics. Knowledge of documentation and record keeping.

PRACTICAL **100 mar**

Contents:

- Clinical history taking and examination of orthopedic patient.
- Knowledge of diagnostic and therapeutic principles of Shalya Tantra.
- Identification and functioning of surgical and orthopedic instruments.
- Practical knowledge of documentation and record keeping.
- Practical knowledge of Anu-Shastra Karma.
- Practical Knowledge of Seevan Karma and suturing and Vrana Bandhana and bandaging.
- Knowledge about the management of orthopedic emergencies.
- Knowledge of Purva Karma and Pashchat Karma.
- Practical knowledge of sterilization and OT fumigation.
- Knowledge of handling of medico legal cases and issuing MLCs and other certificates.

PG 1st Year Syallabus-56

Distribution of Marks (practical):

1. Case Records (25 cases) 20marks
2. Bed Side examination-
   - Patient History (Long case) 20 marks
   - Patient History (Short case) 10 marks
3. Instruments / equipments / models identification 15 marks
4. Medical procedures 15 marks
5. Viva Voce 20 marks

REFERENCE BOOKS-:

1	Sushruta Samhita	Relevant parts
2	Sushruta Samhita (Dalhana commentary)	Relevant parts
3	Charak samhita	Relevant parts
4	Ashtang Hridaya	Relevant parts
5	Ashtang Sangraha	Relevant parts
6	Saushruti	Ramanath Dwivedi
7	Watson and Jones – Fracture and Joint Injuries	J.N. Wilson
8	Practical Fracture Treatment	R. McRae
9	Clinical Orthopedic Examination	R. McRae
10	Apley's System of Orthopedics	Apley Louis Solomon
11	A Concise Text Book of Surgery	S. Das
12	Pye's Surgical Handicraft	
13	Clinical Methods in Surgery	Sriram Bhatt
14	Clinical Methods in Surgery	S. Das
15	Operative Surgery	S. Das
16	Schwartz Principles of Surgery	
17	Bailey and Love's short practice of Surgery	



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PG 1st Year Syallabus-57

M.D.-AYURVEDA PRELIMINARY

19. SANGYAHARAN
(Anesthesiology)

PAPER-II — Theory 100 mar

PART-A — 50 mar

1. Shisyopanayana,Vishikhanupravesha, Agropaharaniay and Shatkriyakala.
2. Etymology and definition of Sangyaharan and its scope, application and importance in surgical practice.
3. Fundamentals of Ayurveda in relation to Sangyaharan- Panchmahabhuta, Prakriti, Dosha, Dhatu and Mala.
4. Concept of Vedana (pain), pathophysiology and modalities of pain management in Ayurveda.
5. Agni Karma in pain management.
6. Introduction, fundamentals, importance, types, methods of application, duration, instruments, equipments and various materials used for Agni Karma. The indications, contraindications, complications of Agni karma and their management.
7. Raktamokshana (blood letting) in pain management.
8. Introduction, fundamentals, importance, types, methods of application, duration, instruments, equipments and various materials used for Raktamokshana. Indications, contraindications, complications of Raktamokshana and their management.
9. Causes of vitiation of Rakta Dosha and Rakta Dushtijanya Vikaras.
10. Types of Raktamokshana and determination of appropriate amount of blood loss during Raktamokhana according to diseas and patients.
11. Methods of Raktastambhana.
12. Leech Therapy in pain management. Varieties, importance, methods of applications, indications, contraindications, complications and their management and method of maintenance of leeches.
13. Trividha Karma – Purva karma (preanaesthetic management), Pradhana karma(induction and maintenance) and Pashchat Karma (post anesthetic care).
14. Concept of Marma, their importance and application in Sangyaharan.
15. Concept of palliative care and its role in terminally ill patient care in Ayurveda.

PART-B — 50 mar

History of anesthesia.

1. Molecular basis of anesthesia, cell physiology and body fluids.
2. Respiratory system: Anatomy of the upper airway – nose, pharynx, larynx, tracheobronchial segment, mechanics of respiration, physiology of respiration, ventilation, perfusion matching, lung volumes and capacities, pulmonary gas exchang and transport of gases, lung function tests – including laboratory tests for obstructive and restrictive lung diseases.
3. Cardiovascular system: Anatomy and physiology of heart and autonomic nervous system, maintenance of blood pressure, systemic circulation, pulmonary circulation, microcirculation and lymphatics.
4. Nervous system: Anatomy and physiology of central nervous system, cranial nerves, nerve plexuses, spinal column. Physiology of sleep, sleep disorders, physiology of pain, physiology of neuromuscular junction, autonomic nervous system - sympathetic and parasympathetic.
5. Endocrinology as related to anesthesia: Function of anterior and posterior pituitary and their dysfunction, hyper and hypothyroidism, hyper and hypopara-thyroidism, diabetes mellitus – hypo and hyperglycemia, ketoacidosis. Adrenal cortex a medulla functions and disorders.
6. Pathophysiology of renal failure, renal function tests.

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7. Pathophysiology of hepatic failure, liver function tests.
8. Shock and its management.
9. Fluid and electrolyte, acid base balance, ABG interpretation and water intoxication
10. Thermoregulation.
11. Pre anesthetic assessment and permedication.

14. Physics applied to anesthesia: Gas laws, ventilators & monitors, flow meters, vaporizers, breathing systems, carbon-dioxid absorbers, medical gas supply, suction machines, electrical fire & explosion hazards, pollution in O.T.
15. Sepsis, asepsis and sterilization- methods, types of sterilization of machine and equipments with special reference to tetanu hepatitis, HIV-AIDS etc. O.T. fumigation.
16. Intravenous fluids, crystalloid & colloids, their indications, contra indications, complications and their management.
17. Blood transfusion-indication, contra indications, complications and their management, component therapy.
18. Medicolegal and ethical aspects in research and patient care. Medico legal issues, understanding the implications of acts of omission and profession, National Health policy - implications in a medico legal case like accidents, negligence, assaults etc
19. Anaesthisa documentation and record keeping.

PRACTICAL 100 mar

Contents:

1. Anesthetic Drugs.
2. Demonstration of induction of Anesthesia.
3. Preanaesthetic assessment of patients.
4. Post anesthesia management.
5. Complications of anesthesia and their management.
6. Identification of instruments and knowledge of their use.

Distribution of marks (Practical)

1. Anesthesia documentation & record keeping - 20 Marks
2. Bedside clinical case taking
3. Long Case - 20 Marks
4. Short Case - 10 Marks
5. Procedure - 15 Marks
6. Identification of instruments & Spotting - 15 Marks
7. Viva-voce - 20 Marks

REFERENCE BOOKS

1. Sushruta Samhita
2. Charka samhita
3. Ashtang Hridaya
4. Practice of Anesthesia - Churchill Davidson
5. Miller's Anesthesia - Ronald D Miller
6. Synopsis of Anesthesia - Alfred Lee
7. Sangyaharan Prakash - Dr. D. N. Pande
8. Agni karma-Technological Innovation - Dr. P.D. Gupta
9. Practice of Anesthesia and Resuscitation - Dr. P.K. Gupta et al
10. Essentials of Anesthesiology - Prof. A.K. Paul
11. Clinical Anesthesia - Prof. A.K. Paul
12. Anu Shastra karma - Dr. D.N. Pande
13. Textbook of Anesthesia - Aitkenhead
14. Anesthesia and co-existing disease - Stoelting's

M.S.-AYURVEDA PRELIMINARY

20. SHALAKYA - NETRA ROGA
(Ophthalmology)

PAPER-II Theory- 100 mar

PART-A 50 mar

1. Shalakya Tantra Parichaya, Itihas and Pradhanyam.
2. Netra Sharir and related Marmas
3. Study of Dosha, Dhatu, Mala and Srotas in context to Netra chikitsa.
4. Updated knowledge of Agropaharaniya in Netra chikitsa- incorporating sterilization, Sangyaharana (Anaesthesia).
5. Basic pharmacology of common drugs required in ocular diagnostic and therapeutic procedures.
6. Vrana Siddhanta-Trividha Shopha, Shuddha-Ashuddha Vrana, Vrana Srava, Vrana Bandha, Vranitopasana in context to Ne chikitsa.
7. Swasthavritta related to Netra.
8. Chaturvidha Chikitsa Siddhanta and Raktamokshana in Netra chikitsa.
9. Applied knowledge of various Kriyakalpas and other therapeutic procedures related to Netra chikitsa.
10. Role of Panchkarma in Netra chikitsa.
11. Netra Chikitsa Upayogi Vishishta Yoganam, Guna, Karma prayog gyanam of most common classical Yogas.

PART-B 50 marks

- Applied anatomy and physiology of eye, its adnexa and visual pathway.
- Clinical methods of eye examination.
- Application of various aids and techniques in the examination of eye viz Tonometry, direct Ophthalmoscopy, Perimetry, Refraction and Slit Lamp examination with their interpretation.

- Fundamentals of optics and refraction.
- Applied aspects of Aetio-Pathogenesis, clinical features, prognostic and therapeutic principles in Netra Roga Chikitsa along with Pathya-Apathya and their contemporary knowledge.
- Common ocular emergencies and their management.
- Applied aspects of Yantra and Shastra in Netra Chikitsa along with modern ophthalmic surgical instruments and equipments
- Knowledge of rules, regulations and medico legal aspects of ophthalmic practice including eye donation, eye banking and corneal grafting.
- Knowledge of handling of biomedical waste.

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PRACTICAL **100 marks**

Contents:

1. Clinical posting in OPD/IPD/Kriyakalpa Kaksha & OT
2. Clinical case presentation (10 cases)
3. Case record (20 cases)
4. Hands on training in Kriyakalpa

Distribution of marks (practical):

1. Case Record - 20 Marks
2. Bed side examination
3. Long case - 20 Marks
4. Short case - 10 Marks
5. Kriyakalpa procedure - 15 Marks
6. Identification of specimens and Instruments - 15 Marks
7. Viva-voce - 20 Marks

REFERENCE BOOKS:-

1	Charka Samhita with commentaries	
2	Sushrut Samhita and vaghbhata with commentaries	
3	Astanga hridaya and Astanga sangraha with commentaries	
4	Madhava nidan with commentaries	
5	Bhavaprakasha with commentaries	
6	Sarangadhara Samhita with commentaries	
7	Sahstrayoga Sangraha	
8	Relevent part of Chakradhatta, Bhel Samhita, Harita Samhita	
9	Shalakya Tantra	- Ramanath Dwivedi
10	Shalakya Tantra	- R.C. Chaudhary
11	The Actions and uses of Indigenous Ophthalmic Drugs	- N.Srikanth
12	Clinical Examination of Ophthalmic Cases	- Agarwal and Gupta
13	Alder's Physiology of the Eye and Clinical Applications	- Cotlier, St. Louis
14	Disease of the Lens and Vitrous, Glaucoma and Hypotony	- Duke Elder, St. Louis
15	A Text Book of Ophthalmology	- Ahmed E.
16	A Text book of clinical ophthalmology	- Dhanda
17	Modern Ophthalmology Brothers	- Dutta, L.C. Jaypee
18	Manual of the Diseases of the Eye Bailliere Tindal and Castell	- May,C.and Worth,C.
19	Ophthalmology – Principles and Concepts Mosby Co., St. Louis.	- Newell, F.W., C.V.
20	Ocular Differential Diagnosis Lea and Febiger	- Roy Fedrick Hamptn
21	Clinical Ophthalmology Company	- Smith, R.Verghese
22	Abrahm Manual of Refraction	- Duke and Elder
23	Hand Book of ophthalmology	- B.M. Chaterjee
24	Hand Book of ophthalmology	- Khurana
25	Clinical ophthalmology	- Kanski
26	Parsons Diseases of Eye	

27 Stallard's Eye Surgery

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M.S.-AYURVEDA PRELIMINARY

21. SHALAKYA- DANTA AVUM MUKHA ROGA
(Dentistry and Oral Disease)

PAPER-II Theory- 100 mar

PART-A marks

1. Shalakya Tantra Parichaya, Itihas avum Pradhanyam.
2. Mukhasharir.
3. Study of Dosha, Dhatu, Mala and Srotas in context to Danta and Mukha Roga.
4. Agropaharaniya in Danta and Mukha Roga incorporating sterilization, Sangyaharana and diagnostic and therapeutic pharmacological agents.
5. Vrana Siddhanta-Trividha Shopha, Shuddha-Dushta Vrana, Vrana Bandha and Vranitopasana in relation to Danta and Mukl Roga.
6. Swasthavritta related to Danta and Mukha Roga.
7. Chaturvidha Chikitsopaya (Bheshaja-Shastra-Kshara-Agni) Siddhanta and Raktamokshana related to Danta and Mukha Ro
8. Applied knowledge of various Kriyakalpa and other therapeutic procedures related to Danta and Mukha Roga.
9. Role of Panchkarma in Danta and Mukha Roga.
10. Mukha and Danta Chikitsopayogi Aushadha Kalpana Parijnanam e.g. Dashana Samskara Manjana, Shwetamanjana, Vajradanta Manjana, Khadiradi Vati, Irimedadi Taila, Peetaka Churna, Kalaka Churna, Nimbadi Churna and Bhadramustadi Vati.

PART-B 50 mar

1. Applied orodental anatomy and physiology.
2. Clinical methods adopted in orodental practices.
3. Knowledge of advanced diagnostic techniques, equipments and tests of importance in orodental practices with their interpretations.
4. Classification, aetiopathogenesis, clinical features and therapeutics of Oshtha, Danta, Dantamula, Jihva, Talu and Sarvasar Mukharogas in the light of modern knowledge.
5. Basics of Sandhana Vidhi in Mukha and Danta Roga.
6. Applied aspect of Dysphagia, Manyastambha, Hanumoksha, Apachi (Cervical Lymphadenopathy) and Herpes.
7. Handling of biomedical waste.

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PRACTICAL 100 mar

Contents:

1. Clinical posting in OPD, IPD, Kriyakalpa Kaksha and OT.
2. Clinical case presentation (10 cases).
3. Case record (20 cases).
4. Hands on training in Kriyakalpa.

Distribution of marks (practical):

1. Case Record - 20 Marks
2. Bed side examination
3. Long case - 20 Marks
4. Short case - 10 Marks
5. Kriyakalpa procedure - 15 Marks
6. Identification of specimens, radiograph and instruments - 15 Marks
7. Viva-voce - 20 Marks

Reference Books

1. Sushrut Samhita - -Dalhana
2. Useful Portion of Charak Samhita-Ashtang Samgraha -Ashtang Hridaya
3. Useful portion of Laghutrayi related to Danta and Mukha Roga
4. Shalakya Vijnanam - Ravindra Chandra Chaudhary
5. Nimi Tantra - Ramanath Dwivedi
4. Dental Anatomy Histology - Dr. S.I. Bhalajhi

5. Essentials of Preventive and Community Dentistry -Dr. Soben Peter
6. Complete Denture Prosthodontics - Dr. J.J. Manappallil
7. Orthodontics the Art and Science - Dr. S.I. Bhalajhi
8. Text book of Pediatric Dentistry - Dr. S.G. Damle
9. Text book of Oral and Maxillofacial surgery -Dr. Vinod Kapoor
10. Clinical Periodontology - Dr. B.R.R. Varma
11. Anatomy for Dental Students - Inderveer Singh
12. Clinical Periodontology - Carranza , Newman
13. Operative Dentistry - M A Marzouk
14. Oral and maxilofacial surgery secrets - A.Omar Abubaker
15. Killey and Kay's Outline of Oral Surgery - Girdon R Seward
16. Clinical Dentistry - Ivor G. Chestnut , John Gibson
17. Synopsis of Oral Pathology - S N Bhaskar
18. Oral Pathology - Stone

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M.S.-AYURVEDA PRELIMINARY

22. SHALAKYA- SHIRO-NASA- KARNA- AVUM KANTHA ROGA
(ENT & HEAD & Neck Disease)

PRACTICAL — Theory- 100 mar

PART A — 50 mar

1. Shalakya Tantra Parichaya, Itihas and 'Pradhanya'. Establishment of 'superiority of Shiras' among all the organs. Determination and importance of the verse 'Nasa hi Shirso Dvaram'.
2. Shiro-Nasa- Karna- Avum Kantha Shariram and knowledge of related Marmas.
3. Study of Dosha- Dhatu-Mala and Srotas in context of Shiro-Nasa- Karna- Avum Kantha Chikitsa.
4. Agropaharaniya in Shiro-Nasa- Karna- Avum Kantha Chikitsa including sterilization and anesthesia.
5. Basic pharmacology of common modern drugs used in diagnostic and therapeutic procedures related to Shiro-Nasa- Karna- Evum Kantha Chikitsa.
6. Vrana Siddhanta- Trividha Shopha, Shuddha- Dushta Vrana, Vrana Bandha and Vranitopasan in context of Shiro-Nasa- Kar Avum Kantha Chikitsa.
7. Swasthavritta related to Shiro-Nasa- Karna- Avum Kantha.
8. Chaturvidha Chikitsopaya (Bheshaja- Shastra-Kshar -Agni) and Raktamokshan related to Shiro-Nasa- Karna- Evum Kanth Chikitsa.
9. Applied knowledge of various therapeutic modalities like Shirobasti, Shirodhara, Shirovirechana, Nasya, Karna Pooran, Kar Dhoopan, Kaval, Gandusha etc.
10. Role of Panchkarma in Shiro-Nasa- Karna- Avum Kantha Chikitsa.

PART B — 50 mar

1. Shiras- Applied anatomy and physiology of skull and intracranial contents. Clinical methods and knowledge of common diagnostic equipments, procedures and their interpretation. Classification, etiopathogenesis, clinical features, prognostic considerations and therapeutics of Shiras and Kapaal Rogas in the light of modern knowledge.
2. Nasa - Applied anatomy and physiology of nose and paranasal sinuses. Clinical methods and knowledge of common nasal diagnostic equipments, procedures and their interpretation. Classification, etiopathogenesis, clinical features, prognostic considerations and therapeutics of Nasa Rogas in the light of modern knowledge.
3. Karna- Applied anatomy and Physiology of ear and related structures. Clinical methods and knowledge of common aural diagnostic equipments, procedures and their interpretation. Classification, etiopathogenesis, clinical features, prognostic considerations and therapeutics of Karna Rogas in the light of modern knowledge.
4. Kantha - Applied anatomy and physiology of throat. Clinical methods and knowledge of common pharyngeal and laryngeal diagnostic equipments, procedures and their interpretation. Classification, etiopathogenesis, clinical features, prognostic considerations and therapeutics of Kanthagata Rogas in the light of modern knowledge.

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PRACTICAL — 100 mar

Contents:

1. Clinical posting in OPD, IPD, Kriyakalpa Kaksha and OT.
2. Clinical case presentation (10 cases).
3. Case record (20 cases).
4. Hands on training in Kriyakalpa.

Distribution of marks (practical):

1. Case Record - 20 Marks
2. Bed side examination

A. Long case - 20 Marks
B. Short case - 10 Marks
C. Kriyakalpa procedure - 15 Marks

3. Identification of specimens and Instruments - 15 Marks
4. Viva-voce - 20 Marks

REFERENCE BOOKS:-

1. Sushrut Samhita
2. Charak Samhita
3. Ashtang Hridaya
4. Ashtang Samgraha
5. Laghutrayi
6. Modern books related to ENT disorder
7. Diseases of Nose Throat and Ear - Bhargav Shah
8. Diseases of Nose Throat and Ear, Head and Neck EB Edr.
9. A Textbook of otorhinololaryngology - Scott Browns editions.
10. Text book of Ear Nose Throat diseases – Dhingra
11. Textbook on ENT – Mohd. Maqbool
12. Logan Turner's book on ENT
13. Ballengers text book of ENT
14. Kumin's text book of ENT
15. Rob Smith's book of ENT surgery
16. Paprella's book of ENT
17. Hazarika's text book on ENT
18. Books on examination of ENT
19. Audiology Anirwan Biswas
20. Kurt's Audiology
21. Books on Speech therapy

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1. AYURVED SAMHITA & SIDDHANT

Theory- 400 marks(100 Each)
Practical and Viva-Voce - 100 marks

PAPER –I Charak Samhita

1. Charak Samhita complete with Ayurved Dipika commentary by Chakrapani.
2. Introductory information regarding all available commentaries on Charak Samhita

PAPER –II Sushrut Samhita & Ashtang-Hridayam

1. Sushrut Samhita Sutra sthana and Sharir- sthana. with Nibandha Samgraha commentary by Acharya Dalhana.
2. Ashtang-Hridayam Sutra Sthanamatram with Sarvanga Sundara commentary by Arun Dutt.
3. Introductory information regarding all available commentaries on Sushrut Samhita and Ashtang Hridaya.

PAPER – III Ayurvediya and Darshanika Siddhanta

Introduction and description of philosophical principles incorporated in Charak Samhita, Sushrut Samhita, Ashtanga Hridya, shtang Samgraha.

1. Analysis of principles specially loka-purusha samya, Shadpadartha, Praman, Srishti Utpatti, Panchmahabhuta,Pilupaka, Pitharpaka Karana- Karyavada, Tantrayukti, Nyayas (Maxims), Atmatatva siddhant.
2. Importance of Satkaryavad, Arambhavada, Parmanuvada Swabhavoparamvada, Swabhava Vada, Yadricha Vada, Karmvada.
3. Practical applicability principles of Samkhya- Yoga, Nyaya-Vaisheshika, Vedanta and Mimansa.

PAPER – IV Ayurved Itihas and Prayogika Siddhant.

1. Post independent Development of Ayurveda: Education, Research.
2. Globalisation of Ayurved.
3. Introduction of department of AYUSH, CCIM, CCRAS, RAV.
4. Tridosh Siddhant.
5. Panchabhautik Siddhant
6. Manastatva and its Chikitsa Siddhant.
7. Naishthiki Chikitsa.
8. Practical applicability principles of Charvak, Jain & Bauddha Darshana.
9. Journals, types of Journals review of Articles.

Practical- Viva-voce **- 100 Marks**

(50 case sheets are to be filled from samhita siddhant IPD / OPD

Reference Books

1. Charak Samhita with Chakrapani commentary.
2. Sushruta Samhita with Dalhana Commentary.
3. Ashtanga Samgraha with Sarvangsundara.
4. Ashtanga Hridaya with Sarvangasundara.
5. Vaisheshika Darshan – Prashastapada Bhasya
6. Nyaya Darshan - Vatsyayan Bhasya Patanjala
7. Yoga Darshan- Vyas Bhasya
8. Vedantsara
9. Sarvadarshan Samgraha
10. Bhartiya Darshan - Baldev Upadhayaya.
11. Ayurved Darshanam - Acharya Rajkumar Jain.
12. Ayurved Darshan Vimarsha- Dr O.P. Upadhyay.

13. Ayurvediy Jeevak Su -Dr O.P. Upadhyay.
14. Padartha Vidnyan - Dr O.P. Upadhyay.
15. Scientific Exploration of Ayurved – Dr. Sudhir Kumar.

2. AYURVEDA SAMHITA & SIDHANTA (Basic Principles)

Astanga Hridaya, Charaka (P,U), Padartha Vignana & Ayurveda Ithihasa, Sanskrit

1	Dr. B. P. Pandey	**Group leader**	
2	Dr. Mahesh Vyas	**Coordinator -**	**Coordinator -**
3	Dr. B. L. Gaur	Samhitha & Siddantha U.G. & P.G.	
4	Dr. O. P.Upadhyaya	Samhitha & Siddantha U.G. & P.G.	
5	Dr. H. P. Sharma	Samhitha & Siddantha U.G. & P.G.	
6	Dr.S.L.Sharma	Samhitha & Siddantha U.G. & P.G.	
7	Dr. R. D. Thakkur	Samhitha & Siddantha U.G. & P.G.	
8	Dr. Naresh Sharma	Samhitha & Siddantha U.G. & P.G.	
9	Dr. Yogita Jamadade	Samhitha & Siddantha U.G. & P.G.	
10	Dr. Abichal C.	Samhitha & Siddantha U.G. & P.G.	
11	Dr. Mohan Joshi	Samhitha & Siddantha U.G. & P.G.	
12	Dr. G. P. Rama Reddy	Padartha Vigyana & Ayurveda Ithihasa	**Coordinator -**
13	Dr. Brij Kumar Dwivedi	Padartha Vigyana & Ayurveda Ithihasa	
14	Dr. Milind Mokashi	Padartha Vigyana & Ayurveda Ithihasa	
15	Dr. Santhosh Nair	Padartha Vigyana & Ayurveda Ithihasa	
16	Dr. Ahalya Sharma	Padartha Vigyana & Ayurveda Ithihasa	
17	Dr. Suhag Rawal	Padartha Vigyana & Ayurveda Ithihasa	
18	Dr. G.R.R Chakravarthy	Padartha Vigyana & Ayurveda Ithihasa	
19	Dr. Nandani	Padartha Vigyana & Ayurveda Ithihasa	
20	Dr. Manoj Sharma	Padartha Vigyana & Ayurveda Ithihasa	
21	Dr. Mallika K. J.	Padartha Vigyana & Ayurveda Ithihasa	
22	Dr.Shubhangi K	Padartha Vigyana & Ayurveda Ithihasa	
23	Dr. Premchand Shastri	Sanskrit	**Coordinator**
24	Dr. Mohan Chand Bhat	Sanskrit	
25	P. V. Thothadrinathan	Sanskrit	
26	Dr. Nigam Sharma	Sanskrit	
27	Dr. Savitri G.S	Sanskrit	
28	Dr. B.K.Shyam Raw	Sanskrit	

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2. RACHANA SHAARIRA

Total Marks – 400

PAPER-I (GARBHA SHAARIRA) — 100 Marks

1. Etymology of Garbhavakranti Shaarira, features of Shukra and Shonita, description of Beeja, Beejbhaga, Beejbhagavyava and Garbhotpadakabhava, Garbha Poshana Krama, Garbhavriddhikar Bhav, Masanumashiki Garbhavriddhi, Foetal circulation. Explanation of lakshana occurring in Ritumati, Sadhyah Grihita Garbha. Yamal garbha, Anasthi garbha.
2. Explanation of Basic Embryology, and Systemic embryology.
3. Knowledge of basic facts in advancement in Anuvanshiki (Genetics) and Garbhajavikara (Teratology).

PAPER –II (KOSHTHANGA SIRA DHAMANI SROTAS SHAARIR) — 100 Marks

1) **Koshthanga Shaarira: -** Detail etymological derivation of 'Koshtha' and Koshthanga, including detail study of structure of each Koshthanga. Male and Female genital organs.
2) **Ashaya: -** Definition, detail description.
3) **Kala Shaarira:-**Etymology, Definition, description of Seven Kala with their Modern component and applied aspects.
4) **Paribhashika Shaarira: -** Snayu, Kandara, Rajju, Sanghata, Jalaetc. and their general description.
5) **Sira, Dhamani and Srotas Shaarira: -** Etymological derivation, definitions, synonyms, number and types of Sira, Dhamani and Srotas, anatomical differences among Sira, Dhamani and Srotas, description of Vedhya and AvedhyaSira (Puncturable and Non puncturable Veins) and clinical importance of Sira, Dhamani and Srotas including Modern Anatomical counterparts.

PAPER –III (Marma Shaarira Evum Asthi Sandhi Peshee Shaarira) — 100 Marks

1) **Marma Shaarira**:- Derivation and definitions of the term Marma and their features, characteristics and number of Marma according to Sushruta Divisions of Marma on morphological basis (Rachana Bheda), Shadangatvam (Regional), Abhighataja (Prognostic) classification, Trimarma according to Charaka. Knowledge of 'Marmaabhighata', MarmaViddha, Detailed study of individual marma with their clinical and Surgical importance. Importance of Marma in Shalyatantra.
2) **Asthi Shaarira :-** General introduction and description of Asthi, differences among number of Asthi.Types of Asthi. Detail study of each bone with its ossification &Applied anatomy.
3) **Sandhi Shaarira :-** Etymological derivation,description, features, number, types and Applied anatomy of all Sandhi (joints).
4) **Peshee Shaarira :-** Etymological derivation,description, features, number, types and Applied anatomy of all Peshee (Muscles).

PAPER – IV (Tantra Shaarira Evum Antah and BahihGranthi Vigyaniya) — 100 Marks

1. Description of Panchgyanendriya – Ayurved and Modern aspects. (Sensory organs (Eye, Ear, Nose, Tongue and Skin with their Applied anatomy).

2. Shat Chakra - Location and significance in Yoga. Description of Ida, Pingala, Sushumnanadi.
3. Anatomy of brain and spinal cord, Peripheral nervous system (explanation of Nerve Plexuses and peripheral nerves, Cranial nerves and Autonomic nervous system, Cerebro-spinal fluid, Venous sinuses of Brain, Ventricular system of Brain, Blood supply of Brain, Meninges with Applied Anatomy.
4. AntahSraviGranthi and BahihSraviGranthi:-Detail study of Exocrine &Endocrine glands.

PRACTICAL:-

1) Dissection of atleast one cadaver during the Final part of the course.
2) Training of preservation techniques in the Embalming room.
3) Preparation of Soft tissue specimen and Models using current technology like Plastination, Lumen casting etc. under the guidance of Teaching staff and Experts of the relevant fields.
4) Preparation of Charts and Models of Rachana Shaarira subject to the individual capacity.
5) Observation of MRI, CT Scan, USG procedures, Colour Doppler etc.
6) Visits to various Museums of other colleges in the Medical field.
7) Observation of Ward procedures like Lumbar puncture, Tracheostomy, Abdominal parentesis, Liver biopsy, Venesection, etc. (subject to the availability and opportunities)

Pattern of Practical Examination

1. Practical record book& log book	- 20 Marks
2. Spotting (Dissected organs and Bones-Joints-Muscles)	- 20 Marks
3. Dissection	- 40 Marks
4. Surface & Radiological Anatomy	- 40 Marks
5. Dissertation Presentation	- 10 Marks
6. Teaching Skills	- 20 Marks
7. Viva-voce	- 50 Marks

Reference Books-

1. Relevant matters of Brihatrayee and Laghutrayee
2. PratyakshaShariram - GananathSen
3. AbhinavaShariram - Damodar Sharma Gaur
4. Parishadyam Sabdartha Shariram - Damodara Sharma Gaur
5. BrihatShariram - P S Varier
6. Shiva Samhita
7. Gray's Anatomy - Latest Edition
8. Human Anatomy - B D Chaurasia
9. Cunnigham's Companion to Manual of Practical Anatomy.Vol I, II & III
10. Developing Human - Keith L Moore &Persaud
11. Clinically oriented Anatomy - Keith L Moore
12. Clinically oriented Neuro Anatomy - Richard Snell
13. Surface and Radiological Anatomy - Halim
14. Grant's Methods of Anatomy -Grant
15. Grant's dissector -Grant
16. Human Embryology -I. B. Singh

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3. KRIYA SHARIR

Paper- I (Dosa-Dhātu-Mala Vijñāna)

Contribution of different Ayurveda Samhita in Kriya Sharir

- Theory of Pancamahābhūta
- Principle of Loka-Purusa Sāmya
- Importance of Sāmānya - Viśesa principle.
- Different views on the composition of Purusa and the importance of Cikitsya Purusa.
- Importance of Gurvādi Guna in Ayurveda.
- General description of Tridosa theory
- Mutual relationship between Triguna-Tridosa-Pancamahābhūta-Indriya.
- Mutual relationship between Rtu-Dosa-Rasa-Guna.
- Biological rhythms of Tridosa on the basis of Day-Night-Age-Season and Food intake.
- Role of Dosa in the formation of Prakrti of an individual.
- Role of Dosa in maintaining health.
- ***Vāta Dosa***: General locations (*Sthāna*), general attributes (*Guna*) and general functions (*Sāmānya Karma*). Five subdivisions of *Vāta* with their specific locations, specific properties, and specific functions (*Prāna, Udāna, Samāna, Vyāna, Apāna*)
- Pitta Dosa: General locations (Sthāna), general attributes (Guna) and general functions (Sāmānya Karma). Five subdivisions of Pitta with their specific locations, specific properties, and specific functions (Pācaka, Ranjaka, Ālocaka, Bhrājaka, Sādhaka). Similarities and differences between Agni and Pitta.
- Kapha Dosa: General locations (Sthāna), general attributes (Guna) and general functions (Karma) of Kapha. Five subdivisions of Kapha with their specific locations, specific properties, and specific functions (Bodhaka, Avalambaka, Kledaka, Tarpaka, Ślesaka).
- Applied physiology of Tridosa principle: Kriyākāla, Dosa Vrddhi-Dosa Ksaya.
- **Dhātu Posana**: Process of nourishment of Dhātu. Description of various theories of Dhātu Posana (Ksīra-Dadhi, Kedārī-Kulya, Khale Kapota etc).
- Dhātu: General introduction and definition of Dhātu. Formation, Definition (Nirukti), Distribution, Attributes, quantity, classification, Pāñcabhautika composition and Functions of all seven Dhātus in detail: Rasa, Rakta, Māmsa, Meda, Asthi, Majjā, Śukra.
- Applied physiology of Dhātu: Manifestations of Ksaya and Vriddhi of each Dhātu. Description of Dhātu Pradosaja Vikāra.
- Description of Āśraya and Āśrayī kind of relationship between Dosa and Dhātu.
- Description of the characteristic features of Astavidha Sāra. Description of Rasavaha, Raktavaha, Māmsavaha, Medovaha, Asthivaha, Majjāvaha and Śukravaha Srotāmsi.
- **Ojas**: Definition, locations, synonyms, Formation, Distribution, Properties, Quantity, Classification and Functions of Ojas. Description of Vyādhiksamitva. Bala Vrddhikara Bhāva. Classification of Bala. Relation between Ślesmā, Bala and Ojas.
- Applied physiology of Ojas: Etiological factors and manifestations of Ojaksaya, Visramsa and Vyāpat. Physiological and clinical significance of Ojas.
- **Upadhātu**: General introduction and Definition of the term 'Upadhātu'. Formation, Nourishment, Quantity, Properties, Distribution and functions of each Upadhātu.
- **Stanya**: Characteristic features and methods of assessing Śuddha and Dūsita Stanya, Manifestations of Vrddhi and Ksaya of Stanya.

- **Ārtava**: Characteristic features of Śuddha and Dūsita Ārtava. Differences between Raja and Ārtava, physiology of Ārtavavaha Srotāmsi.
- Study of Tvak
- **Physiology of Mala** - Definition of the term 'Mala'. Definition, Formation, Properties, Quantity and Functions of Purīsa, Mutra. Manifestations of Vrddhi and Kshaya of Purīsa and Mūtra.
- **Sveda** – Definition, Formation, Properties, Quantity and Functions of Svedavaha Srotāmsi. Formation of Sveda. Manifestations of Vrddhi and Ksaya of Sveda.
- **Dhātumala** – Definition, Formation, properties, Quantity, Classification and Functions of each Dhātumala .

Paper-II - Prakrti- Sattva Vijñāna

- **Deha-Prakrti**: Various definitions and synonyms for the term 'Prakrti'. Factors influencing the Prakrti. Classification of Deha-Prakrti. Characteristic features of the individuals belonging to each kind of Deha-Prakti. Recent advances in understanding the Prakrti.
- **Pancajnanendriya**: Physiological description of Pancajnanendriya and physiology of perception of Śabda, Sparśa, Rūpa, Rasa, Gandha. Indriya-panca-pancaka; Physiological description of Karmendriya.
- **Manas** – Definition, location (sthana), Properties, Functions and Objects of Manas.
- **Ātmā** – Definition, Properties of Ātmā. Difference between Paramātmā and Jīvātmā; Characteristic features of Ātmā.
- **Buddhi** – Location, Types, Functions of Buddhi; Physiology of Dhī, Dhrti and Smrti.
- **Nidrā** – Definition of Nidrā, Classification of Nidrā. Tandra, physiological and clinical significance of Nidra; Svapnotpatti and Svapnabheda.
- Physiology of special senses. Intelligence, Memory, Learning and Motivation.
- Physiology of sleep.
- Physiology of speech and articulation;
- Physiology of Pain and temperature.

Paper-III - Kosthanga Kriya Vijñāna

- Āhāra: Definition and significance of Āhāra. Classification of Āhāra. Āhāra-vidhi-vidhāna. Asta āhāravidhi viśesāyatana, Āhāraparināmakara bhāva.
- Āhārpāchana: Āhāra Pāka Prakriyā, Description of Annavaha Srotās. Description of Avasthāpāka and Nishthapaka. Role of dosha in Āhārapāka. Sāra and Kitta Vibhajana. Absorption of Sāra. Utpatti and Udieeran of Vāta-Pitta-Kapha.
- Definition of the term Kostha. Physiological classification of Kostha and the characteristics of each kind of Kostha.
- Agni: Description of the importance of Agni. Classification of Agni. Locations, properties and functions of Jātharāgni, Bhūtāgni, and Dhātvagni.
- Applied physiology of Agni in Kriyā Śārīra and Cikitsā.
- Description of the aetiology and features of Annavaha Srotodusti. Applied physiology of Annavaha Srotās: Arocaka, Ajīrna, Atīsāra, Grahanī, Chardi, Parināma Śūla Agnimāndya.
- Description of the process of digestion of fats, carbohydrates and proteins in human gastrointestinal tract. Different digestive juices, their enzymes and their mechanisms of action. Functions of Salivary glands, Stomach, Pancreas, Small intestine, Liver and large intestine in the process of digestion and absorption.

- Movements of the gut (deglutition, peristalsis, defecation etc.) and their control. Role of neuro-endocrine mechanisms in the process of digestion and absorption. Enteric nervous system.
- Applied physiology of gastrointestinal tract: Vomiting, Diarrhoea, Malabsorption etc.
- Recent understandings related to the gut microbiota and their role in health and disease.
- Introduction to biochemical structure, properties and classification of proteins, fats and carbohydrates.
- Description of the processes involved in the metabolism of proteins, fats and carbohydrates.
- Vitamins: sources, daily requirement and functions. Physiological basis of signs and symptoms of hypo and hyper-vitaminosis.

Paper-IV - Modern Physiology and its applied aspect

Physiology of Neuro-Immune-Endocrine Mechanisms:

- Physiology of Nervous System. General introduction to nervous system: neurons, mechanism of propagation of nerve impulse.
- Study of CNS, PNS and ANS. Sensory and motor functions of nervous system. Functions of different parts of brain and spinal cord, Hypothalmus and limbic system
- Physiology of Endocrine system. Classification and characteristics of different hormones. Description of hormones secreted by Hypothalamus, Pituitary gland, Thyroid gland, Parathyroid glands, Pancreas, Adrenal glands and their physiological effects. Effects of hypo and hyper-secretion of various hormones.
- Male and female reproductive physiology. Spermatogenesis and oogenesis. Hormonal regulation of uterine and ovarian cycles. Physiology of pregnancy and lactation. Parturition.
- Adipose tissue and its Function. Circulating lipids. Description of lipoproteins like VLDL, LDL and HDL and their composition.
- Physiology of immune system. Definition and classification of immunity: Innate, acquired and artificial. Mechanisms involved in humoral and cell mediated immunity.

Cardiovascular physiology, Respiratory physiology and Blood:

- Physiology of Cardio-Vascular system: Functional anatomy of cardiovascular system. Cardiac cycle. Heart sounds. Regulation of cardiac output and venous return. Physiological basis of ECG. Heart-rate and its regulation. Arterial pulse. Systemic arterial blood pressure and its control. Regional circulations. Physiology of lymphatic circulation.
- Physiology of Respiratory system: Functional anatomy of respiratory system. Ventilation. Mechanism of respiration. Exchange and transportation of gases. Neural and chemical control of respiration. Spirometry and lung function tests. Artificial respiration.
- Functions of Haemopoetic system: Composition and functions of blood and blood cells. Haemopoiesis- (stages and development of RBCs, WBCs and platelets); Introduction to bone marrow: composition and functions of bone marrow. Structure and functions of haemoglobin, mechanism of blood clotting, study of platelets. physiological basis of blood groups. Principles of blood transfusion, plasma proteins-synthesis and functions. Applied physiology: Anaemia, Jaundice.

Musculoskeletal Physiology:

- Physiology of muscles. Classification of muscles. Electrical and mechanical properties of Cardiac, skeletal and smooth muscles.

Physiology of Excretion:

- Physiology of excretion. Functional anatomy of urinary tract. Functions of kidneys. Mechanism of formation of urine. Control of micturition. Renal function tests.
- Structure and functions of skin, sweat glands and sebaceous glands.

Learners should be well versed with the following instruments-

- Physiograph, Computerised spirometry, Biochemical Analyzer, Pulse oxymeter, Elisa Reader, Hematology Analyzer, Tread mill

Bridge areas including recent advances:

- Recent studies in biorhythms.
- Recent advances in Neuro-Immune-Endocrine physiology.
- Recent advances in stem cell research

PRACTICAL

Ayurvedic practicals

- Assessment of Prakrti
- Assessment of Sāra
- Assessment of Dosa Vrddhi Ksaya Laksana
- Assessment of Dhātu Vrddhi – Ksaya Laksana
- Assessment of Agni
- Assessment of Kostha
- Assessment of Śarīra Bala through Vyāyāma Śakti
- Mūtra Parīksa
- Nādī Parīksā
- Anguli Pramāna
- Assessment of Sātmya

Hematology

- Use and care of Compound microscope
- Histological study of different organs
- Hemoglobin estimation
- Total RBC count
- Total WBC count
- Differential leukocyte count
- Packed cell volume (PCV)
- ESR
- Bleeding time
- Clotting time
- Blood grouping and Rh typing

Urine examination

Physical examination

- Specific gravity and reaction of urine
- Detecting the presence of Albumin in urine

- Detecting the presence of Sugar in urine
- Detecting the presence of Ketone bodies in urine
- Detecting the presence of Bile salts and bile pigments in urine

Cardio-Vascular system

- Clinical methods of examining cardiovascular system
- Examination of Arterial Pulse
- Arterial blood pressure measurement: Effect of posture, exercise and cold pressor test on Blood Pressure
- ECG recording and its interpretation
- Heart Sounds

Respiratory system

- Clinical examination of Respiratory System
- Lung Function Tests including Spirometry

Nervous System

- Clinical examination of nervous system
- Examination of higher mental functions
- Examination of cranial nerves
- Examination of reflexes
- Examination of sensory functions
- Examination of motor functions
- Examination of Autonomic Nervous System
- EEG recording (Demonstration)

Reference Books

- Ayurvediya Kriyasharir - Ranjit rai Desai
- Kayachikitsa Parichaya - C. Dwarikanath
- Prakrit Agni Vigyan - C. Dwarikanath
- Sharir Kriya Vigyan - Shiv Charan Dhyani
- Abhinava Sharir Kriya Vigyana - Acharya Priyavrata Sharma
- Dosha Dhatu Mala Vigyana - Shankar Gangadhar Vaidya
- Prakrita Dosha Vigyana - Acharya Niranjana Dev
- Tridosha Vigyana - Shri Upendranath Das
- Sharira Tatva Darshana - Hirlekar Shastri
- Prakrita Agni Vigyana - Niranjana Dev
- Deha Dhatvagni Vigyana - Vd. Pt. Haridatt Shastri
- Sharir Kriya Vigyana (Part 1-2) - Acharya Purnchandra Jain
- Sharir Kriya Vigyana - Shri Moreshwar Dutt. Vd.
- Sharira Kriya Vijnana (Part 1 and 2) – Nandini Dhargalkar
- Dosha Dhatu Mala Vigyana - Basant Kumar Shrimal
- Abhinava Sharir Kriya Vigyana - Dr. Shiv Kumar Gaur
- Pragyogik Kriya Sharir - Acharya P.C. Jain
- Kaya Chikitsa Parichaya - Dr. C. Dwarkanath
- Concept of Agni - Vd. Bhagwan Das
- Purush Vichaya - Acharya V.J. Thakar
- Kriya Sharir - Prof. Yogesh Chandra Mishra

- Sharir Kriya Vigyana - Prof. Jayaram Yadav &Dr. Sunil Verma.
- Basic Principles of Kriya-Sharir (A treatise on Ayurvedic Physiology) - Dr. Srikant Kumar Panda
- Sharir Kriya – Part I & Part II – Dr. Ranade, Dr. Deshpande & Dr. Chobhe
- Human Physiology in Ayurveda - Dr Kishor Patwardhan
- Sharirkriya Vignyan Practical Hand Book – Dr.Ranade, Dr.Chobhe, Dr. Deshpande
- Sharir Kriya Part 1 – Dr.R.R.Deshapande, Dr.Wavhal
- Sharir Kriya Part 2 – Dr.R.R.Deshapande, Dr.Wavhal
- Textbook of Physiology - Gyton & Hall
- Review of medical physiology – William Ganong
- Essentials Of Medical Physiology - Sembulingam, K.
- Concise Medical Physiology - Chaudhari, Sujit. K.
- Fundamental of Anatomy & Physiology - Martini
- Principals of Anatomy & Physiology - Tortora & Grabowski
- Human Physiology - Richards, Pocock
- Samson Wrights Applied Physiology, Keele, Neil, joels
- Brainstem Control of Wakefulness And Sleep- Steriade, Mirce
- An Introduction to Human Physiology - Green, J.h.
- Ancient Indian Medicine - Kutumbiah P.
- Biographical History of Indian Medicine - Srikanthamurthy KR
- Ayurveda Kriya Sharira - Yogesh Chandra Mishra
- Textbook of Medical Physiology - Indu Khurana
- Tridosha Theory - Subrahmanya Shastri
- Statistics in Medicine - K. Syamalan

Important journals to refer:

1. Advances in Physiology Education
2. Academic Medicine
3. Indian journal of Physiology and Pharmacology
4. Journal of Ayurveda and Integrative Medicine
5. Evidence-based Complementary and Alternative Medicine
6. AYU
7. All journals of American Physiological Society
8. Journal of Physiology

Important research papers to refer:

1. Hong KW, Oh B. Overview of personalized medicine in the disease genomic era. BMB Rep. 2010 Oct;43(10):643-8.
2. Prasher B, Negi S, Aggarwal S, Mandal AK, Sethi TP, Deshmukh SR, Purohit SG, Sengupta S, Khanna S, Mohammad F, Garg G, Brahmachari SK; Indian Genome Variation Consortium, Mukerji M. Whole genome expression and biochemical correlates of extreme constitutional types defined in Ayurveda. J Transl Med. 2008 Sep 9;6:48.
3. Patwardhan B, Bodeker G. Ayurvedic genomics: establishing a genetic basis for mind-body typologies. J Altern Complement Med. 2008 Jun;14(5):571-6. Review. PubMed PMID: 18564959.

4. Bhushan P, Kalpana J, Arvind C. Classification of human population based on HLA gene polymorphism and the concept of Prakriti in Ayurveda. J Altern Complement Med. 2005 Apr;11(2):349-53.
5. Ghodke Y, Joshi K, Patwardhan B. Traditional Medicine to Modern Pharmacogenomics: Ayurveda Prakriti Type and CYP2C19 Gene Polymorphism Associated with the Metabolic Variability. Evid Based Complement Alternat Med. 2009 Dec 16. [Epub ahead of print]
6. Aggarwal S, Negi S, Jha P, Singh PK, Stobdan T, Pasha MA, Ghosh S, Agrawal A; Indian Genome Variation Consortium, Prasher B, Mukerji M. EGLN1 involvement in high-altitude adaptation revealed through genetic analysis of extreme constitution types defined in Ayurveda. Proc Natl Acad Sci U S A. 2010 Nov 2;107(44):18961-6. Epub 2010 Oct 18.
7. Tav Pritesh Sethi, Bhavana Prasher and Mitali Mukerji. Ayurgenomics: A New Way of Threading Molecular Variability for Stratified Medicine. ACS Chemical Biology.2011(6):875-880
8. Marchetti B, Morale MC, Gallo F, Batticane N, Farinella Z, Cioni M. Neuroendocrineimmunology (NEI) at the turn of the century: towards a molecular understanding of basic mechanisms and implications for reproductive physiopathology. Endocrine. 1995 Dec;3(12):845-61.
9. Licinio J, Frost P. The neuroimmune-endocrine axis: pathophysiological implications for the central nervous system cytokines and hypothalamus-pituitary-adrenal hormone dynamics. Braz J Med Biol Res. 2000 Oct;33(10):1141-8.
10. Turrin NP, Rivest S. Unraveling the molecular details involved in the intimate link between the immune and neuroendocrine systems. Exp Biol Med (Maywood). 2004 Nov;229(10):996-1006
11. Sewlall S, Pillay V, Danckwerts MP, Choonara YE, Ndesendo VM, du Toit LC. A timely review of state-of-the-art chronopharmaceuticals synchronized with biological rhythms. Curr Drug Deliv. 2010 Dec;7(5):370-88.
12. Ohdo S. Chronopharmaceutics: pharmaceutics focused on biological rhythm. Biol Pharm Bull. 2010 Feb;33(2):159-67
13. Humes HD. Stem cells: the next therapeutic frontier. Trans Am Clin Climatol Assoc. 2005;116:167-83; discussion 183-4.
14. Bianco P, Robey PG. Stem cells in tissue engineering. Nature. 2001 Nov 1;414(6859):118-21
15. Bhattacharya J. The Knowledge of Anatomy and Health in Ayurveda and Modern Medicine: Colonial Confrontation and Its Outcome
16. Wujastyk D. Interpreting the image of the human body in premodern India. Int J Hindu Studies 13: 189–228, 2009.
17. Kristina Harris, Amira Kassis, Geneviève Major, Chieh J. Chou. Is the Gut Microbiota a New Factor Contributing to Obesity and Its Metabolic Disorders? J Obes. 2012; 2012: 87915

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4. DRAVYAGUNA VIGYAN

PAPER-I Namarupa Vigyana **100 marks**

1. Importance of Namagyana of Dravya, origin of Namarupagyana of Aushadhi in Veda, etymological derivation of various names and synonyms of Aushadhi.
2. Rupagyana in relation to Aushadhi. Sthula and Sukshma description (Macroscopic and Microscopic study) of different parts of the plant.
3. Synonyms of dravyas(aushadha and Ahara) mentioned in Vedic compendia, Brihatrayee, Bhavaprakasha and Rajanighantu.
4. Basonyms, synonyms and distinguish morphological characteristic features of medicinal plants listed in Ayurvedic Pharmacopoeia of India(API).
5. Knowledge of Anukta dravya (Extrapharmacopial drugs)with regards to namarupa.
6. Sandigdha dravya(Controversial drugs) vinischaya.
7. Knowledge of biodiversity, endangered medicinal species.
8. Knowledge of TKDL, Introduction to relevant portions of Drugs and cosmetic act, Magic remedies Act, Intellectual Property Right (IPR) and Regulations pertaining to Import and Export of Ayurvedic drugs.
09. Knowledge of tissue culture techniques
10. Knowledge of Genetically Modified Plants

PAPER –II Guna Karma Vigyan **100 marks**

1. Fundamental principles of drug action in Ayurveda and conventional medicine.
2. Detailed study of rasa-guna- virya- vipaka-prabhava and karma with their applied aspects and commentators (Chakrapanidatta, Dalhana, Arunadatta, Hemadri and Indu) views on them.
3. Comprehensive study of karma as defined in Brihatrayee & Laghutrayee
4. Detailed study of Guna and Karma of dravyas listed in API and Bhavaprakasha Nighantu along with current research review.
5. Detailed study of aharadravya/ ahara varga ascribed in Brihatrayee and various nighantus along with Kritanna varga.
6. Pharmacologycal principles and knowledge on drugs acting on various systems.
7. Basic knowledge on experimental pharmacology for the evaluation of - analgesic, anti pyretic, anti inflammatory, anti diabetic, anti hypertensive, hypo lipidemic, anti ulcer, cardio protective, hepatoprotective, diuretics, adaptogens, CNS activites.
8. Knowledge on Heavy metal analysis, pesticidal residue and aflatoxins
9. Knowledge on evaluation of anti microbial and antimycotic activities.

PAPER – III Prayogavigyana **Marks 100**

1. Bhaishjya Prayog Siddhant [Principles of drug administration] - Bhaishajya Marga (routes of drug administration), Vividha Kalpana (Dosage forms), Principles of Yoga Vijnan(compounding), Matra (Dosage), Anupana (Vehicle), Aushadha grahankal (Time of drug administration), Sevankal avadhi (duration of drug administration), Pathyapathya (Dos' /Donts' /Contraindications), complete Prescription writing (Samagra Vyavastha patraka).
2. Samyoga- Viruddh Sidhanta and its importance
3. Amayika prayoga (therapeutic uses) of important plants ascribed in as well as Brihattrayee, Chakradutta, Yoga ratnakara and Bhavaprakasha.
4. Knowledge of Pharmaco-vigilance in Ayurveda and conventional system of medicine.

5. Knowledge of clinical pharmacology and clinical drug research as per GCP guide lines.
6. lKnowledge of Pharmacogenomics

PAPER- IV **100 marks**

1. Etymology of nighantu, their relevance, utility and salient features.
2. Chronological history of the following Nighantus with their authors name, period and content- Paryaya ratnamala, Dhanvantari nighantu, Hridayadipika nighantu, Ashtanga nighantu, Rajanighantu, Siddhamantra nighantu, Bhavaprakasha nighantu, Madanpala nighantu, Rajavallabha nighantu, Madhava Dravyaguna, Kaiyadeva nighantu, Shodhala nighantu, Saligram nighantu, Nighantu ratnakara, Nighantu adharsha and Priya nighantu
3. Detailed study Aushadha kalpana mentioned in Sharangadhara samhita and Ayurvedic Formulary of India (AFI).
4. General awareness on poshaka ahara(Nutraceuticals),Varnya(cosmoceuticals), food addictives, Excipients etc.
5. Knowledge of plant extracts, colors, flavors and preservatives.
6. Review of important modern works on classical medicinal plants published by Govt of India, department of AYUSH and ICMR.

Syllabus of the Practical training of part two M.D. (Ayu) - Dravyaguna

Practical:-

Study tours:

Field identification of medicinal plants through at least three local Dravyaguna study tours within the state and one study tour out of state. Preparation of minimum 50 herbarium sheets, along with raw drug either from field, of plants be collected during study tours.

1. **Evaluation of Crude drugs:**
   Macro and microscopic methods of examining five drugs of each of different useful parts of plants, including their powders.
2. **Phytochemical evaluation of raw material:**
   Quantitative standards like foreign matter, extractive (water and alcohol), ash value, acid insoluble ash and TLC separation of various parts of minimum two plants of Ayurvedic Pharmacopoeia of India.
3. **Yoga vijnana :**
   Preparation of two yoga of each kalpana of Ayurvedic Formulary of India:
4. **Pharmacology:**
   - ✓ Rasa nirdharana by Taste Threshold method of minimum one drug for each of rasas.
   - ✓ Observation of animal experimentation models (both in vitro and in vivo)- 05 models for possible rasadi gunas.
5. **Clinical**
   - ✓ Regular clinical training in the hospital for submission of Single Aushadhi Prayoga (Single drug trial/ Clinico-pharmacological studies.)
   - ✓ Survey for Amayika prayoga of aushadhi(Pharmaco epidemiology) for studying their role in clinical practice in contemporary period -observational study-minimum.
6. **Dissertation**
   A Dissertation, as per the approval of Departmental Research Committee/Competent Committee for the purpose, be prepared under the guidance of approved supervisor

in Dravyaguna and submitted 6 months before the final examination. The approval of Dissertation shall be essential before appearing the final examinations.

7. **Method of practical training – Posting for minimum one month in each of the following units -**
   - ✓ Quality control laboratory of nearest pharmacy/institution for crude drug identification, adulterants and substitutes & understanding standardization techniques.
   - ✓ Experimental pharmacology laboratory for developing skills in animal experimentation
   - ✓ Regular clinical training in the Teaching hospital for studying Ekala Aushadhi Prayoga & Adverse drug reactions(ADR).
8. Post Graduate Scholar is expected to present minimum two scientific papers in National / international seminars during the course of study
9. Post Graduate Scholar is expected to publish / get accepted at least one paper in indexed/ peer reviewed journal under the supervision of guide.

Pattern of Practical Examination- **Total =200 marks**

1. Herbarium	- 10 Marks
2. Pharmacognosy practical record	- 10 Marks
3. Pharmacology practical record	- 10Marks
4. Clinical records record	- 10 Marks
5. Practical examination(Identification of green and raw drugs, microscopic examination, Ekala aushadha pariksha	- 60 Marks
6. Thesis Presentation	- 20Marks
7. Viva voce	- 80 Marks

Reference books -

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5. RASA SHASTRA AND BHAISHAJYA KALPANA

Paper I Rasa Shastra

Part A

1. History and Chronological evolution of Rasashastra, concept of Raseshwara darshan. Fundamental Principles of Rasashastra Technical terminologies (Paribhasha) used in Rasa shastra.
2. Detailed knowledge of ancient and contemporary Yantropakarana and their accessories used in aushadhikaran and their contemporary modification such as yantras, mushas, putas, Koshthis, bhrashtris, muffle furnaces and other heating appliances, ovens, driers etc. used in manufacturing of Rasaushadhis in small scale and large scale along with their applications.
3. Study of Samskara, Role of agni (Heat), jala and other dravas (water and other processing liquids), kala (Time span), paatra (container) etc. and their significance in aushadhikarana.
4. Concept of Bhavana, study of Mardana and its significance and knowledge of ancient and contemporary grinding techniques.
5. Detailed Knowledge of different procedures of Shodhana, Jarana Murchana and Marana, concept of Puta, definition, types and specifications of different Putas. Significance of different Putas in relation to Bhasmikarana and therapeutic efficacy of dravya under process. Bhasma pariksha vidhi and its significance in relation to contemporary testing procedures. Amritikaran and Lohitikarana.
6. Detailed knowledge of Satva and Druti, Satva shodhan, mrudukaran and Maran of Satva, its significance, in relation to therapeutic efficacy of dravya under process.
7. Concept of Pratinidhi dravya and discussion on controversial drugs.

PART – B

1. Detailed ancient and contemporary knowledge of Parada and its compounds with reference to source, occurrence, physico-chemical characterization, graahya agraahyatva, Parada dosha, Parada gati, Parada shodhan, Study of Ashta sanskara, ashtadasha sanskara etc., Hingulottha Parada. Concept of Parada jaran, moorcchana, bandhan, pakshaccheda and marana etc. Therapeutic properties and uses of Parada.
2. Detailed ancient & contemporary knowledge with Geochemical / mineralogical / biological identification, source, occurrence, physico-chemical characterization, graahya-agraahyatva, Shodhan Maranadi vidhi and therapeutic properties and uses of dravyas etc. included in Maharasa, Uparasa, Sadharana rasa, Dhatu, Upadhatu, Ratna, Uparatna, Visha, Upavisha, Sudha varga, Lavana varga, Kshara varga, Sikata varga and other miscellaneous drugs used in Rasashastra.
3. Detailed knowledge of manufacturing, pharmacopeial standards, storage, shelf life, therapeutic efficacy, dose, anupana, vikarashanti upaya and development of technology with Standard Operating Procedures of processing, standardization, quality control of Bhasmas and Pishtis

   Bhasma - Abhraka Bhasma, Svarnamakshika Bhasma, Kasis Bhasma, Svarna Bhasma, Rajata Bhasma, Tamra Bhasma, Loha Bhasma, Mandur Bhasma, Naga Bhasma, Vanga Bhasma, Yashad Bhasma, Trivanga Bhasma, Pittala, Kamsya and Varthaloha Bhasma, Shankha Bhasma, Shukti Bhasma, Kapardika Bhasma, Godanti Bhasma, Praval Bhasma, Mrigashringa Bhasma, Mayurpiccha Bhasma, Kukkutand twak Bhasma, Hiraka Bhasma, Manikya Bhasma.

Dravaka - Shankha Dravaka
Pishti - Praval pishti, Manikya Pishti, Mukta pishti, Jahara mohara pishti, Trinakanta mani pishti etc.

4. Detailed knowledge of manufacturing, storage, shelf life, pharmacopeial standards, therapeutic efficacy, dose, anupana and development of technology with Standard Operating Procedures of processing, standardization and quality control of Kharaliya rasa, Parpati, Kupipakva rasa and Pottali rasa.
5. Study of classical texts with respective commentaries and special emphasis on Rasarnava, Rasahridaya tantra, Rasa Ratna Samucchaya, Rasendra Chintamani, Rasendra Chudamani, Rasa Ratnakara, Rasadhyaya, Rasa Kamdhenu, Anandkanda, Siddha Bheshaja Manimala, Ayurveda Prakash, Rasatarangini, Bhaishajya Ratnavali, Rasamritam etc. and the books mentioned in the Schedule I of D & C Act – 1940. Relevant portions of Brihatrayi.

Paper II Bhaishajya Kalpana

Part A

1. History and Chronological evolution of Bhaishajya Kalpana, Concept of Bheshaja and Aushadh, fundamental principles of Bhaishajya Kalpana. Technical terminologies (Paribhasha) used in Bhaishajya Kalpana.
2. Classical and Contemporary concepts of Collection, storage, Saviryata Avadhi and preservation methods of different fresh and dry Aushadhi dravyas and their graahya agraahyatva
3. Detailed knowledge of routes of drug administration, Aushadha matra, Anupana, Sahapana, Aushadha Sevana Kala, Kala Avadhi, Pathya, Apathya (Posology).
4. Detailed knowledge of manufacturing, standardization, quality control, pharmacopeial standards, storage, shelf life and development of innovative technology with Standard manufacturing Operating Procedures of following dosage forms
    - i) Panchavidha Kashaya, Churna, Rasakriya, Ghana, Avaleha, Pramathya, Mantha, Panaka, Sarkara, Kshirapaka, Ushnodaka, Aushadha Siddha Udaka, Sadangodaka, Tandulodaka, Laksharasa, Arka, Satva, Kshara, Lavana, Masi, Gutika, Vatika, Modaka, Guggulu and Varti etc.
    - ii) Sneha Kalpana: Concept of accha sneha and sneha pravicharana and Murchhana. Sneha paka, types of sneha paka and sneha siddhi lakshana, Avartana. Sneha kalpa karmukata (Pharmacokinetics and dynamics of sneha kalpa). Role of Sneha in relation to absorption of drug.
    - iii) Kritanna and Bheshaja Siddha Anna Kalpana, Aharopayogi varga, concept of medicinal and functional food, dietary supplements and neutraceuticals etc.
    - iv) Sandhana kalpana: Madya varga and Shukta varga. Asava yoni. Alcoholic and acidic fermentation. Sandhana kalpa karmukata (Pharmacokinetics and dynamics). Advancements in fermentation technology. Knowledge of regulations in relation to alcoholic drug preparations.
    - v) Bahya Prayogartha Kalpana : Lepa, Upanaha, Udvartan, Avachurnana / Avadhulana, Abhyanga, Dhupana, Malahara.
    - vi) Mukha, Karna, Nasa, Netropacharartha Kalpana:

vii) Basti Kalpana: Basti Yantra Nirmana, Types of basti. Anuvasana and Asthapana basti. Karma, kala and yoga basti etc. Basti Kalpa (Madhutailika, Piccha basti etc.), Comparison of Asthapana and Anuvasana basti with evacuation and retention enema.

Part B

All the following procedures are to be studied in relevance to Ayurvedic Bhaishajya Kalpas.

1. Methods of Expression and Extraction: Maceration, percolation, distillation, infusion and decoction.
2. **Liquids:** Clarified liquid, syrup, elixir, filtration techniques
3. **Solid dosage Forms: Powders:** Size reduction, separation techniques, particle size determination, principles of mixing**. Tablets:** Methods of tableting, suppositories, pessaries and capsules, sustained release dosage forms.
4. **Semisolid dosage forms**, emulsions, suspensions, creams and ointments, sterilization of ophthalmic preparations.
5. An introduction to various cosmetic preparations.
6. Drying, open and closed air drying, freeze drying, vacuum drying and other drying methods pharmaceutical excipients.
7. Study of classical texts with special emphasis on Chakradatta, Sharangadhara Samhita, Bhaishajya Ratnavali, Bhava Prakasha, Yogaratnakara, relevant portions of Brihatrayi**,** Ayurvedic Pharmacopeia of India, Ayurvedic Formulary of India.

Paper III Rasa Chikitsa & Aushadha Yoga Vigyana

PART- A

1. Rasachikitsa, Kshetrikaran, Rasajirna, Lohajirna, Aushadhi Sevana Vikarashanti Upaya. Ashuddha, Apakva, Avidhi Rasadravya Sevanajanya Vikara evam Vikara shanti upaya.
2. Detailed knowledge of Aushadhi patha Nischiti and sanyojan (formulation composition), dose, anupana and method of administration, therapeutic efficacy and uses (indications and contra-indications), probable mode of action etc. of the following Aushadhi yogas

i. **Kharaliya Rasa :** Shwasa kuthara Rasa, Tribhuvana kirti Rasa, Higuleshwara Rasa, Ananda bhairava Rasa, Maha Lakshmivilasa Rasa, Vasnata kusumakara Rasa, Vasanta malti Rasa, Brihat vata chintamani Rasa, Laghu suta shekhar Rasa, Suta shekhara Rasa, Ram ban Rasa, Chandra kala Rasa, Yogendra Rasa, Hridyarnava rasa, Grahani kapata Rasa, Garbha pala Rasa, Jalodarari Rasa, Mrityunjaya Rasa, Madhumalini vasanta Rasa, Arsha kuthara Rasa, Krimi mudgara Rasa, Suchika bharana Rasa, Tri netra Rasa, Smruti sagara Rasa, Vata gajankusha Rasa, Agni kumar Rasa, Ekangavir Rasa, Kama dugha Rasa, Purna chandrodaya Rasa, Pratap lankeshwara Rasa, Maha vata vidhwansaka Rasa, Kasturi bhairava Rasa, Ashwa kanchuki Rasa, Gulma kuthara Rasa, Maha jwarankusha Rasa, Chandra mrita Rasa, Kapha ketu Rasa, Prabhakara Vati, Pravala Panchamrita, Gandhaka Rasayana, Chaturbhuj rasa, Navajivan rasa, Shonitargal rasa, Raktapitta kulakandan rasa, Amavatari Rasa, Kravyada Rasa, Garbha chintamani Rasa, Chintamani Rasa, Trilokya chintamani Rasa, Pradarantaka Rasa, Vangeshwara Rasa, Brihat vangeshwara Rasa, Shwasakasa Chintamani Rasa, Arogya vardhini Vati, Chandra prabha Vati, Agni tundi vati, Shankha Vati.

ii. **Kupipakva Rasa:** Rasa Sindura, Makaradhwaja, Sidha makaradhwaja, Samira pannaga Swarnavanga, Malla sindura, Rasa karpura, Rasa pushpa, Manikya Rasa.

iii. **Parpati Rasa :** Rasa Parpati, Loha Parpati, Tamra Parpati, Suwarna Parpati, Gagana Parpati, Vijay Parpati, Panchamrit Parpati, Shwet Parpati, Bola Parpati

iv. **Pottali Rasa:** Rasagarbha pottali, Hemagarbha pottali, Mallagarbha pottali, Hiranyagarbha pottali, Shankagarbha pottali, Lokanatha rasa, Mriganka Pottali

v. **Loha evam Mandura Kalpa**: Ayaskriti, Loha Rasayana, Amla pittantaka loha, Chandanadi loha, Dhatri loha, Navayasa loha, Putapakva vishama jwarantaka loha, Shilajatwadi loha, Tapyadi loha, Saptamrita loha, Dhatri loha Amritasara Loha, Shankaramat loha, Pradarantaka loha, Rohitaka loha. Punarnava Mandura, Shatavari Mandura, Tara Mandura, Triphala Mandura, Mandura Vataka etc.

Part B

Detailed knowledge of Aushadhi patha Nischiti and sanyojan (formulation composition), dose, anupana and method of administration, therapeutic efficacy and uses (indications and contra-indications), probable mode of action etc. of the following Aushadhi yogas

i. **Panchavidha Kashayas and their Upakalpa:** Ardraka swarasa, Tulasi swarasa, Vasa putapaka swarasa, Nimba kalka, Rasona kalka, Kulattha Kwath, Punarnavasthaka kwatha, Rasna saptaka kwatha, Dhanyak hima, Sarivadi hima, Panchakola phanta, Tandulodaka, Mustadi pramathya, Kharjuradi mantha, Shadanga paniya, Laksha rasa, Arjuna kshirapaka, Rasona kshirapaka, Chincha panaka, Candana panaka, Banapsha sharkara, Nimbu sharkara, Amrita satva, Ardraka satva, Ajamoda arka, Yavanyadi arka

ii. **Kritanna and Bheshaja Siddha Ahara Kalpana:** Yavagu, (Krita and Akrita), Ashtaguna manda, Laja manda, Peya, Vilepi, Krishara, Yusha, Mudga yusha, Kulattha yusha, Saptamushtika yusha, Khada, Kambalika, Raga, Shadava, Mamsarasa, Veshavara, Dadhi, Katvar Dadhi, Dadhi Mastu, Takra, Ghola, Udasvita, Mathita, Chhacchika etc.

iii. **Churna:** Sitopaladi Churna, Talisadi Churna, Triphala Churna, Hingvashtaka Churna, Avipattikara Churna, Swadishta Virechana Churna, Bhaskar Lavana Churna, Sudarshana Churna, Maha Sudarshana Churna, Gandharva Haritaki Churna, Pushyanuga Churna, Ajamodadi Churna, Hingvadi Churna, Eladi Churna, Dadimashtaka Churna, Trikatu Churna, Vaishwanara Churna, Gangadhara Churna, Jati phaladi Churna, Narayana Churna etc.

iv. **Gutika:** Arogya vardhani vati, Chandra prabha vati, Chitrakadi Gutika, Sanjivani Vati, Lasunadi vati, Lavangadi Vati, Vyoshadi vati, Khadiradi Vati, Kankayana Vati, Abhayadi modaka, Marichyadi gutika, Amalakyadi gutika, Samshamini Vati, Kutaja Ghana vati, Amarasundari Vati, Shiva Gutika, Eladi Vati, Kasturyadi Gutika, Arshoghni Vati.

v. **Guggulu:** Yogaraja Guggulu, Maha yogaraja Guggulu, Trayodashanga Guggulu, Kanchanara Guggulu, Rasnadi Guggulu, Triphala Guggulu, Simhanada Guggulu, Gokshuradi Guggulu, Kaishora Guggulu, Panchatikta Guggulu, Amritadi Guggulu, Vatari Guggulu, Lakshadi Guggulu, Abha Guggulu, Navaka Guggulu, Nava Karshika Guggulu.

vi. **Sneha Kalpa**

Sneha Moorchhana - Ghrita Murchana, Taila Murchhana

Siddha Ghrita - Shatavari Ghrita, Jatyadi Ghrita, Phala Ghrita, Dadimadi Ghrita, Kshirashatpala Ghrita, Mahatriphala Ghrita, Dhanvantari Ghrita, Amritaprasha Ghrita, Kalyanaka Ghrita, Brahmi Ghrita, Changeri Ghrita, Panchatikta Ghrita, Sukumara Ghrita, Panchagavya Ghrita

Siddha Taila - Maha Narayana Taila, Maha Masha Taila, Bala Taila, Nirgundi Taila, Shadbindu Taila, Vishagarbha Taila, Sahacharadi Taila, Jatyadi Taila, Apamarga Kshara Taila, Tuvaraka Taila, Kshirabala Taila (Avartita), Lakshadi Taila, Anu Taila, Kumkumadi Taila, Hingutriguna Taila, Kottumchukadi Taila, Prasarinyadi Taila,

Dhanwantari Taila, Balashwagandhadi Taila, Balaguduchyadi Taila, Nilibhringyadi Taila, Brihadavadi Taila, Irimedadi Taila, Chandanadi Taila, Panchaguna taila, Arka taila, Pinda Taila, Kasisadya Taila

vii. Rasakriya, Avaleha, Khanda etc.: Darvi Rasakriya, Vasa Avaleha, Brahma rasayana, Chyavanprasha Avaleha, Kushmanda Avaleha, Dadima Avaleha, Bilvadi Avaleha, Kantakaryavaleha, Haridra Khanda, Narikela khanda, Saubhagya shunthi paka, Amrita Bhallataka, Kamsa Haritaki, Chitraka Haritaki, Vyaghri Haritaki, Bahushala Guda, Kalyana Guda

viii. Sandhana Kalpa: Lodhrasava, Kumaryasava, Ushirasava, Chandanasava, Kanakasava, Sarivadyasava, Pippalyasava, Lohasava, Vasakasava, Kutajarishta, Draksharishta, Raktamitrarka, Dashamularishta, Abhayarishta, Amritarishta, Ashokarishta, Sarasvatarishta, Arjunarishta, Khadirarishta, Ashwagandha Arishta, Vidangarishta, Takrarishta, Mahadrakshasava, Mritasanjivani sura, Maireya, Varuni, Sidhu, Kanji, Dhanyamla, Madhu Shukta, Pindasava.

ix. Anya Kalpa : Phala varti, Chandrodaya varti, Arka lavana, Narikela lavana, Triphala masi, Apamarga kshara, Snuhi kshara, Ksharasutra, Atasi upanaha, Sarjarasa malahara, Gandhaka malahara, Sindhuradi Malahara, Shatadhouta Ghrita, Sahasra Dhouta Ghrita, Siktha taila, Dashanga lepa, Doshaghna lepa, Bhallataka taila patana, Jyotishmati Taila, Bakuchi Taila, Dashanga dhupa, Arshoghna dhupa, Nishadi Netra bindu, Madhutailika Basti, Piccha Basti, Yapana Basti.

PAPER – IV Pharmacology and Pharmacy Management

PART - A

1. General Pharmacology:
   - **a)** Principles of Pharmacology, Pharmcodynamics & Pharmacokinetics: Absorption, distribution, Metabolism & excretion, mechanism of action, dose determination and dose response, structure activity relationship.
   - **b)** Routes of drug administration
   - **c)** Factors modifying drug effect, Bioavailability and Bioequivalence, drug interactions, adverse drug reaction and drug toxicity
   - **d)** Preclinical evaluation: experimental pharmacology [bioassay, in vitro, in vivo, cell line studies] animal ethics.
2. Clinical pharmacology: Evaluation of New Chemical Entity – phases and methods of clinical research. Ethics involved in human research.
3. Elemental constituents of human body and its physiological importance. Deficiencies and excess of various elements (micro-nutrients).
4. Toxicity of heavy metals and chelation therapy.
5. Knowledge of toxicity and pharmacological activities of herbo-mineral compounds.
6. Detailed Knowledge of Pharmacovigilance – National and International Scenario. Pharmacovigilance of Ayurvedic Drugs

Part B

1. Scope and evolution of pharmacy. Information resources in pharmacy and pharmaceutical Science.
2. Pharmaceutical dosage form design (Pre-formulation)
3. Packaging materials and Labeling
4. Management of pharmacy, store and inventory management, personnel management, Good Manufacturing Practices related to Ayurvedic drug industry.
5. Pharmaceutical Marketing, product release and withdrawals.
6. Hospital, Dispensing and Community pharmacy.
7. Patenting and Intellectual Property Rights.
8. Laws Governing Ayurvedic drugs

i. Relevant regulatory provisions of Ayurvedic drugs in Drug and Cosmetics Act - 1940 and Rules - 1945
ii. Laws pertaining to Drugs and Magic remedies (Objectionable Advertisement) Act - 1954.
iii. Prevention of Food Adulteration (PFA) act.
iv. Food Standards and Safety Act - 2006
v. Laws pertaining to Narcotics
vi. Factory and Pharmacy Acts
vii. Consumer Protection Act -1986

9. Regulatory Affairs related to International Trade and Practices of Ayurvedic Drugs
10. Introduction to Ayurvedic Pharmacoepia of India, Ayurvedic Formulary of India.
11. Introduction to Indian Pharmacoepia, British and United States Pharmacoepia, Pharamcoepial Codex
12. Introduction to Traditional Knowledge Digital Library

Practicals:-

Minimum 150 Practicals are to be performed covering all the dosage forms.
Educational Visits to minimum Five (5) GMP approved Ayurvedic Pharmacies.
Ten days posting in R & D / Production unit in GMP certified Ayurvedic Pharmacy.
Minimum attendance in three National Conferences within three academic years.
Minmum 10 clinical cases using different dosage forms are to be studied and recorded for efficacy and ADRs (if any).
Minimum one research paper on the core contributory work of dissertation published or accepted in peer reviewed, indexed journal.
Examinee has to submit supporting documents in relation to above mentioned academic activities at the time of Practical examination.

Pattern of Practical Examination **Total Marks : 100**

Duration of the practical: 2 days

1. Identification of the specimen: 10 Marks
2. Drug Processing 30 Marks (10+10+5+5)
i) Major Practicals: 2 (1 Rasashastra and 1 Bhaishajya Kalpana)
ii) Minor Practicals: 2 (1 Rasashastra and 1 Bhaishajya Kalpana)
3. Drug testing and Analysis 10 Marks (5+5)
i) Rasaushadhi – 1
ii) Kashthaushadhi – 1

4. Power Point Presentation on dissertation work: 15 Minutes
10 Marks

6. A Demo Lecture on any subject topic: 10 Minutes.
10 Marks

7. Documentation 15 Marks
i. Journals (Practical Records) of minimum 75 practicals (25 each from Rasa Shastra, Bhaishajya Kalpana and Analytical part).
ii. Reports of the Visits
iii. Case Records

8. Viva Voce examination **15 Marks**

Reference Books:-
1. Rasahridaya Tantra
2. Rasarnava

3. Rasaratna Samuccahaya
4. Ayurved Prakasha
5. Rasendrachudamani
6. Rasendra Chintamani
7. Rasatarangini
8. Rasapraksha Sudhakar
9. Rasamrita
10. Rasa Chandanshu : CCRAS Publication
11. Sharangadhara Samhita
12. Sharangadhara Darpan (BP Pandey)
13. Bhavaprakasha
14. Yoga Ratnakara
15. Bhaishajya Ratnavali
16. Siddha Bhaishajya Manimala
17. Ayurvediya Aushadhikarana – Puranik and Dhamanakar
18. Bharat Bhaishajya Ratnakara
19. Rasayoga Sagara
20. Siddha Bhaishajya Manimala
21. Siddha Yoga Sangraha – Yadavaji Trikamji Acharya
22. Sahasrayoga
23. Vaidyaka Paribhasha Pradeepa
24. Dravyaguna Vijnan Part - 1 and 2 - Yadavji Trikamji
25. Chakradatta - Ratnaprabha,
26. Relevant Parts from Charaka Samhita, Sushruta Samhita, Kashyapa Samhita, Ashtanga Sangraha, Ashtanga Hridaya,
27. Remington: Science and Practice of Pharmacy
28. Theory and Practice of Industrial Pharmacy – Leon Lachman *et al*
29. Clinical Pharmacology, KD Tripathi
30. Clinical Pharmacology, Lawrence Benette
31. Drug Discovery and Evaluation (Pharmacological assays) HG Vogel
32. Pharmacological Basis of therapeutics – Goodman and Gilman
33. Data Base of Medicinal Plants of CCRAS
34. Quality and Standards of Medicinal Plants – ICMR publication
35. Quality Control of Ayurvedic Drugs – PLIM, Gaziabad
36. Ayurvedic Pharmacopeia of India
37. Ayurvedic Formulary of India
38. Indian Pharmacopeia
39. British Pharmacopeia
40. United States Pharmacopeia
41. Pharmacopeia Codex
42. Current Good Manufacturing Practices
43. Drugs and Cosmetic Act 1940 and Rules 1945 with latest amendments
44. Drugs and Magic remedies (Objectionable advertisement) Act-1954
45. Prevention of Food Adulteration (PFA) act
46. Laws pertaining to Narcotics
47. Factory and Pharmacy Acts
48. Consumer Protection Act -1986
49. Brief information on the peer reviewed journals, official websites and other official search engines along with their links (related with the subject)
50. Rutleys Elements of Mineralogy
51. Bhasma Vigyaniyam
52. Kupipakva Vigyaniyam
53. Anupana Manjari

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6. AGADA TANTRA EVUM VIDHIVAIDYAKA

PAPER-I Agada Tantra (Ayurvedic and Contemporary Toxicology) 100 marks

1. Agada Tantra, its sequential development during Veda kala, Samhitha kala, Samgraha kala and Adhunika kala.
2. Definition of Visha, properties of visha and its comparison with madya and oja, visha samprapti, visha prabhava, visha-vega, vegantara and visha karmukata (toxicodynamic and toxicokinetic study).
3. Descriptive and comparative study of Upavisha in unison with Contemporary Toxicology.
4. Examination of poisons as per Contemporary and Ayurvedic Methods.
5. Descriptive study of sthavara visha, definition, classifications, classical signs and symptoms of poisoning including vanaspatic (phyto poison), khanija (mineral) and compound sthavara visha.
6. Study of Jangama visha and their sources (Animal poisoning and Zoonotic Diseases). Descriptive study of snakes according to ancient and contemporary knowledge. Causes of snake bite and its types. Composition of snake venom and its pharmacological actions. Signs and symptoms of envenomation and its prognostic signs. Clinical features of Vrischika (scorpion), Luta (spider), Grihagodhika (Lizard), Mushaka (rats), Alarka (dogs), Makshika and Mashaka (mosquitoes) and their pathologic manifestations including their role in the manifestation of communicable diseases.
   Shanka visha and its management. Visha sankat and Visha Kanya.
7. Garavisha and Dushi visha, their varieties, signs, symptoms and management with contemporary relevance. Detailed study of Allergies including allergic manifestations in the eyes, nose, lungs and skin.
8. Detailed study of Madya visha and substances acting on the nervous system; substance abuse.(Diagnosis, Management and De-addiction)
9. Detailed study of the contemporary knowledge about vishajanya Janpadodhvansaniya roga (community health problems due to poisons - Environmental pollution, water pollution, soil pollution, air pollution, Industrial pollutions etc. their features and management according to ancient and recent concepts.
10. Concept of Virudha aahara, Aahara visha and Satmyasatmyata in contemporary and Ayurvedic views.
11. Conceptual study:- Drug interactions and incompatibility, Pharmacovigilance

PAPER- II Visha Chikitsa Vigyan (Management Of Poisoning) 100 marks

1. Fundamental Principles for treatment of poisoning
2. General and specific treatment of different types of Sthavara visha.
3. General and specific treatment of different types of Jangama visha (animal poisons, insect poisons, snake bites and other zoonotic diseases).
4. Emergency medical management of poisoning including preparation, administration and complications of antivenoms/antisera.
5. Chaturvimsati upakrama (24 management procedures).
6. Management of Garavisha and Dushivisha. Treatment of Allergies including allergic manifestations in the eyes, nose, lungs and skin.
7. Diagnosis and Management of Drug Induced Toxicity
8. Management of the toxic manifestations caused by the contact poisons (paduka, vasthra, abharana, mukhalepa- vishabadha etc).
9. Management of food poisoning.
10. Death due to poisoning, Duty of physician in poisoning, in cases of suspected poisoning. Post mortem findings in poisoning.
11. Extra -corporeal techniques (dialysis etc) for removal of poisons.

PAPER –III Vyavahara Ayurveda Evam Vidhi Vaidyaka **100 marks**

1. Definition of Vyavahara Ayurveda, its evolution in ancient and contemporary periods.
2. Personal identity and its medico-legal aspects
3. Death and its medico-legal aspects (Medical Thanatology)
4. Asphyxial deaths and its medico-legal importance.
5. Death due to starvation, heat and cold, lightening and electricity. Suspended Animation.
6. Medico-legal autopsy.
7. Injuries due to explosions, chemical and nuclear warfare.
8. Medico-legal aspects of injuries and wounds.
9. Impotence and sterility-Its medico-legal aspects. Regulations of Artificial Insemination. Medico –legal aspects of surrogate motherhood.
10. Sexual offences and perversions.
11. Medico-legal aspects of virginity, pregnancy, delivery, abortion, infanticide and legitimacy with related acts.
12. Indian Penal Code, Criminal procedure code and study of related acts like Indian Evidence Act, Pre Natal Diagnostic Test Act, Nursing Home Act, Human Organ Transplantation Act, Drugs and Cosmetic Act 1940, Narcotic drugs and Psychotropic substances Act 1985, Pharmacy Act 1948, Drugs and Magical Remedies (Objectionable Advertisements) Act 1954, Medicinal and Toilet Preparations Act 1955 and Anatomy Act etc. Any related act enacted by the government from time to time.
13. Courts and Legal procedures.
14. Forensic Science Laboratory
15. Medico legal aspects of mental illness
16. Duties and privileges of physician.
17. Structure of Central Council of Indian Medicine, its jurisdiction and functions. Code and Conducts as per the CCIM, Rules and Regulations there under.
18. Respective State Council of Indian Medicine, its structure, power, voluntary duties.
19. Doctor - patient relationship.
20. Rights and privileges of patients; Euthanasia.
21. Professional secrecy and privileged communication.
22. Professional negligence and malpractice
23. Indemnity Insurance scheme.
24. Consumer Protection Act related to medical practice.
25. Ethics as in classics. Types of physicians and methods of identification, Pranabhisara and Rogabhisara Physicians, qualities of physician, responsibilities of Physicians, Chathurvidha vaidya vriti, duties of physicians towards patients, Vaidya sadvritam, Apujya Vaidya who is accepting fees, relationship with females.

PAPER – IV Aushadha Yoga Vigyan **100 marks**

1. Study of process for sodhana, marana and samskarana of poisonous drugs.
2. Pharmaco-dynamics of different formulations used in Agadatantra
3. Study of pharmacology and usage of antidotes as per the Ayurvedic and contemporary science.
4. Fundamentals of pharmaceutics according to Ayurvedic and contemporary point of view.
5. Chemical, analytical, laboratory examination of poisons and suspicious substance.
6. Introduction of different instruments /equipments used in the examination of poisons.
7. Introduction to Clinical toxicology
8. Introduction to Experimental toxicology

9. Introduction to Toxico - genomics
10. Survey and study of the traditional and folklore vishachikista sampradaya.

Content of Practical/Demonstration

1. Identification of specimens models and equipments of toxicological and jurisprudence importance.
2. Practical training in postmortem examination (10 cases)
3. Regular clinical postings in the Agadatantra OPD / IPD
4. Medico-legal cases (20 cases)
5. Chemical Identification of various acids, alkalies, alcohols – Hydrochloric acid, Nitric acid, Sulphuric acid, Ascorbic acid, Sodium Hydroxide and Potassium Hydroxide
6. Detection of minerals Copper, Mercury, Lead, Arsenic and their compounds.
7. Physical and Chemical analysis of Dattura, Karaveera, Vatsanabha, Jayapala, Arka and Bhallataka with Microscopy, powder microscopy, TLC, solvent extraction, detection of Phenol, tannins etc. (10 studies)
8. Detection of human blood, hair, semen and other biological secretions of Forensic importance.
9. Herbarium of 15 sthavara vishas and 10 agadas.
10. Preparation of two Agada yogas

Clinical Postings

1. Modern medical hospitals – 2 weeks
   (For emergency management of poisoning)
2. Postmortem postings - 2 weeks
3. Court postings - 1 week

Visit to

1. Forensic Laboratory
2. Anti snake venom serum manufacturing Unit.

Pattern of practical examination

1. Post mortem / Medico-legal case record and clinical record	- 10 Marks
2. Identification of specimens models and equipments of jurisprudence importance.	- 20 Marks
3. Spotting related to Visha, Upavisha and others poisonous drugs	- 20 Marks
4. Thesis presentation	- 25 Marks
5. Viva-voce	- 25 Marks
Total	**100 Marks**

Reference Books:-

1. Useful Portion of Charak-Sushrut-Vagbhata	
2. Dravyaguna Vigyan	- Acharya Yadavji
3. Aushadhigunadharma Shastra	- Pt Visvanath Dvivedi
4. Kriyatmat Aushada parichaya Vigyan	- Pt Visvanath Dvivedi
5. Ayurvedic Vyadhi Vigyan	- Acharya Yadavji Trikamji
6. Madhavanidan with Madhukosha commentary	
7. Sharangadhara Samhita	
8. Yogaratnakara	
9. Aushadigunadharma Shastra	-PtGangadharaShastri Gune
10. Rasendracintamani	
11. Rasaratna samuchhaya	
12. Vishavigyan	- Dr. Krishna Kumar
13. Related matter of Kautilya Artha Shastra	
14. Harmekhlatantra	
15. Anupana manjari	

16. Ayurvedprakash
17. System of clinical Medicine - Savil
18. Forensic Pharmacy - B.M. Mhithai
19. Hand book of Forensic Medicine and toxicology - Dr. P.V. Chadha
20. Viva Forensic Medicine and toxicology - L.C. Gupta
21. Forensic Medicine and Ethics - J.P. Narena
22. Modi's Medical Jurispudence and Toxicology
23. The essentials of forensic medicine and toxicology - Dr.K.S. Narayan Reddy
24. Medical Laws and Ethics - Dr. H.S. Mehta
25. M.R.K. Krishnan's Handbook of Forensic Medicine
26. Text book of Medical Jurisprudence and Toxicology - Dr. C.K. Parikh
27. Atlas of Forensic Medicine - Dr. Tomio Watenbe
28. Medico legal Post Mortems (Atlas) - Dr. Parikh and Others
29. Textbook of Forensic Medicine and Toxicology - Dr.V.V. Pillay
30. Textbook of Forensic Medicine and Toxicology - Dr. Karmakar
31. Textbook of Forensic Medicine and Toxicology - Dr. Singhal
32. Textbook of Forensic Medicine and Toxicology - Dr. Krishnan Vij
33. Forensic Pathology - Dr. Bernard Knight
34. Textbook of Forensic Medicine and Toxicology - Lyon's
35. Pocket picture guide to Forensic Medicine - Gower's Medical Publication
36. Forensic Medicine - Simpson Knight
37. Taylor's Principles and Practical of Medical Jurisprudence - J and A Churchis
38. Doctor and law - Singhal
39. Textbook of Toxicology -Singhal
40. Medicine Harrison's Principal of Internal Medicine
41. Agad Tantra - Dr. Shekhar Namboodri
42. Modern Medical Toxicology - Dr. V.V.Pillay
43. Critical care toxicology - Bruent Wallace
44. Diagnosis and Management of common poisoning - Agarwal wali
45. Colour Atlas of Forensic Medicine - Govindaiah
46. Guidelines of poisons - W.H.O.
47. Doctors patients relationships - Dr.Lavekar
48. Bhavaprakasha.
49. Vishavaidya Jyotsnika -- English translation By VPSV Ayurveda college, Kottakkal.
50. Lakshnamritham.
51. Toxicology, Ayurvedic perspective - VPSV Ayurveda college, Kottakkal
52. Text book of Agadatantra - Edited By Dr Huparikar, Dr. Joglekar
53. Agadatantra ki Pathyapustaka - Edited By Dr Huparikar, Dr. Joglekar
54. Vyavahar Ayurveda Vigyanam - Dr.Indramohan Jha (Sachchan)
55. Forensic Medicine - Dr. B. Umadathan
56. Visha Chikitsa - Dr. M. Balakrishnan Nair
57. Park Text book of Preventive and Social Medicine. - K. Park
58. Environmental Science and Biotechnology - Theory and Practice - A.G. Murukesan &C. Rajakumari
59. Veterinary Toxicology - Dr. Satish K. Gargi
60. Guide to Drinking Water Quality (3 Volumes) - WHO Publication
61. A short Text Book of Medical Entomology - H.S. Bhatti, R. Sehgal, R.C. Mahajan.

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7. SWASTHAVRITTA

PAPER I VAIYAKTIKA SWASTHAVRITTAM SADVRITTAM CHA — Marks 100

1. Concept of holistic health according to Ayurveda.
2. Spectrum of health, Iceberg phenomenon of diseases, dimensions of health.
3. Dinacharya – Detailed accounts by Charaka, Sushruta, Vagbhata and Bhavamishra.
4. Probable Physiologic effect of Dinacharya procedures.
5. Ratricharya – Bhavamishra and other classics.
6. Day and night pattern in various countries.
7. Ritucharya – Classical description by Charaka, Sushruta, Vagbhata, BhelaSamhita and Bhavamishra.
8. Ritus prevalent in various Indian states.
9. Ritu pattern in various countries of the world.
10. Shodhana Schedule for Ritusandhis.
11. Concept of Vegas, types and the physiology behind each vega and vegadharana.
12. Ahara – Classical food items in Charaka, Sushruta, Vagbhata and Sharangadhara.
13. Aharavargas and comparison with todays' food items.
14. Staple diet of various States of India.
15. Staple diet of various countries in correlation with their climate.
16. Principles of dietetics. Balanced diet for healthy adult, adolescent, elderly people, pregnant ladies and lactating mothers.
17. Food intervention in malnutrition, under nutrition and over nutrition.
18. Rules of food intake accccording to Charaka, Sushruta and Vagbhata.
19. Pros and Cons of vegetarian and Non vegetarian foods.
20. Viruddhahara – Classical and modern day examples.
21. Sadvritta – Compare Charaka, Sushruta and Vagbhata .
22. Prajnaparadha – Causes, Effects and solution.
23. AcharaRasayana, Nityarasayana.
24. Rasayana procedures for Swastha
25. Vajeekarana for Swastha.
26. Mental Health and the role of Ayurveda in it.
27. Vyadhikshamatva – Modern and Ayurvedic concepts.
28. Principles of Health Education.
29. Genetics in Ayurveda and Modern Science

PAPER II SAMAJIKA SWASTHAVRITTAM (COMMUNITY HEALTH) — Marks 100

1. Concept of community health.
2. Concept of Prevention according to Ayurveda.
3. Concept of prevention according to Modern medicine. Levels of prevention. Stages of intervention.
4. Web of causation of diseases, Multifactorial causation.
5. Natural History of diseases.
6. Ecology and community health.
7. Disinfection practices for the community – Modern and Ayurvedic.
8. Immunization programmes. Possible contribution of Ayurveda.
9. Environment and community health (Bhumi, Jala, Vayu, Shuddhikarana ,Prakasha,Shabda, Vikirana)
10. Housing –W.H.O Standards. Design of Aaturalaya(hospital), Sutikagara, Kumaragara, Panchakarmagara and Mahanasa (Kitchen)
11. Disposal of Wastes- Refuse, Sewage. Methods of Sewage disposal in sewered and unsewered areas.
12. Occupational Health. Ergonomics. Role of Ayurveda in ESI.
13. Medical Entomology– Arthropods of Medical Importance and their control measures.

14. Knowledge of parasites in relation to communicable diseases.
15. School Health Services and possible contribution of Ayurveda.
16. Demography and Family Planning.
17. Family Welfare Programme and the role of Ayurveda in it.
18. Old age problems in community. Role of Ayurveda in Geriatrics.
19. Care of the disabled.
20. Life Style disorders (Non Communicable diseases) in community and the role of Ayurveda in them.
21. Health tourism. Ayurvedic Resort Management- Panchakarma and allied procedures.
22. Medical Sociology.

PAPER III SAMKRAMAKA ROGA PRATISHEDHAM EVAM SWASTHYAPRASHASANAM
Marks 100

1. Modern Concept of Epidemiology
2. Critical evaluation of Janapadodhwamsa.
3. Epidemiology of different Communicable diseases in detail.
4. General investigations for Communicable diseases
5. Sexually Transmitted Diseases and their control
6. Ayurvedic view of Samkramaka Rogas.
7. Investigation of an Epidemic
8. Control of Epidemics.
9. Host Defenses.
10. Ayurvedic methods of Vyadhikshamatva.
11. Health advice to travelers.
12. Hospital, Isolation ward and bio medical waste management
13. National Health Programmes. Contribution of Ayurveda in National Health Programmes.
14. Health administration under Ministry of H &FWD
15. AYUSH , NRHM, NUHM administration, functions and programmes.
16. National and International Health Agencies and their current activities.
17. Disaster management
18. Statistics related with Infectious diseases at International, National and State levels
19. Vital Statistics

PAPER IV YOGA AND NISARGOPACHARA **Marks 100**

1. History and evolution of Yoga
2. Different Schools of Yoga
3. Rajayoga –(Ashtanga yoga) philosophy of Patanjali according to Yogasutras.
4. Hathayoga - according to Hathayogapradeepika, GherandaSamhita and Shivsamhita.
5. Karmayoga – Philosophy according to Bhagavad Gita
6. Mantrayoga, Layayoga, Jnanayoga and Bhaktiyoga.
7. Physiological effect of Yoga on Body and mind – Ancient and modern concepts.
8. Concept of Sthula, Sukshma and Karana Shariras
9. Concept of Panchakoshas
10. Concept of Shad chakras and Kundalini
11. Shad Kriyas and their therapeutic effects.
12. Therapeutic effect of yogic practice in the following diseases - Diabetes, Hypertension, Cardiovascular disorders, Obesity, Asthma, Piles, Irritable Bowel Syndrome, Eczema, Psoriasis, Stress Disorders, Eye disorders, Head Ache, Juvenile Delinquency, Mental retardation, Depression, Neurosis, Sexual Dysfunction, Uterine Disorders, Cancer.

13. Yoga in Ayurveda –Concept of moksha,Tools for Moksha,Naishthikichikitsa, TatvaSmriti, Satyabudhhi, yoginamBalamAishwaram (charakaSamhitaSharirasthana chapter 1 & 5)
14. History of Nisargopachara.
15. Basic Principles of Western School of Nature Cure
16. Basic Principles of Indian School of Nature Cure – Panchabhuta Upasana and its therapeutic utility.
17. Different types of Massage and their therapeutic effects
18. Concepts of Acupuncture and Acupressure.
19. Principles of Chromotherapy and Magnetotherapy

Scheme of Practicals

1.Health promotive and protective practices of Dinacharya procedures viz. Dantadhavana, Anjana, Nasya, Kavala, Gandusha, Dhumapana, Abhyanga, Udvartana

2) Practical Demonstration of Yoga

a) Aasanas (24)

1) Swastikasan
2) Gomukhasan,
3) Sarpasan,
4) Kukuttasan,
5) Uttankurmasan,
6) Dhanurasan,
7) Matsyendrasan,
8) Mayurasan,
9) Bhadrasan,
10)Sinhasan,
11)Sarvangasan,
12)Shirshasan,
13)Pavanmuktasan,
14)Bhujangasan,
15)SuptaVajrasan,
16)Chakrasan,
17)Siddhasan,
18)Padmasan,
19)Veerasan,
20)Paschimatanasan,
21)Vajrasan,
22) Shavasan,
23)Makarasan,
Suryanamaskara

b) Pranayama

1) Nadishudhhi- AnulomVilomPranayam,
2) Suryabhedani,
3) Ujjayi,
4) Bhasrika,
5) Bhramari,
6) Sheetali,
7) Sitkari

c) Mudra

1) Viparita karani

2) Yoga Mudra
3) Maha Mudra
4) brahma Mudra
5) Ashwini mudra

d) Bandha
1) Jalandhara, uddiyana, mula bandha
e) Shuddhikriya – JalaNeti, Sutra Neti,JalaDhauti, Kapalbhati, Tratak Basti, Nauli, vastra dhauti (if possible)

3) Practical Demonstration of Naturopathy procedures
a. MruttikaSnana
b. Mruttika Patti
c. Pada and Hasta Snana
d. Bashpasnana (Steam bath)
e. Awagahana (Immersion bath)
f. prishtasnana (Spinal bath)
g. Katisnana(Hip bath)
h. Alternate hot and cold bath
i. Observe Jacuzzi and whirlpool bath at available places.

4) Long case sheets for Pathya, Apathya, Aushadhi (if needed), Yoga and Nisargopachara advice to
a) Non communicable diseases 20
b) Communicable diseases 10
c) Garbhini Paricharya 10
d) Mal Nutrition treatment cases 10
e) Case studies of Immunization cases 10
iv) Departmental Practicals
1) Dantadhawana - 2
2) Anjana - 2
3) Nasya - 2
4) Gandusha- 2
5) Kavala- 2
6) Dhoompana – DhumavartiNirmana - 2

5) Educational Visits-
The brief report of each visit (Minimum 10 compulsory) should be written by student in a journal (Duly signed by Guide and HOD)
1) Water Purification Centre,
2) Milk Dairy,
3) Industry,
4) Leprosy Centre,
5) T.B. Centre,
6) Yoga Centre,
7) Naturopathy Centre,
8) Primary Health Center
9) Disposal of Waste Unit,
10)Sewage Disposal Unit ,
11)Hospital Disinfections,
12)Govt. Psychiatric Hospital
13)Isolation Hospital
14)A.R.T. Centre
15)Food and Drug Administration Centre
16) District /Civil Hospital

7) Field Work
a) Active Participation in Various National Health Programmes
b) Community Health Survey
c) School Health Check-up (minimum 100 students)
8.Departmental duties : Regular Attendance as-

Duty in OPD and IPD with regard to Pathyapathya, Yoga and Nisargopachar.

1. Museum Development
2. Yoga training for self Swastha and patients.
3. Departmental Seminars
4. Research Journal /Article Reviewes
5. Submit minimum 2 papers in any publications.
6. Practical knowledge of AharaDravya&Adulteration of Food
7. Proper planning, beginning ,completion of Thesis work under the guides
8. Micro Teaching (Training to take Lectures and Practicals of UG). Minimum 10.
9. Daily diary- Log book

Format of Practical / Oral Examination

Sr.No.	Heading of Practicals	Marks
1	Daily work book-Log book	10
2	Case Record Sheets	20
3	One Long Case (Pathya-Apathya advice)	20
4	Two Short Cases(10X2) (Yoga and naturopathy advice each)	20
5	Spoting on Instrument/Equipment/ Medicine/Solve a Problem-(10 Spots x2	20
6	Thesis Presentation	50
7	Viva Voce	60
	Total	200

Reference Books:-

1) Relevant portions of Charak, Sushruta, Vagbhata (AshtangHrudaya), Ashtang Samgraha, Sarangadhara, Bhavaprakasha, Madhavanidan&Yogaratnakara, Bhela Samhita with the respective commentaries
1) SwasthavrittaSamuchaya –VaidyaPtRajesvarDuttaShastri
2) SwasthyaVignyana -Dr.B.G.Ghanekarshastri
3) PrakritikaChikitsa -Kedarnath Gupta
4) Reddy's Comprehensive Guide to Swasthavritta –Dr.P.Sudhakar Reddy
5) SwasthaVigyan - Dr.MukundswaroopVerma
6) Ayurvediya Hitopdesh - Vd.RanjitRai Desai
7) Yoga and Ayurveda - Dr.Rajkumar Jain
8) SwasthvrittaVigyan - Dr.Ramharsha Singh.
9) Swasthvrittam - Dr.BramhanandTripathi
10) AyurvediyaSwasthvrittam - Vd.Jalukar
11) HathayogPradipika – SwatmaramYogendra (Kaivalyadhama)
12)YogikYogPadhati - BharatiyaprakrutikChikitsaPadhat
13)YogikChikitsa - ShriKedarnath Gupta
14)PrakrutikChikitsaVigyan - Verma
15)Janasankhyashikshasidhanta evamUpadeysa - S.C.Seel
16)Swasthvritta - Dr.Shivkumar Gaud
17) Health and Familywelfare - T.L.Devraj
18)SachitraYogasanDarshika - Dr.IndramohanJha
19)Preventive and Social medicine - J.K.Park
20)Yogadeepika - Shri. B.K.S. Iyengar
21) Swasthavritta - Vd.Sakad
22)Positive Health - Dr.L.P.Gupta
23)Biogenic Secretes of Food In Ayurveda - Dr.L.P.Gupta
24)Yoga and Yogikchikitsa - Ramharsha Singh
25)The Foundation of Contempary Yoga - R.H.Singh
26)YogasidhantaevumSadhna - H.S.Datar

27)Patanjal Yoga Sutra – Maharshi Patanjali, Karambelkar
28)PrakrutikChikitsaVidhi - Sharan Prasad
29)Text book of Swasthavritta - Dr.Ranade, Dr.Bobade, Dr.Deshpande
30)GherandSamhita
31)Bio-Statistics - B.K. Mahajan
32)Swasthavrittavidnyan - Dr.MangalaGauri
33) Community Medicine - Baride and Kulkarni.
34) Light on Yoga - Shri. B.K.S. Iyengar
35) Light on Pranayama - Shri. B.K.S. Iyengar
36) Light on Patanjala yogasutra - Shri. B.K.S. Iyengar
37) Shiva samhita – Kaivalyadhama
38) Gheranda samhita – Kaivlyadhama
39) Swasthavritta vigyan – Vd. Patrikar Vijay
40) Swasthavritta – Vd Yashwant Patil and Vd. Vhawal
41) Food and nutrition – Swaminathan
42) Preventive and Social Medicine – Mahajan
42) Preventive and Social Medicine – B.N.Ghosh
43) Preventive and Social Medicine – Gupta
44) Yoga and Nisargopachar- Vd. Prama Joshi

Syllabus prepared by

1. Dr. Mihir Hajarnavis (Group leader)
2. Dr. Arpan Bhatt (Coordinator)
3. Dr. S. Venugopal Rao
4. Dr. Sajitha.K
5. Dr.Yeshwant.R.Patil
6. Dr. Poornima Krishnamurthy
7. Dr. Yashawant Chauhan.
8. Dr. Rajkumar Bobade
9. Dr. Jayan Damodaran
10. Dr. Yogeshwar Dayal Bansal
11. Dr. Sudhanshu Dutt Sharma

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8. ROGA NIDANA

PAPER- I FUNDAMENTAL PRINCIPLES OF ROGANIDANA

Concept of Tridosha and its Pathological implications. 63 permutations and combination of Tridosha. Lina and Stambhita Dosha, their cause and importance in manifestation of Samprapti
Concept of Rakta as a Chaturtha Dosha. Importance of Rakta in the manifestation of diseases.
Concept of Ashrayashrayi bhava and its applied utility.
Different types of Dosha Gati.
Causative factors and practical utility of movement of Doshas from Kostha to Shakha and Shakha to Koshtha. Concept of Ashayapakarsha.
Trayo roga marga, their diseases and clinical importance of Roga Marga.
Concept and classification of Avarana, its role in pathogenesis, mode of diagnosis of Avarana and its importance in chikitsa sutra.
Applied aspect of Dhatu Poshana Krama and Dhatu Samvahana. Concept of Margaga and Sthanastha Dhatus.
Conept and applied aspects of Doshapaka and Dhatupaka
Fundamental and applied aspect of Dhatu, Upadhatu and Mala. Diseases developed due to their vitiation (pradoshaja vikara).
Concept and applied aspects of Srotas, their importance in health and diseased conditions.
Concept and applied aspects of Sroto Dushti and Khavaigunya. Understanding the various srotas which are not included in classical list of srotas but enumerated while describing the samprapti of diseases.
Description of Dosha-Dushya-Sammurchhana, Concept of Prakriti Sama Samaveta and Vikriti Vishama Samaveta Sammurchhana. Importance of Dosha-Dushya-Sammurchhana in Diagnosis and treatment.
Concept of Vikara vighata bhavabhava prativisesha.
Concept of Agni and its role in manifestation of health and disease.
Concept and pathogenesis of Ama. Contemporary interpretation of Ama and its role in pathogenesis.
Sama, Nirama stages of Dosha, Dhatu and Mala.
Understanding Samprapti of Santarpanottha and Apatarpanottha Vyadhi
Detailed classification of diseases as described in Ayurveda. Knowledge of ICD and DSM classification.
Detailed understanding of Nidan Panchaka with their classification and clinical importance.
Relation between 'Hetu & Lakshana' and 'Samprapti & Lakshna'.
Explanation and applied aspects of Kriyakala and its utility in diagnosis and treatment.
Importance of Upadrava, Arishta and Sadhyasadhyata and Udarka.
Natural History of the Diseases, concept of vyadhisankara in Ayurveda.

PAPER – II ROGA VIGYANA

Knowledge of classical Samprapti of following diseases with interpretation of Nidana Panchaka including Upadrava, Arishta and Sadhyasadhyata and Chikitsa Sutra. Knowledge of commonly occurring diseases of the respective systems mentioned in contemporary medicine and their Ayurvedic interpretation.

1. Diseases of Pranavaha srotas- Kasa - Shwasa - Hikka – Urahkshata – Shosha – Rajayakshma and Ayurvedic understanding of common clinical entities like Pneumonia, Pleural effusion, Bronchitis, Bronchiectasis, Pulmonary Tuberculosis, Bronchial Asthma.
2. Diseases of Annavaha- Pureeshavaha Srotas- Agnimandya - Ajirna - Aruchi- Chhardi, Amlapitta- Shoola, Grahani –Gulma- Udara Roga –Vibandha, Atisara – Pravahika along

with various clinical presentations. Ayurvedic understanding of common clinical entities like Peptic Ulcer, Irritable Bowel Syndrome, Diarrhoea, Dysentry, Constipation, ulcerative colitis.

3. Diseases of Udakavaha Srotas- Trishna, Daha and knowledge of water and electrolyte imbalance disorders
4. Diseases of Rasavaha Srotas - jwara and Ayurvedic understanding of common clinical entities like various types of Fever- Malaria, Typhoid, viral fevers. Pandu, Amavata, Hridroga, Shotha and Ayurvedic understanding of common clinical entities like Anaemia & its Classification, Rheumatic fever, Rheumatoid Arthritis, Angina, Ischaemic Heart Disease, Hypertension, Myocardial Infarction ,Congestive cardiac failure.
5. Diseases of Raktavaha Srotas- Kamala - Raktapitta - Vatarakta – Kroshtukaseersha - Shitapitta – Maha Kushta – Visarpa – Shwitra and Kshudra Kushta and Ayurvedic understanding of common clinical entities like jaundice, hepatitis, bleeding disorders, Gout, Thrombo Angitis Obliterens (TAO), Deep Vein Thrombosis (DVT), Leukaemia, Thalessemia, Sickle cell Anaemia. Introduction to Urticaria, Psoriasis, Eczema, Pemphigus, Herpes.
6. Diseases of Mamsavaha srotas- Introduction to Granthi, Arbuda,Galaganda and Arsha. Ayurvedic understanding of all types neoplasia and Thyroid diseases.
7. Diseases of Medovaha srotas- Sthoulya - Karshya – Prameha and Ayurvedic understanding of common clinical entities like Obesity and Diabetes Mellitus.
8. Diseases of Asthi - Majjavaha srotas- Sandhigatavata, Introduction to Asthi-majjaparipaka, Asthigata Vidradhi and Ayurvedic understanding of common clinical entities like Osteo- Arthritis, Osteomyelitis, Osteoporosis.
9. Vatavyadhi-Akshepaka - Apatanaka - Ardita - Pakshaghata – Gridhrasi – Viswachi, Avabahuka, Manyasthambha – Katigraha-Pangutwa- Khanja-Khalwee and Ayurvedic understanding of common clinical entities like Hemiplagia, Parkinson's disease, Lumbago- Sciatica syndrome, Bell's Palsy, Ankylosing Spondylitis, MND and other commonly occurring neurological diseases.
10. Diseases of Sukravaha srotas- Klaibya and Vandhyatva and understanding of male and female Infertility, Impotence.
11. Diseases of Mutravaha srotas -Mutrakrichha – Mutraghata, Ashmari and Ayurvedic understanding of common clinical entities like Urinary Tract Infection, Urolithiasis, Nephropathies and Renal failure.
12. Diseases of Swedavaha srotas-knowledge of khalitya, Palitya and Cosmetology.
13. Diseases of Manovaha Srotas - Vishada, Udvega, Bhaya, Bhrama, Anidra, Mada, Murchha, Sanyasa, Apasmara, Unmada, Atatwabhinivesha and Ayurvedic understanding of common clinical entities like Depression, Anxiety neurosis, Phobia, Personality disorders.
14. Indriya Pradoshaja Vikara.
15. Jara janya Vyadhi: Alzheimer's Disease
16. Concept and tools for the study of Anukta Vyadhi (Unexplained and newly emerging diseases).
17. Understanding the concept of karmaja vyadhi

PAPER – III PARIKSHA VIGYANA

1. Introduction to Clinical methods and technique for the study of clinical examination
2. Importance of medical history taking and its importance in clinical medicine.
3. Aims, Objectives and Methods, applied aspects and importance of various Rogi and Roga Pariksha as per classics.
4. Srotas Pariksha, Shadanga Pariksha vis-à-vis general & systemic examination of patient.
5. Interpretation of Charakokta trividha pramana pariksha and Sushrutokta shadvidha pariksha with clinical methods mentioned in modern medicine.
6. Interpretation and use of ashtasthana nirikshana along with use of current tools as per Ayurveda.

7. Charakokta dashavidha and Sushrutokta Dwadashavidha pariksha along with the use of modern supportive tools for understanding of rogibala and roga bala concept to derive chikitsa sutra
8. Ayurvedic interpretation of all relevant findings of modern clinical examinations, various Laboratory and other Diagnostic tools.
9. Understanding of diagnostic procedures in medical emergencies.
10. Concept of Good clinical practice in Ayurveda and modern medicine.
11. Knowledge of standard clinical laboratory set up useful for Ayurvedic practice.
12. Knowledge of Ancillary common laboratory investigations for diagnosis of diseases, their methods, normal and abnormal values, factors influencing values and their Ayurvedic interpretations & clinical significance as mentioned in practical syllabus.
13. Importance of Bio markers and their utility in clinical researches
14. . Update knowledge of emerging diagnostic tools and technologies.
15. . Knowledge of various Ayurvedic diagnostic softwares/programmes available.
16. Avayava Pariksha – Radio- Imaging Techniques, Sonological Techniques, ECG, EEG etc and their clinical interpretation.

PAPER - IV VIKRITI VIGYANA AND JIVANU VIGYANA

1. Introduction to pathology and technique for the study of pathology
2. Cell injury and cellular adaptations
3. Immunopathology including amyloidosis and its interpretation with the concept of Ojas vis-à-vis Bala
4. Concept of Shotha versus Inflammation, oedema and healing
5. Derangement of Homeostasis and Hemodynamic disorders
6. |General character and classification of Neoplasia
7. Upasargajanya Vyadhi (Communicable diseases)- Romantika – Masurika – Upadamsha – Phirang and introduction to Syphilis, AIDS, Leprosy, Tuberculosis
8. Detail study of Krimi Vigyanam versus infectious and parasitic diseases along with their mode of infection and life cycle
9. Concept of Snayuka, Shleepada and introduction to Filariasis and classification of common parasites.
10. Concept and applied aspects of Janapadodhvamsa and Environmental diseases
11. Nutritional disorders
12. Concept of genetic diseases and its interpretation in terms of Bija dosha
13. Knowledge of common Bacteria, Virus, Parasites, Fungi and their classification with their disease processes, Nutrition requirements, media and methods for culture and sensitivity

PRACTICAL DEMONSTRATION AND HANDS ON EXPERIENCE

1. Regular posting in Roga Nidana O.P.D.
2. Regular posting in Roga nidana I.P.D.
3. Regular posting in Laboratories
4. Regular posting in other departmental units and Educational Tour to update current medical knowledge
5. Laboratory record – maintenance of observation diary and laboratory record book.
6. Experience in conducting following laboratory investigations for diagnosis of diseases and their methods
   a) Hematological, Biochemical and Serological measures, Peripheral blood film examination
   b) Rapid diagnostic techniques.
   c) Screening test for bleeding disorders- Platelet Count, bleeding time (BT), Clotting time (CT), Prothrombin time (PT).
   d) Blood grouping - ABO system, Rh typing (Rhesus system)
7. Urine Examination
   a. Ayurveda anusara mutra pariksha.

b. Physical Examination, Chemical Examination, and Microscopic Examination
c. Dipstix examination

8. Stool Examination
   i. Ayurveda anusara purisha pariksha-Physical examination - Sama-Nirama Pariksha
   ii. Microscopic and macroscopic examination of stool
9. Sputum Examination
   i. Ayurveda pariksha anusara sthivana.
   ii. Physical, Chemical and Microscopic Examination of the sputum.
10. Semen examination
    1) Ayurvediya anusara Retas pariksha.
    2) Semen examination & clinical interpretation
11. Biochemical tests related to various organ panels- Liver, Kidney, Heart, Thyroid, Pituitary and Bones.
12. Knowledge of different staining techniques in microbiology.
13. Knowledge of Sero-immunological Investigations: RA, Widal test,ASLO titer,ANA,Etc
14. Physical, chemical, microscopic, biochemical and bacteriological tests for various kinds of body aspirates
15. Knowledge of histopathological techniques.

BEDSIDE PRACTICAL /CLINICAL METHODS

1. Expertise in clinical methods (General and Systemic Examination).
2. Practical knowledge of examination of Roga based on Pancha Nidan.
3. Practical knowledge of instruments used for clinical examination.
4. Practical records of clinical examination of at least 30 long cases in I.P.D.
5. Practical records of clinical examination of at least 50 short cases.
6. Practical knowledge of ECG, USG and Imaging techniques and their clinical interpretation
7. Understanding of various Ayurvedic diagnostic softwares/programmes available like Ayu soft, Rudra,Ayut Nidana etc.

PATTERN OF EXAMINATION

Name of Paper	Hours of training	Marks
Paper I	100	100
Paper II	100	100
Paper III	100	100
Paper IV	100	100
Practicals:	Hospital/Laboratory duties at least 4 Hours per day	Total 200 :
Observation Diary		10
Laboratory record		10
Short Case (including Case Record)		20
Long Case (including Case Record)		30
Laboratory Work		40
Thesis Presentation		40
Viva Voce		50

REFERENCE BOOKS

1. Charaka Samhita with Various Commentaries
2. Madhava Nidana with various commentaries
3. Abhinava Vikriti Vigyana - Acharya Raghuvir Prasad Dwivedi

4. Doshakaranatwa Mimamsa	- Acharya P.V. Sharma
5. Nadi Darshan	- Vd. Tara Shankar Mishra
6. Nadi Vigyanam	- Vidyotini Hindi Tika
7. Nadi Vigyan	- Shri Satya Dev Vashisht
8. Nadi Vigyan	- Gangadhar Tika
9. Nadi pariksha	- Vaidya VB Athavale
10. Nadi Pariksha	- GP Upadhyay
11. Rogi Pariksha vidhi	- Acharya Priyavrata Sharma
12. Roga Vigyan	- Dr.Vinay Kumar
13. Siddanta Nidan	- Gananatha Sen
14. Ayurvediya Roga Vargikaran	- Vd. Ramanath and Vd. Gurdip Singh
15. Ayurvediya Nidan Evum Chikitsa Ke Siddhanta	- Prof. Ram Harsh Singh
16. Relevant portions of Charak Samhita, Sushrut Samhita and Vagbhata	
17. Clinical methods in Ayurveda	- K. R . S. Murthy
18. Parameswarappa's Ayurvediya Vikriti Vigyan and Roga Vikriti Vigyan	- Dr. P.S. Byadgi.
19. Nidan Panchaka	- Prof SC Dhyani
20. Samprapti lakshana yoh sambhandah	- K.Sadashiva Sharma
21. Clinical Diagnosis in Ayurveda in Roga Nidana and Vikriti Vigyana	- Vaidya Vasant Patil
22. Oxford Handbook of Clinical Examination and Practical Skills	- Oxford Handbooks
23. Symptoms & Signs in Clinical Medicine	- Chamberlains
24. Clinical Methods	- Hutchinson's
25. Bedside Clinics in Medicine Part- I & II	- Kundu
26. Practical Pathology	- Dr. K. Uma Chaturvedi
27. Medical Laboratory Technology	- R. Sood
28. Clinical Diagnosis and Management by Davidson	- Todd, Sanford and Laboratory methods
29. Robbins Basic Pathology	- Kumar, Abbas, Fausto at
30. Text Book of Pathology	- William Boyds.
31. Text Book of Pathology	- Harsh Mohan
32. Text Book of Pathology	- Dey and Dey
33. Text Book of Parasitology	- Ramnik Sood
34. Clinical Pathology and Bacteriology	- S.P. Gupta
35. A Text Book of Microbiology	- Ananthanarayana, Panikar

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9. PRASUTI TANTRA- STREE ROGA

PAPER – I Garbhagarbhini Vigyan

1. Applied anatomy of female Genito urinary system, pelvis and Pelvic floor. Pelvic assesment and foetal skull.
2. Physiology, neuro endocrinology and pathology of puberty and Neuroendocrine control of menstrual cycle.. Artava, Rituchakra, Streebija, Pumbija.
3. Garbha sambhava samaagri, Garbhadhanam, Pre-conceptional counseling and care, Pumsavana, Garbhasya shad dhatvatmakata, Garbhavakranti, Matrijadi bhava, Garbha vriddhi, role of panchamahabhutas in the formation and development of foetus. Garbhasya avayavotpatti, Fundamentals of reproduction – gamatogenesis, Fertilization, Implantation and early development of human embryo.
4. Apara, Garbhodaka Jarayu, Nabhinadi.
   Placenta, amniotic fluid, membranes and umbilical cord -their formation, structure, Functions and abnormalities.
   Garbha-poshana, Garbha shareerkriya vaishishtyam, Garbha lingotpatti, Garbha varnotpatti, Garbhasya masanumasika vriddhi.
   Foetal physiology, circulation, Foetal growth and development
5. Bija – Bijabhaga – Bijabhagavayava janya garbhanga vikruthi. Genetics, Birth defects and other teratologic abnormalities
6. Garbhini nidana, sapekshanidana, Garbhakalina matrigata parivartana, lakshana, Dauhrida. Diagnosis and differential diagnosis of pregnancy, anatomical and physiological changes during pregnancy, Endocrinology related to pregnancy, Immunology of pregnancy.
7. Garbhiniparicharya, Masanumasika Pathya Apathya evum Garbha upaghatakara bhava. Ante Natal care, examination investigations and management,.
8. Garbhasankhya nirnay, Bahu apatyata, Multiple pregnancy.
9. Garbhavyapad - causes, clinical features, complications, management and treatment of Garbhasrava and Garbhapata , Upavishtaka, Nagodara / Upashushka, Lina garbha, Goodagarbha, Jarayu Dosha, Antarmrita garbha , Garbha shosha, Garbha kshaya, Bhutahrita garbha, Raktagulma.
   Abortions, I.U.G.R, Intrauterine Foetal death Ectopic pregnancy and gestational trophoblastic neoplasia,
10. Garbhini vyapad – nidana panchaka and chikitsa of garbhini vyapad.
    Early recognition, differential diagnosis and prompt management of pregnancy complications, Emesis and Hyperemesis gravidarium, Anaemia, Pregnancy Induced Hypertension, Pre-eclampsia, Eclampsia, Antepartum hemorrhage, Rh-incompatibility.
    Management of pregnancies complicated by medical, surgical or Gynecological disorders in consultation with the concerned specialties by team approach
    a. Pyrexia, Heart disease, Diabetes mellitus, Liver disorders, Respiratory diseases, Renal diseases, Epilepsy, Hypertensive disorders.
    b. Fibroids, Ovarian tumors, Genital prolapse, Carcinoma Cervix.

    Infections in pregnancy:
    Toxoplasmosis, Viral infections ,Rubella, CMV, Hepatitis-B, Herpes, Syphilis and other Sexually Transmitted Infections including HIV, Prevention of mother to child transmission of HIV infection (PMTCT).
11. Jataharini related to garbhini avastha
12. Evaluation of Foetal and maternal health in complicated pregnancies by making use of diagnostic modalities.
13. Prenatal diagnosis of fetal abnormalities and appropriate care. PNDT Act and its Implications.
14. Vishesh adhyayan of –

Ashtanghriday sharira	-	Adhyay -1st – Garbhavkranti
Sushrutasamhita sharira	-	Adhyay -3rd – Garbhavkranti
Charak Samhita sharira	-	Adhyaya - 8th Jatisutriya

PAPER – II Prasava – Vigyan

Prakrit prasav

1. Prasav paribhasha, Prasav kaal, Prasava prarambha karana, Prasava kalina garbha sthiti, Avi, Sutikagara.
   a) Initiation and onset of parturition.
   b) Examination and evaluation of patient in labour.
   c) Physiology of labour.
   d) Mechanism of labour.
   e) Selection of place of delivery and labour room.
2. Prasava avastha evum paricharya
   a) Stages of normal labour
   b) Intrapartum maternal and foetal monitoring
   c) Management of normal labour

Prasava vyapad

1. Etiopathogenesis, clinical features, prevention and management of Garbhasanga, vilambita prasav, Mudhagarbha and Apara sanga.
   a. Prolonged labour
   b. Cephalo pelvic disproportions
   c. Malpresentation
   d. Obstructed labour
   e. Methods of Induction and Augmentation of labour
2. Complications of different stages of labour
3. Obstetric management of high risk Pregnancies- Pre eclamptic toxaemia, Eclampsia, Diabetes, cardiac disease, asthma, Epilepsy, ante partum haemorrhage, preterm premature rupture of membranes, , Preterm, Post term, Multiple pregnancy, IUGR & HIV -AIDS
4. Still birth- diagnosis, complications and management.

Jatamatra/ Navajata shishu paricharya

1. Examination and management of neonate.
2. Management of birth asphyxia.
3. Detection of congenital malformation in newborn and timely referral for correction.

Sutika vigyana

1. Sutika Paribhasha, kala maryada, paricharya.
2. Sutika vyadhi and their chikitsa.
3. Stana sampat, Stanya utpatti, Stanya sampat, Stanya pariksha, Stanya vriddhi, kshaya and dusti karana, lakshan and its Chikitsa, stana shotha, stana vidhradhi.
4. Suppression of lactation
5. Normal and abnormal puerperium.

Obstetric shock and management

1. Raktadhana: blood transfusion and replacement of blood constituents.
2. Management of fluid and electrolyte imbalance in obstetrics.

Drugs used in obstetric practice, indications/contra indications, doses and side effects.

Vishesha Adhyayana of –

Ashtanga Hridaya Sharira Sthana 2nd Adhyaya – Garbha vyapad
Sushruta Samhita Nidana Sthana 8th Adhyaya – Mudhagarbha nidana
Sushruta Samhita Chikitsa Sthana 15th Adhyaya – Mudhagarbha Chikitsa

PAPER – III Stree Rog vigyan

1. **Disorders of menstruation and Female reproductive system.**
   A) Congenital malformations of female genital tract
   B) Artav dushti, artava vriddi, artava kshaya, asrigdara, anartava, and kashtartav.
   C) Genital infections including sexually transmitted infections.
   D) Abnormal vaginal discharges.
   E) Arsha, Yonikanda, Gulma, Granthi, Arbuda.
   F) Abnormal uterine bleeding, Endometriosis, fibroid uterus, Adenomyosis, Polycystic ovarian syndrome and neoplasia of female genital organs.
   G) Endocrinological disorders affecting female reproductive system.
   H) Somarog.

2. **Detailed study of yoni vyapad mentioned by different Acharyas with their commentaries and all possible correlations with modern gynecological diseases**.

3. **Vandhyatva**
   A) Hetu, Bheda, Pariksha, and Chikitsa.
   B) Detailed study of causative factors, Investigations with recent advances in management of infertility, Adoption law.

4. **Stanaroga**
   Detailed study of Stanashotha, Stanakilaka and stanavidradhi, stana granthi, stanarbuda.
   Examination of breast, diagnosis and differential diagnosis of breast lump.

5. **Measures of contraception**
   A) Ayurvedic view of Garbha nirodha and Garbhapatkara yogas.
   B) Temporary Contraception
   C) Recent studies in the field of contraception.
   D) National Health programme to improve maternal and Child health, social obstetrics and vital statistics (maternal and perinatal mortality).

6. **Sthanik chikitsa**
   Detailed study of Pichu, Varti, Dhupan, Dhavana, Parisheka, lepa, Kalkadharana, Uttarabasti, agnikarma and kshara karma.

7. **Rajo Nirvritti** - Climacteric and menopause.
   - Geriatric health care
8. **Study of modern diagnostic techniques and Investigations.**
9. **Important drugs used in Streerog.**
10. **Panchakarma in streerog**
11. **Vishesha Adhyayana of –**
    Charaka Samhita Chikitsa Sthana – 30th Adhyaya - Yonivyapad Chikitsa
    Sushruta Samhita Uttara Tantra - 38th Adhyaya – Yonivyapad Pratishedha
    Kashyapa Samhita Kalpa Sthana - Shatapushpa Shatavari, Lashuna kalpa Adhyaya

PAPER – IV Prasuti–Streerog-Shalya Karma

General principles of Gynecological and Obstetric Surgeries. Analgesia and Anaesthesia in Obstetrics and Gynaec operative procedures.

Operative Obstetrics
Decision making, techniques, diagnosis and management of surgical complications.

Dilatation and evacuation, Hysterotomy, Provision of safe abortion services –selection of cases, technique and management of complications, septic abortion, criminal abortion, MTP Act.
Cervical encirclage.
Instrumental delivery (Forceps, vacuum extraction), Caesarean Section, Manual removal of Placenta, Caesarean Hysterectomy.

Operative gynecology

Selection of cases, technique and management of complications of minor and major gynecological procedures.
Dilatation and Curretage, Cervical cauterization.
Polypectomy, Myomectomy, Cystectomy, Oophorectomy.
Surgical sterilization procedures.
Hysterectomy.
Surgical procedures for genital prolapse.
Surgical management of benign genital neoplasm.
Recent advances in Gynaecology and obstetrics – Diagnostic and therapeutics
Shock and its management, Blood Transfusion, Fluid and electrolyte imbalance, Fluid therapy.
Record keeping, ethical and legal issues involved in obstetrics and gynaecology.
Medico-legal aspects – ethics, communication and counselling in obstetrics and Gynecology
Intensive care in Obstetrics and Gynecology.

Content of Practical

1. Practical training to conduct
   - Normal and Complicated deliveries
   - Assisted/ Instrumental deliveries
   - Caesarean Section
   - Neonatal resuscitation
2. Practical knowledge of grabhini pricharya, sutika pricharya and masaanumasik garbha vriddhi.
3. Practical training to perform obstetrical and Gynaecological Surgery
4. Practical training to provide family welfare/ Planning services, safe abortion methods along with surgical sterilization.
5. Practical knowledge and practice of all relevant equipment, Procedures, complications, Emergencies with their management.
6. Practical knowledge of Yogasanas and pranayam useful in Stree rog and Prasuti tantra.
7. Practical knowledge of Panchakarma and Sthanik Chikitsa used in Stree Rog and Prasuti Tantra.
8. Practical Knowledge of recent advances in Gynaecology and obstetrics.

Pattern of Practical Examination

1. Practical Record Book	- 20 Marks
2. Bed side examination	
Short Case	- 20 Marks
Long Case	- 40 Marks
3. Identification of the Instruments/x-ray/USG plate	- 20 Marks
4. Thesis Presentation	- 50 Marks
5. Viva Voce	- 50 Marks

Reference Books-

1. Related matter from all tha samhitas and their commentaries.
2. Prasuti tantra evum stree roga by prof Tewari P V
3. Concepts of gynecology Dr Nirmala G Joshi.
4. Prasuti Tantra Prof. M. Dwivedi
5. Stree roga vigyan - Dr VNK Usha
6. Navya prasuti Vigyan Dr Pooja Bharadwaja
7. Text book of gynaecology-Berek and Novak.
8. Text book of obstetrics- Williums
9. Text book of obstetrics- D C Dutta
10. Text book of gynaecology - D C Dutta
11. Gabbe's normal and problem pregnancies.
12. Human embryology by Saddler.
13. Jeffcoat's principles of gynaecology
14. Te linde's gynaecological surgery.

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10. KAUMARBHRITYA-BALA ROGA

PAPER – I Bija, Garbha Vigyaniya (Human Genetics, Embryology) **Marks: 100**

A. Prakrita Bija-Bijabhaga-Bijabhagavayava evam Tadjanya Vikriti (Genetics and related disorders)

1. Ayurvedic genetics with modern interpretations: Shukra, Shonita, Shukra Shonita Doshas, Bija-Bijabhaga-Bijabhagavayava Vikriti, Matrija and Pitraja Bhavas, Yajjah Purushiya and Atulyagotriya; Measures for obtaining good progeny.
2. Modern genetics

   Basic concepts:
   1. Cell, cell division, nucleus, DNA, chromosomes, classification, karyotype, molecular and cytogenetics, structure of gene, and molecular Screening.
   2. Human Chromosomes - Structure, number and classification, methods of chromosome preparation, banding patterns.
   3. Single gene pattern inheritance: Autosomal & Sex chromosomal pattern of inheritance, Intermediate pattern and multiple alleles, Mutations, Non Mendelian inheritance, mitochondrial inheritance, Genomic imprinting, parental disomy.
   4. Criteria for multi-factorial inheritance.

   Pathogenesis
   1. Pathogenesis of chromosomal aberrations and their effects, recombinant DNA, genetic inheritance, inborn errors of metabolism
   2. Chromosomal abnormalities: Autosomal & Sex chromosomal abnormalities, syndromes
   3. Multifactorial pattern of inheritance: Teratology, Cancer Genetics – Haematological malignancies, Pharmacogenetics.
   4. Chromosomal disorders
   5. Chromosomal aberration (Klinefelter, Turner and Down's syndrome
   6. Genetic Counseling, Ethics and Genetics.

B. Prakrita Bija-Bijabhaga-Bijabhagavayava evam Tadjanya Vikriti (Genetics and related disorders)

1. Garbha (embryo), Garbhawastha (gestation period), sperm, ovum; spermatogenesis; oogenesis; structure of ovum
2. Sperm in the male genital tract; sperm in the female genital tract, activation and capacitation of sperm.
3. Garbha Masanumasika Vriddhi evam Vikasa (Ayurvedic and modern concepts of Embryo and Fetal development)
   - First week of development
   - Second week of development
   - Third week of development
   - Fourth to eighth week of development (Embryonic period)
   - Development from third month till birth (Fetal period)
4. Formation of Prakriti, their assessment in children viz. Bala, Kumara, Yauvana; Pathya-Apathya according to Prakruti.
5. Apara (Placenta) Apara Nirmana (Formation of placenta), Apara Karya (Functions of placenta); Apara Vikara (Placaental abnormalities)
6. Nabhinadi (Umbilical Cord)
   Formation and features of umbilical cord
7. Garbha Poshana (Nutrition- from conception to birth)
8. Yamala Garbha(twins)

9. Garbha Vriddhikara Bhavas, Garbhopaghatkara Bhavas.
10. Effect of maternal medication, diet and illness over fetus.
11. Teratology including defects of bija, atma karma, kal, ashaya etc.: causative factors for teratogenecity, mode of actions of teratogenes, critical periods
12. Perinatal Care and Perinatal complications
13. Scientific study of Jataharini specific to children.
14. Prenatal diagnosis
15. Samanya Janmajata Vikara (Common congenital anomalies of different systems): Sahaja Hridaya Vikara (Congenital Cardiac Disorders) Jalashirshaka (Hydrocephalus), Khandaoushtha (cleft lip), Khanda-Talu (cleft palate), Sanniruddha Guda (Anal stricture / imperforated anus), Pada-Vikriti (Talipes equanovarus and valgus), Tracheoesophageal Fistula (TOF), Spina bifida, Meningocele, Meningomyelocele, Pyloric Stenosis.

PAPER-II Navajata Shishu Vigyan evam Poshana **Marks: 100**

PART-A

1. Navajata Shishu Paribhasha, Vargikarana (Important definitions and classification related to neonates.)
2. Navajata Shishu Paricharya evam Prana-Pratyagamana (Care of the newborn including recent methodology for the resuscitation)
3. Samanya Navajata Shishu Paricharya (General Neonatal Care –Labour room onwards)
4. Samaya purva evam Samaya pashchat Jata Shishu Paricharya (Management of preterm, post term and IUGR newborn)
5. Prasava Kalina Abhighataja Vyadhi (Birth injuries): Upashirshaka (Caput , cephalohematoma), Bhagna (Fractures), Mastishkantargata Raktasrava (ICH, IVH, Subdural hemorrhage)
6. Navajata Shishu Parikshana (Examination of new born): Ayu Parikshana (including Lakshanadhyaya) Modern approach of Neonatal Examination including gestational age assessment
7. Kumaragara: Navajata Shishu Kaksha Prabandhana (Nursery management), NICU, Nursery plan, staff pattern, medical records, Visankramnikarana (sterlization), Knowledge of equipments used in nursery.

PART-B

8. Navajata Shishu Vyadhi (Early neonatal disorders): Hypothermia, Shvasavarodha (Asphyxia Neonatorum/Respiratory distress), Ulvaka (Aspiration pneumonia), Rakta Vishamayata (Neonatal septicemia), Kamala (Neonatal Jaundice), Akshepaka (Neonatal convulsion), Pandu (Anemia), Atisara (Diarrhea), Asamyaka Nabhinal kartanjanya vyadhi.
9. Navjata Kshudra Vikara (Minor neonatal ailments): Chhardi (Vomiting), Vibandha (constipation), Udara shul (Infantile colic), Puya Sphota (Pyoderma), Shishu Netrabhishyanda (Ophthalmia neonatorum).
10. Sadyojatasya Atyayayika Chikitsa (Management of neonatal emergencies): Shock, Fluid and electrolyte imbalance, Convulsion, Hemorrhagic diseases of Newborn etc.
11. Procedures: Shiro-Pichu, Abhyanga, Parisheka, Pralepa, Garbhodaka Vamana (Stomach wash), Ashchyotana Neonatal resuscitation techniques, Blood sampling, Intravenous canulation, Umbilical vein catheterization, Bone marrow aspiration, Phototherapy, Naso-Gastric tube insertion, Urethral catheterization, Exchange blood transfusion, Thoracocentesis, Bone marrow infusion, Lumbar puncture
12. Nutrition:
    A. Navjat Shishu Ahara (Neonatal feeding):

1. Specific Feeding methodology as per Ayurveda and recent advances; Day to day fluid, milk, caloric requirement for the newborn, feeding technique for the preterm baby.
2. Stanyotpatti and Prasruti (Lactation physiology), Stanya Samghatana (Composition of breast milk), Stana Sampat (Characteristics of normal breast), Stanya Sampata evam Mahatva (Properties & importance of pure milk), Stanya-Piyusha (Colostrum); Stanya-Pana-Vidhi (Method for breast milk feeding), Stanyakshaya / Stanyanasha (Inadequate production and absence of breast milk), Stanya parikshana (Examination of breast milk), Stanyabhave Pathya Vyavastha (Alternative feeding methods in absence of breast milk), Various feeding methods, TPN(Total Parenteral Nutrition)
3. Stanyadosha (Vitiation of Breast milk), Stanya Shodhana (Purification of breast milk), Stanya Janana and Vardhanopakrama (Methods to enhance breast milk formation)
4. Dhatri (Wet nurse): Dhatri Guna and Dosha (Characteristics of Wet nurse), Concept of Breast Milk Banking.
5. Lehana (Elucturies)

B Bala-Poshana (Child Nutrition):

6. Daily requirements of nutrients for infant and children
7. Common food sources
8. Satmya and Asatmya Ahara (Compatible and incompatible diet)
9. Pathya evam Apathya Ahara (Congenial and non-congenial diet)
10. Stanyapanayana (Weaning)

PAPER-III Balrog (Pediatric Disorders) **Marks: 100**

PART-A

1. Pranvaha Srotasjanya Vyadhi (Respiratory disorders)- Kasa (Cough), Shvasa (Respiratory distress Syndrome), Tamaka Shwasa (Childhood Asthma), Bronchiolitis, Shvasanaka Jwara (Pneumonia- bacterial, viral etc) Rajyakshma (tuberculosis), Vaksha-Puyata (Pyothorax),Vaksha Vata-Purnata (Pneumothorax)
2. Annavaha Srotasjanya Vyadhi (Gastrointestinal disorders): Jwar (Fever), Chhardi (Vomiting) Ajirna (Indigestion), Kshiralsaka, Atisara (Diarrhea), Pravahika, Vibandha (Constipation, Udarshula (Pain in abdomen), Guda bhramsh (Rectal prolapse)
3. Rasa evam Raktavaha Srotasjanya Vyadhi (Hematological and circulatory disorders): Pandu (Anemia and its various types like Nutritional,haemolytic etc.) and , Raktapitta (Bleeding disorders), Vishishta Hridrog (Specific cardiac diseases- RHD etc), Hypertension, Leukemia.
4. Mamsavaha Srotasjanya Vyadhi: Myopathies
5. Mutravaha srotasjanya Vyadhi (Urinary System disorders): Vrikkashotha (Glomerulonephritis and nephrotic syndrome), Mutrakriccha (Dysuria), Mutraghata (Anuria),
6. Vatavaha Sansthanjanya Vyadhi (Nervous system disorders): Apasmara (Epilepsy), Mastulunga-Kshaya, Mastishka-Shotha (Encephalitis), Mastishkavrana-Shotha (Meningitis),
7. Pediatric disabilities and Rehabilitation: Cerebral palsy, Ardita (Facial paralysis), Pakshavadha (Hemiplegia), Ekangaghata (Monoplegia), Adharanga Vayu (diplegia),. Amavata (Juvenile Rheumatoid arthritis)
8. Manovaha Srotasa Vyadhi: Breath holding spell, Shayya mutra (Bed wetting), Autism, ADHD (Attention Deficit and hyperactive disorders), Learning Disability, Mental retardation, Temper tantrum, Pica.

PART-B

9. Antahsravi evam Chayapachayajanya Rog (Endocrine and Metabolic disorders)

10. Kuposhanjanya Vyadhi (Nutritional disorders): Karshya-Phakka-Balshosha-Parigarbhika (PEM and allied disorders), Vitamin-mineral and trace elements deficiency disorders, Hypervitaminosis,
11. Krimi evam Aupsargika Rog (Infestations and Infections):Krimi (Giardiasis and intestinal helminthiasis,Amoebiasis) Common bacterial, viral infections with special reference to vaccine-preventable diseases: Rohini (Diphtheria), Whooping cough, Aptanaka (Tetanus including neonatal tetanus), Romantika (Measles), Karnamula Shotha (Mumps), Rubella and Masurika (Chickenpox), Antrika Jwar (Typhoid and Paratyphoid), Viral Hepatitis,),; Vishama Jwar (Malaria) and Kala-azar, Dengu fever, HIV (AIDS), Poliomyelitis, Mastishkavaran Shotha (Meningitis), Mastishka Shotha (Encephalits), Chickengunia
12. Tvaka Vikara (Skin disorders): Ahiputana (Napkin Rashes), Shakuni (Impetigo), Sidhma, Pama, Vicharchika, Charmadal (Infantile atopic dermatitis), Gudakutta.
13. Anya Vyadhyi (Miscellaneous disorders): Jalodar (Ascites),Gandamala, Apachi (Cervical lymphadenitis), Kukunakadi Akshi Rog, Hodgkin & non-Hodgkin Lymphoma, Abnormal growth patterns, Short stature , Niruddha prakash (Phimosis), Paridagdha Chhavi, Utphullika
14. Samghata- Bala Pravrita Rog (damstra): Dog bite. Snake bite, Scorpion bite etc
15. Atyayika Balarog Prabandhana (Pediatric emergency management): Shock and Anaphylaxis, Fluid and electrolyte management, Drowning, Foreign body aspiration, Status epilepticus, Acute hemorrhage, Acute renal failure, Febrile convulsion, Status asthmaticus, Burn, Acute Poisoning
16. Balagraha: Scientific study of Graha Rogs
17. Life Style disorders

PAPER-IV Kaumarabhritya in Ancient Classics and recent Advances **Marks: 100**

1. Significant contributions of Kashyapa samhita, Arogya raksha Kalpadrum and other texts /treatises of Ayurveda such as Harita Samhitain the field of Kaumarbhritya including relevant parts from Brihatrai
2. Panchakarma: Principles of Panchakarma [Swedan–Hasta–Pata sweda etc], and their application in pediatric practice in detail.
3. Update knowledge of clinical pediatrics including recent researches in Kaumarbhritya.
4. Fundamentals of Hospital management with special emphases on Pediatric Ward.

Practical/ Clinical Exposure for (Record of exposures to be produced at the practical examination)

1. Full term, preterm, post term new born baby care
2. Practical procedures like – phototherapy, premature baby care, KMC, venepuncture, cord blood sampling, stomach wash, suction, resuscitation, etc.
3. Practical skill of Pediatric Panchakarma procedures
4. Child Health Check up
5. IQ Assessment of Children
6. Exposure to National Health Programs related to Children, including Immunization Program.
7. Patient case Records (50 Records)
8. Practical knowledge of modern diagnostic (invasive & non invasive) tools and techniques used in pediatrics.
9. Management of common pediatrics emergencies.
10. Participation in UG teaching/training from UG syllabus via A-V aids (minimum-3)
11. Minimum 15 days compulsory reciprocal exposures in Kaumarbhritya department of other institution during the study period.
12. Participation in National/international seminars
13. Publication/acceptance of two research papers in indexed/peer reviewed/ISSN journals from the dissertation.

Pattern of practical examination:

1. Case record	-15 Marks
2. Bed side examination	
a) Short Case	-15 Marks
b) Long Case	-25 Marks
3. Identification of instruments/ spotting	-10 Marks
4. Lecture/Dissertation Presentation	-10 Marks
5. Viva-voce	-25 Marks

Reference Books

1. Kashyapa Samhita Complete Hindi translation by Satyapal Vidhyalankara English translation by Prof. Premvati Tiwari
2. Principles & practice of Pediatrics in Ayurveda: CHS Shastry
3. Child Health Care in Ayurveda: Abhimanyu Kumar
4. Ayurvedic Concepts of human Embryology: Abhimanyu Kumar
5. Kaumarbhritya by Prof. D.N. Mishra
6. Kaumarbhritya Ke Antargata Balgraho Ka Kramika Evam Vaigyanika Adhyana by Prof. Chanchal Sharma
7. Notes on Kaumarbhritya-by Dr. Dinesh K S
8. Pran - Pratyagamanam-by Dr. B.M. Singh
9. Ayurveda Dwara Matra Evam Shishu Paricharya by Dr. KS Patel, V.K. Kori & Rajgopal S
10. Kaumarbhritya related references from Charaka Samhita, Sushruta Samhita Vagbhata etc.
11. Clinical Methods in Paediatrics by Meharban Singh
12. Pediatrics Emergencies by Meharban Singh
13. Essential Pediatrics O.P. Ghai
14. Text Book of Pediatrics Nelson
15. Care of New Born by Meharban Singh

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11. KAYACHIKITSA

PAPER- I Fundamentals of Kayachikitsa **100 marks**

1. Rogi-Roga Pariksha: Nidan Panchak, Trividha pariksha, Ashtavidhapariksha, Dashvidhapariksha in the light of recent advances. Clinical methods-Detailed history taking and patient examination, Systemic examination as per ayurveda and recent advances.
2. Interpretation of common investigations: ECG, Echo cardiography, TMT, Spirometry, X-ray, USG, CT-Scan, MRI, EEG, EMG, in different pathological conditions.
3. Detailed Knowledge of Principles of Chikitsa in Ayurveda. Types of Chikitsa. Principles and practices of Rasayana and Vajikarna.
4. National Health Programmes and prospective role of Ayurveda services and therapeutics in them.
5. Medical ethics, Common laws and regulations applicable to clinical practice.
6. Elaborate knowledge of undertaking common medical procedures like Ryle's tube feeding, tapping, transfusions, catheterization, tractions.
7. Ayurveda Dietetics: importance of Pathya, Apathya and Anupana.
8. Drug-drug interactions and adverse drug reactions, Iatrogenic disorders.

PAPER – II Samanya Roga Chikitsa **100 marks**

Nidana/ Chikitsa including Nidana Parivarjana, Pathya, Apathaya, Chikitsa siddhanta, Shamana, Shodhana, Panchakarma, Rasayana and Atyayika Chikitsa (Anupana, Drug/Non-drug) as per Ayurvedic and conventional therapeutics of following Srotogata vyadhi:

1. Pranavahasrotas: Shwasa, Hikka, Kasa, Rajayakshma, Hridroga, Parshwashoola, Urakshata, Svarabheda
   Cardio-respiratory system: Bronchitis, Bronchiactasis, Bronchial asthma, COPD, Cor-pulmonale, Pneumonias, Occupational lung diseases, Pulmonary tuberculosis, Congenital Heart disorders, IHD, RHD- Valvular diseases, Cardiac failures, Cardiomyopathy, Pericarditis, Endocarditis, Hypertension,.
2. Annavahasrotas: Agnimandya, Ajirna, Aruchi, Amadosha, Amlapitta, Chhardhi, Shoola, Grahani.
   Gastrointestinal disorders: GERD, APD, Malabsorption Syndrome,
3. Udakavahasrotas: Trishna, Shotha, Udararoga, water and electrolyte imbalance
4. Rasavaha srotas: Jwara, Amavata, Pandu, Madatyaya, Anaemias, Rheumatoid arthritis, Substance abuse disorders.
5. Raktavaha Srotas: Raktapitta, Kamala, Vatarakta, Kushtha, Kshudraroga, Sheetpitta, Udarda, Kotha, Visarpa, Shvitra. Haemopoeitic disorders, Bleeding and Coagulation disorders, Leukaemias, Thrombocytopenia, Disorders of Bone Marrow, Hepatobiliary disorders, Hepatitis, Cirrhosis, Cholecystitis, Liver abscess, Jaundice, Dermatological disorders, Parasitic, Infective, Allergic, Autoimmune skin disorders, Eczemas,
6. Mamsa-Medovahasrotas: Medoroga, Sthaulya, Prameha, Galaganda, Gandamala, Urustambha, Diabetes mellitus, over weight .
7. Asthi-Majjha vahasrotas: Asthikshaya, Sandhigatavata, Osteoarthritis, Osteopenia
8. Shukravahasarotas: Such as Kalibya, Dwajabhanga. Impotence
9. Mutravahasrotas: Mutrakricchra, Mutraghata, Ashmari, Urinary disorders: UTI, Lithiasis, ARF, CRF, Uraemia, BPH.
10. Purishvaha srotas: Atisara, Pravahika, Anaha, Adhamana, Krimi, Udavarta, Enteritis, Dysenteries, Ulcerative colitis, IBS, Worm infestation.

PAPER – III Vishishta Roga Chikitsa **100 marks.**

Comprehensive knowledge of etiology, demography, pathogenesis, symptomatology, complications, investigations, diagnosis and drug/non-drug management of following diseases as per Ayurveda/ Conventional therapeutics:

1. Vata-Vyadhi- Pakshavadha, Adharanga Vata, Sarvanga Vata, Ananta Vata, Gata Vata, Gridhrasi, Ardita, Akshepaka, Apatantraka, Ekangvata, Vishvachi, Avabahuka, Avarana.
   Musculoskeletal disorders: Myopathies, G B Syndrome, Muscular dystrophies, Lumbago
   Neurological disorders: Neurodegenerative disorders like Alzeihmer's, Parkinsonism, CVA, Neuropathies, Facial palsy, Motor Neuron Diseases, Epilepsy, Sciatica.
2. Sankramakroga: Sheetala, Masoorika, Updansha, Phiranga, Gonorrhea, Chancroids, Syphilis,
3. Manasa vyadhi; Unmada, Apasmara, Atatvavinivesha, Mada, Moorcha, Sanyasa.
   Common psychiatric disorders: Classification of psychiatric ailments. Disorders of thought like Schizophrenia. Disorders of Mood like Mania, Depression. Neurosis, personality disorders, psychosexual disorders.
4. Metabolic disorders: Gout, Dyslipidaemia, Atherosclerosis, Obesity.
5. Endocrinal disorders; Disorders of Pituitary, Thyroid, Adrenal Medulla, Reproductive hormones.
6. Parasitic/Infective/Communicable disorders: Shlipada, Filariasis, Vishama Jvara, Malaria, Manthara Jwara, Enteric Fever, Dengue, Chickenpox, Measles, Influenza, Kalaazar, Mumps, Rabies, Poliomyelitis, Plague, Meningitis, Encephalitis, Chickungunya, HIV/AIDs, Common worm infestations.
7. Common neoplastic disorders and their management strategies. Role of Ayurveda medicines in cancer care including palliative care.
8. Autoimmune diseases: Myopathies, Rheumatic fever, SLE.
9. Common poisonings and their management like Insecticide/Pesticide poisoning, Snake poisoning, Vegetable and chemical poisoning.
10. Janapadodhvamsa Vikara. Environmental diseases and their management.

PAPER – IV Advances in Kayachikitsa **100 Marks.**

Critical care medicine, Management of medical emergencies, ICU services, Field medical services

1. Hospital management strategies, Infrastructure, use of IT technology, essential manpower, equipment, Patient care, management and coordination with contemporary health institutions and field institutions.
2. National Health Campaigns of AYUSH and components under NRHM.
3. Clinical Research in Kayachikitsa and its application in clinical medicine as per new evidence base in different systemic disorders.
4. New emerging health challenges and ayurvedic medicines: Chickangunya, HIV/AIDs, Swineflu, Chickenflu, Dengue, Restless leg syndrome, Sick building syndrome, Fibromyalgia.
5. Role of Ayurveda in immune-protection, immuno-modulation and in management of other allergies and immunological disorders.
6. Indications and importance of Organ transplantation, Ethical and legal issues involved.
7. Knowledge of Geriatric care and terminal care medicine.
8. Basic knowledge of Gene therapy, Stem cell therapy, Genetic modeling and chromosomal disorders in different disease conditions.
9. Radio-isotopes, disease and tumor markers in diagnosis and assessment of therapy.
10. Scope and methods of independent and collaborative research in Kayachikitsa.
11. Disaster management strategies.
12. Application of advances in Rasayana and Vajikarana therapies
13. Application of emerging trends in Panchakarma in medical management.
14. Physical medication and rehabilitation.

PRACTICALS

Practicals shall be held to evaluate the patient care, diagnostic and treatment expertise of the student. It should also be taken as a chance to evaluate the clinical skills.

Clinical Ability Evaluation-60 marks based on

1. Case records of 40 IPD Patients in Detail — 10 marks
2. Long case History-1: — 20 Marks
3. Short Case history-1 : — 10 Marks
4. Medical procedures demonstration/ Panchakarma procedure — 20 Marks.

Academic Competence evaluation- 40 marks based on:

1. Viva — 30 Marks.
2. Teaching and communication skills: — 10 Marks.

Reference Books

1. Relevant portions of Brihattrayi and Laghutrayi with commentaries
2. Cikitsadarsha- Pandit Rajeshvar Dutta Shastri
3. Kayachikitsa - Ramaraksha Pathak
4. Rog Pariksha Vidhi - Priyavrat Sharma
5. Panchakarma Vigyan - Haridas Sridhar Kasture
6. Ayurvediya Nidana- Chikitsa Siddhanta - Prof. R.H.Singh.
7. Kayachikitsa Vol. 1 and 2 - Prof. R.H.Singh.
8. The Holistic Principles of Ayurvedic Medicine - Prof. R.H.Singh.
9. Essentials of Kayachikitsa -II, Vol. 1 - Dr. Aruna
10. Kayachikitsa Vol. I-IV. - Prof. Ajay Kumar
11. Panchakarma Therapy - Prof.R.H.Singh
12. Panchakarma Illustrated -Prof.G.Shrinivasa Acharya
13. Practice of Ayurvedic Medicine(Kayachikitsa) -Prof.A.K.Tripathi
14. Nidanachikitsa Hastamalaka - Prof. R.R.Desai
15. Clinical Methods in Ayurveda - Prof. K.R. Srikantamurthy
16. Aushadhi Gunadharma Shastra - Gangadhar shastri Gune
17. Introduction to Kayachikitsa - Prof. C. Dwarakanath
18. Samprapti lakshnanayoh Sambandhah - Prof.Sadashiv Sharma
19. Nidana Panchak - Prof.S.C.Dhyani
20. Kayachikitsa - Prof.S.C.Dhyani
21. Davidson's Principles and Practice of Medicine.
22. API Text Book of Medicine.
23. Harrison's Text Book of Medicine.
24. Cecil Text Book of Medicine.
25. Relevant texts of concerned subjects.

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12. MANOVIGYAN AVUM MANASAROGA

PAPER-I Manovyapara Evam Manovigyanam **Marks 100**

1. Prachya - arvachya matanusara Mano vigyanasya Bhutavidyayah, Amanusha tatha Grahadinam parichaya, setihasa.
2. Prachya arvachya matanusara Manasah Nirupanam-Concept of Manas from Ayurved and modern perspective.
3. Vividha darshananusara Manasah varnanam.-concept of mind in various philosophies.
4. Manasah Svarupam – Structure of mind, Manasah Sthanam- Location of mind, Manovishayah- Objects of mind, Manogunah (Anutva and Ekatva) –Attributes of mind- Minuteness and oneness, Manasah Ubhayatmakatvam-Duality of Manas, Manasah Dravyatvam Karanatvam cha- mind as a substance and tool,Manasah Karanadravyatvam-mind as causative substance,Manodoshah- (Rajas and Tamas),Manasah Bhoutikatvam- Elemental nature of Manas Introduction to concept of Buddhi and Ahamkara - intellect and ego, Manasah Ahamkarikatvam –origin of mind from ego (samkhya),Manasah Annamayatvam- Relationship between food and mind,Manasah trigunatmakatvam(Sattva,Rajas, Tamas)- mind and the three major attributes,Manasah jadatvam- inertia of mind, Manasah dhatutvam-mind as a component of living being, Manasah Karma- Actions of Manas.
5. Manovyapara Nirupanam.
6. Manovyapare Pranodana sadhaka Bodhakadi Doshanam Sambandhah-Relation of humoral fractions such as Prana, Udana, Sadhaka- Bodhaka in the activity of Manas, Concept of Ojas and Manas
7. Katham prakopayanti ManoDoshah SharirDoshan?- How does manasika Doshas aggravate shariika Doshas?
8. Indriya panchapanchakam- five factors in relation to the mental faculties.
9. Gyanendriyanam vishayah- the objects of sense faculties.
10. Gyanotpatti prakriyayam Manaso pradhanyam- Importance of Manas in cognitive process.
11. Indriyarthagrahananantaram Manasah vyapara avum gyanotpattou manaso dayitvam - Action of Manas in cognition after reception by respective Indriya.
12. Knowledge of Dirgha Shashkuli nyaya, Alata-chakra nyaya, Vichi-taranga nyaya, Kadamba-mukula nyaya.
13. Shabda – sparsha – rupa – rasa – gandhanam grahakam manah, tasya mahatvam cha - Manas as conductor of sense objects and its importance.
14. Vayuh indriyanam udyojakah tatha Manasah preranam -Vayu as stimulator of indriya and initiator of manas.
15. Vakpravrittou Manasah yogadanam - Role of Manas in production of speech.
16. Pratisharire Manasah bhinnatvam - Concept of individuality of mind.
17. Chikitsya purushah- treatable person (living being).
18. Atma nirupanam- description of Atma, Sukshma sharirsya varnanam- description of subtle body, Atma manasoh sambhandhah- relation between Manas and Atma.
19. Antah karana chatushtaya (the four internal faculties).
20. Importance of Dhi, Dhriti and Smriti- importance of intellect, retention power and memory.
21. Role of manas in achieving Tri eshana and Chaturvidha Purushartha/chatur varga-role of manas in attaining the pursuits and four goals of life.
22. Concept of Satyabuddhi, Ritambhara Pragya and Upadha- concept of true and false knowledge.
23. Concept of Punarjanma, Purvajanmakrita karma, Karmaphala.
24. Manovaha Srotasam Parichaya– Introduction of Manovaha srotas(channels of mind)
25. Manovaha, Samgyavaha, Buddhivaha, Chetanavaha, Chetovaha, Vatavaha, Raktavaha adi upayukta Srotasam Manasroge varnanam- Description of Manovaha,

Sangyavaha, Buddhivaha, Chetanavaha, Vatavaha, Raktavaha srotas etc in relation to Manasroga

26. Shatchakra nirupanam.
27. Sattvasara purusha- person with mental excellence.
28. Nidravichara- Concept of sleep, Swapna vichara- Concept of dream, Tandravichara – Concept of drowsiness.
29. Concept of manasprakriti- mental temperament, Concept of Manasa bhava in Shareerika prakriti.
30. Manasaroge Manovigyane cha upayukta Paribhashika shabdanam vishleshanam- technical terms used in psychology and psychiatry
31. Manas roge upayukta Samhitanam satika adhyayanam- study of portions of treatises useful in psychiatry along with their commentary.
32. Arvachina mano vigyanasya adhishtana siddhantah, mastishka karmanam sthapanam cha-Fundamentals of modern psychology and functions of brain.
33. Applied Neuro-anatomy and physiology, Neurotransmitters, Psychoneuro immuno endocrinology
34. Manasah swabhavika pratirodhah - Defence mechanism of mind.
35. Shishu manas-shastra, vikasatmaka Manas-shastra – Shishu, Bala, Kumarah, Proudhah, Vriddhah cha- Essential elements of psychology, developmental psychology: child, adolescence, adult and aged.
36. Bhava, Sheela, Buddhi, Smriti, Prerakatva adinam gyanam -Concept of Mood, behaviour, attitude, emotions, intelligence, memory, motivation, perception etc.
37. Manas Swasthya Evam Manoroganam Paribhasha – Definition of Mental Health and psychiatric disorders.
38. Manasrogvigyansya mahatvam, phalam, prayojanam, prabhavashcha

PAPER –II Manovaikariki Evam Bhutavidya **Marks 100**

1. Manovega,Mano vikarah,ManoDosha,ManaSharirayoh paraspara anuvidhayitvam- mutual symbiosis of sharir and manas,Manasah chanchalatvam, Manaso vyadhinam ashrayatvam, Manasrogeshu Doshanam paraspara anubandhah,Manasvyadhi utpattou sharirDoshanam vikarakaritvam, Indriyadinam hinamithyatiyogah. Prajnaparadha,Purva janma krita karma tatha Papa karmasya rogkarakatvam, Adharmasya Achararasayana upekshanasya cha rogkarakatvam.

Bhutavidya – Definition and scope with applied aspects:Divergent views

1. Types and Characteristic features of Bhuta and Graha, Amanushopasarga Vikara caused by Bhuta and Graha, Aetio-pathogenesis of Bhuta and Graha
2. Relationship of Bhuta with Jwara, Ojakshaya, Manovikara, Arishta Lakshana and Daivabala Pravritta diseases.
3. Grahavesha, affecting time of Graha, their specific features, prodromal features and prognosis.
4. Differential understanding of Balagraha and Grahabadha.
5. Sushrut's concept of invasion of Bhuta/Graha.
6. Manas Rognam Nidan, Sampraptischa
7. Manobuddhyadi Vibhramsha
8. Manas dharaniya vega.
9. Kayika-Vachika-Manasika karma hinamithyati yoga in Manasa roga samprapti.

Manovikriti –Psychopathology

1. Bijapradosha and Kulaja bhava in manas roga -Genetics and hereditary factors in Psychiatry.
2. Manas roganam prachya arvachina matanusarena vargikaranam
3. Classification of manas rogas yatha kevalamanas, manas sharir, shariramanasika, agantuja adayah
4. Understanding of Parapsychology and its role in overt psychiatric disorders.
5. Recent ICD and DSM classification

Manas Rogi pariksha vidhi- Psychiatric examination

1. Prachya arvachina matanusarena rogi pariksha visheshena sattva pariksha – Examination of patient according to Ayurvedic and modern methods
2. Trividha Sattva Pariksha
3. Charakokta Anumana Pariksha
4. Manasika avastha Pariksha - Mental Status Examination
5. Vividha pariksha manakah -Different psychiatric assessment inventories like Hamilton's scale, Bech's Depression inventory etc.
6. Manorog chikitsiya manomapaka upakaranani cha - Psychiatric and psychometric tools for diagnosis, Evidence based diagnostic methods.
7. Prayogashaliya pariksha -Investigations– Haematological, biochemical, neuro-physiological, endocrinal, EEG, radio imaging- MRI etc.
8. Manasrognam sadhyasadhyata – Prognosis of psychiatric diseases.
9. Manas Rog Sandharbhe Vidhi Vaidyakasya vistrita gyanam.
10. Forensic psychiatry- Knowledge about legal and ethical issues in psychiatry, Indian lunacy act, mental health act, Norms to setup a well equipped Mental Hospital (OPD, IPD)

PAPER – III Manas Roga Chikitsa **Marks 100**

Comprehensive knowledge of etiology, demography, underlying psycho pathogenesis, symptomatology, complications, investigations, diagnosis, prognosis and drug-non drug management of following psychiatric disorders as per Ayurvedic-Modern therapeutics with their pharmacodynamics:

1. Unmada (Psychoses)- Nija, Agantuja Unmada, Bhutonmada, Vishaja Unmada, Sutikonmada, Smaronmada, Tattvonmada- Paronoia, Mano dukhaja Unmada -Stress related disorders.
2. Apasmara - -seizure disorders
3. Apatantraka – hysterical convulsions
4. Tandavaroga -Chorea
5. Yoshapasmara - conversion disorders
6. Atatvabhinivesha- Obsessive compulsive disorders
7. Vishada- Depressive illness
8. Gadodvega -Hypochondriasis
9. Mada, Murchha, Sanyasa- sensorial disorders
10. Madatyaya, Panatyaya (Panavibhrama, Paramada, Panajirna) - Substance abuse disorders.
11. Nidra vikara (Sleep disorders) , Klama, Tandra, Glani.
12. Bhrama, Vibhrama - Delusional disorders.
13. Chittodvega - Generalized Anxiety disorders.
14. Smriti vikara (memory disorders)
15. Manasika klaibya, Sushrutokta Napumsakata
16. Manasa Dosha Vikara- Kama, Krodha, Lobha, Moha, Irshya, Bhaya, Mana, Mada, Dambha, Ahamkara, Harsha, Matsarya, Iccha, Dvesha.
17. Mood and affective disorders – major depressive disorders, mania and their possible Ayurveda co-relates.
18. Schizophrenia
19. Personality disorders
20. Behavioural disorders
21. Organic mental disorders
22. Post traumatic stress disorders
23. Psycho sexual disorders
24. Eating disorders
25. Somatoform and dissociative disorders

26. Senile psychiatric disorders - Dementia, Alzhiemer's disease, Parkinsonism, Menopause, Andropause and their possible Ayurveda co-relates.
27. Adhi- Vyadhi Roganam Manasika Prabhava Chikitsa Cha - Psychosomatic disorder--Bhayaja and Shokaja Atisara, Kamaja and Shokaja Jwara, Tamakashwasa, Prameha, Amlapitta, Parinamashula, Grahani, Uccha Raktachapa(Hypertension), Shula (pain disorders), Twak Vikara.
28. Jirna- Asadhya Sopadrava Vyadhinam Vivechanam – Mental problems in chronic incurable diseases like AIDS, Cancer etc.
29. Mano prakriti vikara – psychopathic personality.
30. Jivana Shaili Tatha mano sammarda janya rogah - Life style and stress related disorders.
31. Shishu tatha Kumara Manoroga - Child and adolescent psychiatry.
32. Jadata, Buddhimandya , Adhyayana Akshamata – Mental deficiency, mentally challenged and learning disabilities.
33. Achara vaikalya - Conduct disorders
34. Manobhava vikara - Emotional disorders
35. Cerebral palsy, infantile autism, Attention Deficit Hyperactive disorders, Tourette's disorder with their possible Ayurveda co-relates.
36. Preventive aspects in Manas Roga – Achara Rasayana, Sadvritta, Shodhana, Rasayana and Vajikarana
37. Manas Roganam Samanya Vishesha Chikitsa Siddhantanam Varnanam,- Daiva Vyapashraya, Yukti Vyapashraya, Sattvavajaya, Adravyabhuta Chikitsa Upayah.
38. Sattvavajaya Chikitsa: Its application and techniques viz. Dhi, Dhairya, Atma Jnana, Kula Jnana, Kala Jnana, Desha Jnana, Bala Jnana, Samadhi, Santwana, Ashwasana, Ayurveda Psycho shock therapy viz. Trasana, Bhayadarshana, Adbhuta Darshana, Vismarana, Vismapana and Pratidvandwi Bhava with their scientific basis.
39. Role of Rasayana, Medhya Rasayana, Achara Rasayana and Vajikarana in Manasa Roga
40. Pathyapathya in Manasa Roga.
41. Manas Rogopayogi Vividha Aushadheenam Vivechanam: Ekamulika (Single drug), Panchavidha Kashaya Kalpana, Rasa Rasayana etc.
42. Brihatrayee, Yogaratnakara, Sharngadhara, Gadanigraha, Bhavaprakasha, Sahasrayoga ukta vividha yoganam vivechanam:Brahmi, Mandukaparni, Vacha, Jatamansi, Yashtimadhu, Shankhapushpi, Kushmanda, Ashwagandha, Kushtha, Tagara, Guduchi, Jyotishmati, Srikhandadichurna,Saraswatachurna etc.
    Swarna, Swarnamakshika Bhasma, Rajata, Pravala, Mukta, Manahshila, Krishna Chaturmukha Rasa, Krishnachaturbhuj Rasa, Brihatvatachintamani Rasa,Vata kulantaka Rasa, Manasmitra vataka, Smritisagar Rasa, Unmada gajakesari Rasa, Apatantrakari vati,Kumarakalyana Rasa etc. Kalyanaka ghrita, Brahmi ghrita, Mahapanchagavya ghrita, Mahapaishachika ghrita, Mahabhutarava ghrita, Kushmanda ghrita, Purana ghrita, Panchagavya ghrita etc.
43. Saraswatarishta, Ashwagandharishta, Chittachandirasava etc.
44. Himasagara taila, Tungadrumadi taila, Gandharaja taila, Brahmi taila, Sidharthaka agada etc.
45. Dhupa, Nasya, Lepa, Anjana yogas useful in Manas Roga.
46. Folk Medicine in Manasa Roga.
47. Mano Bheshaja vigyanam - Essentials of Psycho pharmacology, Knowledge of Biological and Pharmacological Therapies in the Management of Various Psychiatric diseases such as hypnotics, sedatives, anxiolytics, mood stabiliser/elevators, antidepressants, antipsychotics, anticonvulsants, Electro-convulsive therapy(ECT) and its applied aspects.

PAPER – IV Manasa Roge Anya Chikitsa Evam Yoga **Marks 100**

Panchakarma

1. Importance of Panchakarma and other allied procedures in the management of Manasa Roga.
2. Theoretical knowledge and application of the following karmas in Manasa Roga – Snehana, Svedana, Vamana, Virechana, Basti, Nasya, Raktamokshana, Mastishkya-Shiro-Basti, Shiro-Dhara, Shiro-Pichu, Shiro-Abhyanga, Murdhni taila, Anjana, Dhupa, Dhupana etc.

Yoga

1. Manovigyana sandharbhe yogasya vaishishtyam, Yogashastrasya upayogita mahatvam cha.
2. Yogasya darshanika svarupagyanasahitam tasya astanganam samichinam Gyanam.
3. Ayurveda drishtya yoga adhyayanasya upayogita, Ayurveda shastre pratipaditah yogasya siddhantah.
4. Satvavajaye gyana-bhakti-karma yoganam manasa roge vivechanam-Hatha yogascha.
5. Role of Shatkarma - Kapalabhati, Trataka etc. in Manasa Roga.
6. Naishthiki chikitsa in Manasa Roga.
7. Therapeutic potential of Yoga, Psycho biological effects of Yoga, Spiritual therapy and Yoga.
8. Sudarshana kriya , Transcendental meditation, Yoga nidra, Vipashyana and other allied yogic techniques in Manasa Roga chikitsa.
9. Manas and prana (bio-energy), pranic healing, means of bio-energy modulation in Manasa Roga.

Other allied therapeutic procedures:

1. Various methods of psychotherapy and counselling techniques, transactional analysis, behavioural therapy, psycho analysis.
2. Swapna Samvahana chikitsa -Hypnotherapy-Past life Regression and Age Regression Therapy in Manasa Roga.
3. Knowledge of psychiatric emergency and their management.
4. Knowledge of surgical intervention in Manasa Roga
5. Recent advances and updates in concepts, drugs and therapeutic procedures in Manasa Roga.

Content of the Practicals

S.No.	Topic		No. of Cases
1.	Hypnotherapy techniques		10
2.	Case Study-	Unmada	20
		Apasmara	20
		Atatvabhinivesh	10
		Chittodvega	25
		Vishada	25
		Madatyaya	10
		Psycho Sexual disorders	25
		Psychogenic headache	20
		Nidra vikara	20
		Stress related disorders	25
3.	Examination of Manasika Bhava in psychosomatic illness		25
4.	Yogasana, Pranayama and Meditation Techniques		25
5.	Panchakarma Procedures in Manasa Roga		25
6.	Anjana, Dhoopanadi Karma		25

7.	Instruments (GSR biofeedback, EST, EEG, etc.)	25
8.	Counselling on the pattern of Sattvavajaya	25
9.	Psychometric scales (Ayurveda and conventional)	30

Visit to Mental Hospitals

Pattern of Practical Examination **- 100 Marks**

1. Practical Record Book - 10 Marks
2. Bed side examination
   a. Short Case - 10 Marks
   b. Long Case - 25 Marks
3. Assessment of Scales and inventories (Ayurveda and Conventional) - 10 Marks
4. Thesis Presentation(PPT) - 25 Marks
5. Viva-voce - 20 Marks

Reference Books-

1. Related matter of Charak, Sushrut and Vagbhata and other ancient texts with commentaries
2. Prachin Manovikara Vigyanm - Ayodhya Prasad Achal
3. Ayurvediya Padarth Vigyan - Ranjit Rai Deshai
4. Ayurved Darshan - Acharya Rajkumar Jain
5. Purusha Vichaya - Prof. V.J. Thakkar
6. Ayurvediya Manas Vigyan - Prof. Ram Harsh Singh
7. Yoga evum Ayurved - Acharya Rajkumar Jain
8. Basic principles of Ayurvediya Padartha Vigyan - Dr Yogesh Chandra Mishra
9. Synopsis of Psychiatry - Harold kaplon and Benjamin saddock
10. Oxford textbook of Psychiatry - Michaeal Gerlder, Paul Harrison
11. General psychology and Abnormal psychology - S.K. Mangal
12. A text book of Post Graduate Psychiatry - Neeraj Ahuja
13. Mind in Ayurveda and other Indian Traditions - A.R.V.Murthy
14. Psychopathology in Indian medicine - Satyapal Gupta
15. Body- Mind-Spirit Integrative Medicine - Prof. Ram Harsh Singh
16. Rationale of Ayurveda Psychiatry - Dr. A.R.V. Murthy
17. Foundations of contemporary Yoga and Yoga Therapy- Prof. Ram Harsh Singh
18. Stress and its Management - Dr. K.N. Udupa
19. Concept of Mind - Edited by Prof. C.R. Agnivesh, Kottakkal
20. Kayachikitsa - Part 3 by R. R. Pathak and Vidhyadhar Shukla
21. Panchakarma Illustrated - Prof. Shrinivasa Acharya
22. Unified Dimensions of Ayurvedic Medicine - Dr. J.S. Tripathi
23. Essential Psychiatry - Bhatia MS
24. Sahassrayoga - Nishteswar and Vaidyanath
25. Ayurveda and the Mind - David Frawley
26. Manasa Roga Vijnana - Balakrishna
27. Comprehensive Textbook of Psychiatry - Kaplan and Sadock's
28. Psychiatry for medical students - Robert J Waldinger
29. Introductions to Psychology - Morgan / King.

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13. RASAYANA&VAJIKARANA

PAPER – 1 CONCEPT & PRACTICE OF RASAYANA **Marks: 100**

1. **Basic fundamentals and concepts of Rasayana**
    - Derivation, definition and synonyms of Rasayana
    - Classification of Rasayana
    - Understanding rasayana in perspective of:
        - Neutriceutical action
        - Immunomodulation
        - Oxygen free radicals &Antioxidant activity
        - Adaptogenesis
        - Cell proliferative activity
        - Cell regenerative activity
        - Genoprotectiveactivity
        - Micronutrients
        - Anabolic activity
    - Interpretation of different types of Rasayana
    - Prakruti-Guna/character wise Rasayana
    - Sara wise rasayana
    - Dhatu specific rasayana
    - Indriyanusararasayana like netryya, hridya, tvacchya etc.
    - Srotas wise rasayana
    - Occupation wise rasayana
    - Season wise rasayana
    - Molecular biology concerned to rasayana
        - Human genome project
        - Genetics and Gene therapy
        - Stem cell theories
    - Introduction to Bioinformatics
    - Concept of Bala, types of bala, vriddhikshayahetu.
    - Knowledge of measures to improve bala
    - Concept of ojas. Types of ojas. Ojo-vriddhi-kshaya-karabhava.
    - Ojodustiprakara, hetu, samprapti and their management
    - Immunology
        - Immune system & components
        - Knowledge of immune mechanisms
        - Immune disorders
        - Rasayana as immunomodulator
        - Rasayana – immune specific/immunoglobulin specific
        - Rasayana in Immune compromised disease like, HIV/AIDS, tuberculosis, Cancer, liver cirrohosis etc.
2. Concept of jara (geriatrics) and ageing (gerontology)
3. Concept of svabhavabalapravrittavyadhi with special reference to Jara its classification (kalaja&akalaja), etiopathogenesis and management
4. Organ wise, system wise Common geriatric disorders and their management
5. Yogya, ayogya, vidhi and prayojana of:
    - Kutipraveshikarasayana
    - Dronipraveshikarasayana
    - Karapratichiyarasayana

- Indraproktarasayana
- Vaatatapikarasayana

6. Concept & practice of Achararasayana
7. Knowledge & application of svasthavritta measures
8. Swasthyanuvartakarasayana
9. Rasayana as nutrient supplement
10. Panchakarma and its role in rasayana
11. Application of Kamyarasayanato achieve - Smriti, Medha, Bala, Prabha, Varna, Svara
12. Knowledge of Vayasthaapana/Ayushyarasayana
13. Naimittikarasayana – Vyadhiharaandvyadhiapunarbhavarasayana

PAPER – 2 CONCEPTS OF APATYA&SUSANTAANA **Marks: 100**

1. Etymology, derivation, definition, synonyms of vandhya, vandhyaa, apatya, santaankara, susantaana
2. Importance of fertility
3. Essentials of fertility
4. Knowledge of Garbhasambhavasamagri
5. Knowledge of Garbhaadanaparicharya
6. Knowledge of Garbhotpatti
7. Knowledge of Shukravriddhi, kshayahetu, lakshana and chikitsa
8. Knowledge of Shukrapradoshajavyadhi and its management
9. Knowledge of Shukradustihetu, prakara, lakshana, diagnosis and management
10. Knowledge of Retodustiprakara, hetu, lakshana and chikitsa
11. Knowledge of Sukravahasrotodustikarana, lakshana, diagnosis and management
12. Knowledge of Disorders of spermatogenesis (etio-pathogenesis, diagnosis and management)
    a. Oligozoospermia, asthenozoospermia, teratozoospermia, azoospermia, aspermia, pyospermia, necrozoospermia, OAT syndrome, sertoli cell only syndrome,klinefelters syndrome, kallaman's syndrome. Dal-castele's syndrome etc.
13. Obstructive azoosprmia-diagnosis, medical management and knowledge of surgical procedures
14. Retrograde ejaculation and other ejaculatory disturbances in respect to fertility – knowledge, diagnosis and management.
15. Reproductive endocrinal disorders and management
16. Immunological infertility – knowledge of various components involved in immunological infertility, mechanism, diagnosis and management
17. Sperm function tests, semen and cervical mucus interaction, post coital test
18. Knowledge of karyotyping and interpretation
19. Knowledge of chromosomal, genetic disorders pertaining to fertility and management
20. Knowledge and practice of Genetic counseling
21. Knowledge of Normal and abnormal sexual differentiation
22. Applied aspects of panchakarmain rasayana and vajikarana
23. Applied aspects of uttarbasti
24. Knowledge of Susantaana (epigenetics): preconceptional measures
25. Knowledge and technique of Pumsavanakarma for healthy progeny
26. Introduction to MART (Medically Assisted Reproductive Technologies): IUI, IVF-ET, ICSI, cloning etc.
27. Testicular biopsy – indications, surgical procedure, interpretation of HPE results
28. Knowledge of cystoscopy – diagnostic, interventional
29. Scrotal scan &Doppler
30. Knowledge of Varicocele: diagnosis, medical andsurgicalmanagement
31. Knowledge of disorders of accessory sex glands and their management

PAPER – 3 CONCEPTS AND PRACTICE OF VAJIKARANA **Marks: 100**

1. Etymology, derivation, definition, scope and understanding of word vajikarana and its application in present scenario
2. Physiology of sexual act including mechanism of erection, ejaculation and orgasm
3. Knowledge of hypothalamo-pituitary-testicular axis
4. Knowledge of Psycho-neuro-endocrino-vasculogenic mechanism of sexual activity
5. Knowledge of Haemodynamicsand different stages of erection
6. Psychological aspects of sexual function
7. Sukrottejakabhava. Factors influencing sexual function
8. Knowledge of Sukrasrutikarabhava
9. Knowledge of erogenous zones and lunar relationship
10. Maithunavidhi –asthangamaithuan, rules and regulations to have intercourse as per ritu, kala, gotra, kula etc.
11. Concept of Brahmacharya& its application in the present context
12. Sexual ethics
13. Myths &misconcepts regarding sex & sexuality
14. Sex education& counseling including pre- marital counseling
15. Knowledge of contraception and contraceptives
16. Knowledge of sukragatavata/sukrasthavatasukravritavata,
17. Klaibya – definition, nidana, prakara, spamprapti, and chikitsa
18. Male Sexual dysfunctions (etio-pathogenesis, diagnosis & management)
    a. Disorders of sexual desire (increased libido, decreased libido, no desire etc.)
    b. Erectile dysfunction(psychological, endocrinological, neurological &vasculogenic)
    c. Ejaculatory disturbances (early, delayed, anejaculation, retrograde ejacualtion)
    d. Orgasmic disorders (anorgasmia)
19. Female sexual disorders, causes, diagnosis and management
20. Knowledge of various sexual postures and advantages
21. Napumsaka, shanda, trinaputrika, vaarta, hermaphroditism – definition, classification, samprapti, clinical manifestation, diagnosis and management
22. Knowledge of paraphilia, abnormal sexual behavior, perversions and management
23. Knowledge of diagnostic aids pertaining to sexual disorders
    a. ICIVAD (Intra Cavernosal Injection of Vaso Active Drugs)
    b. Vacuum erection devices
    c. Penile vibrators
    d. Rigi scan NPT (Nocturnal Penile Tumescence)/snap gauge test
    e. Penile biothesiometer
    f. Penile Doppler
24. Knowledge of Dhat syndrome, night emissions
25. Mutrasukra, shukrashmari, sukrameha
26. Aharsha&apraharshabhava
27. Knowledge of Sexual performance assessment scales: MSP, GRISS, GRIMS, HARDS, Libido score, IIEF-5 scoring system for ED, Androgen deficiency score
28. Knowledge of Priapism and its management
29. Knowledge of theories of andropause and management

PAPER – IV PHARMACO-THERAPEUTICS OF RASAYANA&VAJIKARANA **Marks: 100**

1. Definition, derivation, etimology, synonyms of vajikara, vrishya
2. Pharmacology and pharmacodynamics of rasayana and vajikarana drugs
3. Definition, scope and understanding of
    a. Rasayana
        i. Vyadhibalavirodhi

ii. Vyadyutpadakapratibandhak
iii. Vayasthapan

b. Sukrajanaka/sukrala
c. Sukrapravarthaka/rechaka
d. Shukrashodhana
e. Shukrastambhaka
f. Sukrashoshaka, vyavayi/vikashi
g. Kamoddeepana/kamottejaka etc.

4. Pharmacology of drugs belonging to:
   a. Sukrajanaka/sukrala
   b. Sukrapravarthaka/rechaka
   c. Shukrashodhana
   d. Shukrastabhaka
   e. Sukrashoshaka, vyavayi/vikashi
   f. Kamoddeepana/kamottejaka etc.
5. Pathya and apathya in relation to shukradhatu
6. Formulation, indications & uses of: Vrishyabasti, Vajikaranaabasti, Yapanabasti
7. Pharmacology of:
   a. Akarakarabha,
   b. Amalaki,
   c. Aswagandha,
   d. Bhallataka,
   e. Bhanga,
   f. Bhrihati,
   g. Gokshura,
   h. Guduchi,
   i. Haritaki,
   j. Ikshu,
   k. Jatiphala,
   l. Jivanti,
   m. Kapikacchu,
   n. Kokilaksha,
   o. Ksheeravidari,
   p. Mandukaparni,
   q. Masha,
   r. Punarnava,
   s. Shatavari,
   t. SvetaMusali,
   u. Yastimadhu etc.
   v. Indraproktharasayanaa
8. Pharmacology of following Rasaushadhis:
   a. Abhraka,
   b. KukkutandaTvakBhasma,
   c. Naga,
   d. Rajata,
   e. Shilajit,
   f. Svarna,
   g. Svarnamakshika,
   h. Vanga,
   i. Yashada etc.
9. Ingredients, properties, indications and phalasruti of:
   - Agasthyarasayanaa,
   - Ajamamsarasayanaa
   - Akarakarabhadivati,
   - Amrita PrashaGritha,
   - AswagandhaGritha,

- AvalgujaRasayanaa
- BalaswagandhaTaila,
- Bhallathakarasayana,
- Brahmarasayana,
- Brihatcchagalladyagritha
- Chandraprabhavati,
- Chyavanaprasha,
- GokshuradiGuggulu,
- HaritakyadiRasayana,
- JatiphaladiVati,
- Kaminividravana Rasa,
- KhadiraRasayana,
- KushmandaRasayanaa
- Lasunarasayana,
- MahamashaTaila,
- Makaradhwaja,
- NagabalaRasayana,
- NarasimhaRasayanaa,
- PippaliVardhamanaRasayanaa,
- Pippalirasayana,
- PurnachadrodayaMakaradhwaja,
- ShatavariGrita,
- Shilajathurasayana,
- Siddha Makaradhwaja,
- SrigopalaTaila,
- VanariGutika
- Vasantakusumakara,
- VeeryastambhaVati,
- VidangaRasayana,
- VidaryadiGritha,
- VrishyaGritha

10. Pharmacology & Pharmacodynamics of various vajikara, vrishya and rasayanabasties
11. Neuro-psycho pharmacology of rasayana, vajikarn drugs
12. Endocrinological aspects of rasayana,vajikarana drugs
13. Recent advances in rasayana and vajikarana drugs, formulations and therapeutic techniques

PRACTICALS

1. Assessment of Prakriti
2. Assessment of saara
3. Assessment of manasaprakriti
4. History taking & clinical examination of geriatric patients
5. Examination of male genito-urinary system
6. Semen analysis- Retopariksha
7. Post coital test, semen & cervical mucus interaction test
8. Technique of ICIVAD
9. Uttarbasti
10. Technique of psychosexual counseling
11. Applicatory knowledge of assessment scales pertaining to vajikaranaa/sexual functions
12. Technique of genetic counseling
13. Practical aspects of Panchakarma pertaining to rasayana&vajikarana
14. Technique of measuring penile BP

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14. SHALYA TANTRA - SAMANYA

PAPER - I Shalya Siddhanta – Fundamentals of Surgery **100 Marks**

1. Sushruta's contributions in surgical concepts and practices.
2. Knowledge of Dosha, Dhatu and Mala Vigyan and their importance in surgical diseases.
3. Significance and importance of Rakta as the Chaturth Dosha.
4. Yantras and Shastras – Surgical Instruments - Ancient and recent advances.
5. Trividha Karma – Purva, Pradhana and Pashchat Karma and its Importance.
6. Asepsis and Antisepsis.
7. Nirjantukarana – Sterilization – Various methods for surgical equipments, laparoscopes, linen and Operation theatre.
8. Surgical infections – Sepsis, Tetanus and Gas gangrene.
9. Care of patients suffering from Hepatitis, HIV-AIDS, STD and other associated infectious diseases.
10. Ashtavidha Shastra Karma – Critical knowledge and their application in surgical practice.
11. Suturing materials, appropriate use of sutures, drains, prosthetic, grafts and surgical implants.
12. Concept of Marma and their clinical application.
13. Shock - Its varieties and management.
14. Raktasrava / Haemorrhage – Types, Clinical features and Management.
15. Concept of Raktastambhana –Haemostasis.
16. Vranasopha – Inflammation and Vidradhi - Abscess
17. Granthi – Cyst and Arbuda – Benign and malignant Neoplasm – Concept of Oncogenesis and genetics of cancer.
18. Gulma and Udara Roga.
19. Kshudra Roga.
20. Fluid, electrolyte, Acid Base Balance and Nutrition
    i. Introduction of physiology of fluids and electrolytes.
    ii. Dehydration and over hydration.
    iii. Specific electrolyte loss, Acidosis, Alkalosis, Symptomatology and Management.
    iv. Electrolyte changes in specific surgical conditions and their management.
    v. Plasma volume expanders and their use in surgical condition.
    vi. Various replacement fluids in surgery, mode of administration and complications.
    vii. Nutrition – Indications, types, mode of administration and complications.
21. Blood Transfusion – Blood groups, compatibility, Indications, Contraindications and complications with management.
22. Knowledge of antibiotics, analgesics, anti-inflammatory and emergency drugs in surgical practice.

PAPER – II Vishishta Shalya Vigyana - Shalya Tantra Speciality **100 Marks**

1. Yogya Vidhi - Practical and Experimental training
    i. Practice of surgical procedures on different models.
    ii. Training of Laproscopic and Endoscopic procedures.
2. Vrana – Wound management
    i. Management of Nija Vrana, Agantuja Vrana, Dushta Vrana and Nadi Vrana.
    ii. Vrana Chikitsa – Shasti upakramas, Pathya-apathya .
    iii. Types and Management of Dagdha Vrana - Burns and scalds.
    iv. Infection of hands and foot, Diabetic wound, Prameha Pidaka – Diabetic carbuncle and its management.
    v. Management of Pressure ulcers, Venous ulcers and other chronic non-healing ulcers.
    vi. Gangrene and its management.

3. Mutra Roga – Urological diseases.
   i. Anatomical and physiological knowledge of kidney, ureter, urinary bladder, prostate, seminal vesicles, urethra and penis.
   ii. Investigations of Mutravaha Srotas – Urinary tract.
   iii. Aetiopathogenesis and surgical procedures of Ashmari – Urinary stone diseases.
   iv. Kidney and ureter – Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Neoplasm, Hydronephrosis, Hydroureter and Haematuria.
   v. Urinary bladder - Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Neoplasm, Diverticulum, Vesico-vaginal fistula, Atony, Schistosomiasis, Urinary diversions, Retention of urine – Mutraghata and Mutrakruccha.
   vi. Urethra - Clinical presentation, Investigations and Management of Congenital anomalies – Hypospadias, Epispadias, Posterior urethral valve, Trauma, Infection, and Neoplasm.
   vii. Prostate and seminal vesicles – Benign and malignant enlargement of prostate, Prostatitis, Prostatic abscess and Calculi.
   viii. Penis – Clinical presentation, Investigations and Management of Congenital anomalies , Trauma, Infection, Phimosis, Paraphimosis, Peyronie's disease and Neoplasm.
   ix. Testis and scrotum - Clinical presentation, Investigations and Management of Congenital anomalies, Ectopic testis, Trauma, Infection, Neoplasm, Testicular torsion, Hydrocele, Varicocele, Spematocele, Chylocele, Pyocele, Haematocele, Epididymal cyst and Fournier's gangrene.
   x. Renal failure – Causes, Diagnosis, Investigations and Management.

4. Asthi roga and Marma Chikitsa - Orthopaedics
   i. Anatomy and physiology of bone.
   ii. Diseases of Asthi / Bone and Sandhi / Joints – Congenital, Degenerative, Infective, Metabolic and Neoplastic Disorders of Bones and Joints.
   iii. Aetiopathogenesis, treatment along with surgical procedures of Bhagna - Fracture, Sandimoksha - Dislocation and bone grafting.
   iv. Diseases of Spine, vertebral column and spinal cord.

PAPER – III Adhunik Shalya Karma - Modern surgery **100 Marks**

1. Fundamentals of modern surgery and treatment of surgical disorders including surgical anatomy, physiology and pathology.
2. Diagnosis and Surgical treatment of head and spine injury, thoracic trauma and abdominal trauma. Blast injuries and Management
3. Diagnosis and Surgical management of neck disorders e.g. salivary glands, thyroid, Thyroglossal cyst and Fistula, Branchial cyst and fistula, Cystic hygroma and Lympadenopathies.
4. Diagnosis and Surgical management of breast diseases, Benign and Malignant breast tumours.
5. Diagnosis and Surgical measures of diseases of Gastrointestinal system -
   i. Oral cavity - Oral ulcers, Oral cancer, Precancerous conditions, Submucosal fibrosis, Leukoplakia, Cleft lip and palate, Lip tumours, Mucosal cyst, Nasopharyngeal cancer, Tongue ulcer and cancer.
   ii. Oesophagus - Oesophageal varices, Dysphagia, Neoplasm, Strictures and Gastro oesophageal reflux.
   iii. Stomach and duodenum –Congenital anomalies, Injuries, Inflammation, Ulcer, Neoplasm, Pyloric stenosis, Acute dilatation ,Hiatus hernia and Foreign bodies.
   iv. Pancreas - Congenital anomalies, Acute and Chronic pancreatitis, Calculi Neoplasm and Cysts of pancreas.

v. Peritoneum, Omentum, Mesentery, Retroperitoneal Space – Peritonitis, Abscess, Neoplasm, Mesenteric cyst, Torsion of mesentery, Vascular thrombosis, Retroperitoneal cyst and Fibrosis.
vi. Abdominal mass - Diagnosis and Management.
vii. Small intestine - Congenital anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Injuries, Foreign bodies, Diverticuli, Peutz-jeghers syndrome, Chron's disease, Carcinoid tumours, Enteric perforation and Intestinal fistula.
viii. Large intestine - Congenital anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Injuries, Foreign bodies, Diverticuli, Faecal fistula, Amoebiasis and Familial polyposis coli.
ix. Caecum and Vermiform appendix- Appendicitis, Appendicular abscess, Appendicular mass, Perforation, Carcinoid Tumor and other Neoplasm.
x. Gastrointestinal bleeding – Haemetemesis, Malaena, Haemobilia, Bleeding per anum - Causes, Diagnosis and Management.
xi. Rectum and anal canal - Diagnosis and Surgical management of Congenital Anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Prolapse, Haemorroids, Fistula-in-ano, Fissure-in-ano, Anorectal Abscess, Incontinence, Injuries, Foreign bodies, Sacrococcygeal Teratomas and Pilonidal sinus .

6. Umbilicus and abdominal wall – Congenital anomalies, Umbilical infections, Sinus, Neoplasm, Abdominal dehiscence, Divarication of recti, Desmoid tumor and Meleney's gangrene.
7. Diagnosis and surgical measures of diseases of Hepatobiliary system -
   i. Liver – Abscess, Cyst - Hydatid cyst, Primary and Secondary malignant tumours, Portal Hypertension and Budd-Chiari Syndrome.
   ii. Gall bladder and Bile duct - Congenital anomalies, Acute and Chronic Cholecystitis, Cholelithiasis, Neoplasm, Cholangitis, Stenosis, Choledocholith iasis, Choledochal cyst and Cholangiocarcinoma.
   iii. Spleen – Splenomegaly and Splenic Injury.
8. Diagnosis and surgical measures for disorders of Artery, Vein, Ligaments, Muscles and Tendons.
9. Diagnosis and surgical management of Hernias – Inguinal, Femoral, Umbilical, Incisional, Abdominal wall and other hernias.
10. Endoscopic procedures - Oesophagogastroduodenoscopy, Sigmoidoscopy and Colonoscopy.
11. Diagnostic and therapeutic laparoscopy.
12. Anaesthesia - Definition, Types, Anesthetic agents, Indications, Contraindications, Procedures, Complications and management.

PAPER –IV Shalya Vangmaya – Shalya literature, Research and Development

1. Thorough study of the Sushruta Samhita including other relevant portions of Brihattrayee and Laghutrayee.
2. Knowledge and importance of Surgical Audit.
3. Medico legal issues – Understanding the implications of acts of omission and commission in practice. Issues regarding Consumer Protection Act, medical profession, national health policy - Implications in a medico-legal case like accidents, assaults etc.
4. Surgical ethics including Informed consent.
5. Knowledge of different type of experimental Surgical Model for Research in Surgery.
6. Sandhana Karma – Plastic reconstructive and cosmetic surgery. Fundamentals of Sandhana Karma –
   i. Karna Sandhana – Auroplasty
   ii. Nasa Sandhana – Rhinoplasty
   iii. Ostasandhana – Cheiloplasty
   iv. Grafts and Flaps – Techniques and applications.
   v. Vascular anastomosis and grafts.

7. **Anushalya Karma** – Parasurgical procedures
   i. Kshara Karma, Kshara Sutra, Agnikarma and Raktamoskhana.

Pattern of Practical examination **100** Marks

1. Case record (25) -10 Marks
2. Short case -10 Marks
3. Long case -20 Marks
4. Identification of specimen / radiograph and Instruments -20 Marks
5. Thesis Presentation - 20 Marks
6. Viva-voce -20 Marks

Reference Books

1. Sushruta Samhita
2. Ashtanga Sangraha
3. Ashtanga Hridaya
4. Charaka Samhita
5. The Surgical instruments of the Hindus - Girindranath Mukhopadhyaya
6. Shalya Tantra Samuchchaya - Pandit Ramadesh Sharma
7. Shalya Vigyan (Part 1-2) - Dr. Surendra Kumar Sharma
8. Shalya Samanvaya (Part 1-2) - Vd. Anantaram Sharma
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10. Soushruti - Dr. Ram Nath Dwivedi
11. Clinical Shalya Vigyan - Dr. Akhilanand Sharma
12. Bhagna Chikitsa Deshpande - Dr. Prabhakar Janardhan
13. Kshara sutra management in anorectal ailments and Dr. Kulwant Singh. - Dr. S.K. Sharma, Dr. K.R.Sharma
14. Anorectal diseases in Ayurveda Kumar Chowdary. - Dr. Sizoria and Dr. Praveen
15. Adhunika Shalya Chikitsa Siddanta - Dr. Katil Narshingham Udupa
16. Agnikarma Technology Innovation - Dr. P.D. Gupta
17. Shalya Tantra Ke Siddhant - Dr. K.K.Takral
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19. Arsha Evum Bhagander Mein sutra Avacharan - Vd. Kanak Prasad Vyas
20. Recent advances in Kshara Sutra - Dr. M. Bhaskar Rao
21. Leech application in Ayurveda - Dr. M. Bhaskar Rao
22. Kshara Sutra - Dr. S.N.Pathak
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24. Surgical ethics of Ayurveda - Dr. D.N. Pande
25. Text book of Surgery - Sabistan
26. Operative Surgery – Rob and smith
27. Bailey and Love's Short Practice of Surgery Mann and R.C.G. Russell - Norman.S. Williams, Charles.V.
28. Fractures and Joint Injuries - Watson-Jones
29. Text books of Operative Surgery - Farquharsons'
30. Principles of Surgery - Schwartz
31. Emergency Surgery -Hamilton Bailey's
32. Surgical pathology - Willing Worth
33. Clinical methods in surgery - S. Das
34. Textbook of Operative Surgery - S. Das
35. Shalya Vigyan (Sachitra) - Anantram Sharma
36. Anushastra Karma - Dr. D.N. Pande
37. Concept of Vrana is Ayurveda - Dr. Lakshman Singh
38. Significance for Poorva Karma in Surgical Patient - Dr. Lakshman Singh

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46. Ward Procedures - Patel Mansukh. B
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48. Primary Anaesthesia - Maurice King
49. Synopsis of Anaesthesia - Lee
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51. Surgical Instruments of the Hindus - Girindharnath Mukopadyay
52. Outline of Orthopedics - John Crawford Adams and David Hamblen. L
53. Outline of Fracture - John Crawford Adams
54. Recent trends in the management of Bhagandara / Fistula-in-ano - Dr. P. Hemantha Kumar
55. Principles and Practice of Agnikarma - Dr. Anand Kumar and Dr. Kanchan Shekokar.
56. Manipal Manual of Surgery - Dr. Rajgopal Shenoy

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15. SHALYA – KSHARA EVUM ANUSHASTRA KARMA

PAPER - I Shalya Siddhanta – Fundamentals of Surgery **100 Marks**

1 Sushruta's contributions in surgical concepts and practices.
2 Knowledge of Dosha, Dhatu and Mala Vigyan and their importance in surgical diseases.
3 Significance and importance of Rakta as the Chaturth Dosha.
4 Yantras and Shastras – Surgical Instruments - Ancient and recent advances.
5 Trividha Karma – Purva, Pradhana and Pashchat Karma and its Importance.
6 Asepsis and Antisepsis.
7 Nirjantukarana – Sterilization – Various methods for surgical equipments, laparoscopes, linen and Operation theatre.
8 Surgical infections – Sepsis, Tetanus and Gas gangrene.
9 Care of patients suffering from Hepatitis, HIV-AIDS, STD and other associated infectious diseases.
10 Ashtavidha Shastra Karma – Critical knowledge and their application in surgical practice.
11 Suturing materials, appropriate use of sutures, drains, prosthetic, grafts and surgical implants.
12 Concept of Marma and their clinical application.
13 Shock - Its varieties and management.
14 Raktasrava / Haemorrhage – Types, Clinical features and Management.
15 Concept of Raktastambhana –Haemostasis.
16 Vranasopha – Inflammation and Vidradhi - Abscess
17 Granthi – Cyst and Arbuda – Benign and malignant Neoplasm – Concept of Oncogenesis and genetics of cancer.
18 Gulma and Udara Roga.
19 Kshudra Roga.
20 Fluid, electrolyte, Acid Base Balance and Nutrition
   a. Introduction of physiology of fluids and electrolytes.
   b. Dehydration and over hydration.
   c. Specific electrolyte loss, Acidosis, Alkalosis, Symptomatology and Management.
   d. Electrolyte changes in specific surgical conditions and their management.
   e. Plasma volume expanders and their use in surgical condition.
   f. Various replacement fluids in surgery, mode of administration and complications.
   g. Nutrition – Indications, types, mode of administration and complications.
21 Blood Transfusion – Blood groups, compatibility, Indications, Contraindications and complications with management.
22 Knowledge of antibiotics, analgesics, anti-inflammatory and emergency drugs in surgical practice.

PAPER – II Vishista Anushastra Karma **100 Marks**

1. Kshara Karma and Prayoga – Therapeutic Chemical Cauterization.

i. Introduction of different types of Kshara, Method of preparation, Standardization, pH value, Application, Complications and its management.
ii. Surgical Anatomy and Physiology of Anus and Rectum.
iii. Arshas - Nidana, Purvaroopa, Roopa, Samprapti, Prakara and Chikitsa.
iv. Haemorrhoids - Aetio-pathogenesis, types and its surgical management.
v. Knowledge of different methods of treating Haemorrhoids - Rubber band ligation, D.G.H.A.L, Radiofrequency, Ablation, Cryo-surgery, Cautery, Laser, Infrared coagulation and other advanced techniques.
vi. Bhagandara - Nidana, Samprapti, Prakara, Doshanusarachikitsa, Knowledge and application of Kshara Sutra.

vii. Fistula-in-ano - Definition, Aetio-Pathogenesis, Types, Diagnostic methods and its Surgical, Para Surgical Management including knowledge of Fibrin Glue, Advanced Flap Therapies and other recent techniques.
viii. Parikartika - Nidana, Samprapti and its Chikitsa.
ix. Fissure-in-ano - Aetio-pathogenesis, types and its surgical management.
x. Sannirudhaguda and its Chikitsa.
xi. Anal Stenosis - Aetio-pathogenesis and its surgical management.
xii. Gudavidradhi - Nidana, Purvaroopa, Roopa, Samprapti, Prakara and its Chikitsa.
xiii. Anorectal abscesses – Aetio- pathogenesis, types, complications and its surgical management.
xiv. Gudagatashalya – Diagnosis and its Management.
xv. Foreign body in rectum and anal canal - Method of diagnosis and its management.
xvi. Congenital Anorectal disorders and its surgical management.
xvii. Gudaarbuda and Granthi and its Chikitsa.
xviii. Anorectaltumour - Types and its surgical management.

2. Agnikarma – Therapeutic cauterization

i. Introduction, definition and importance of Agnikarma.
ii. Agnikarma - Poorva, Pradhana and Paschat karma, various substances and Shalakas used for Agnikarma and their indications, contra-indications and complications.
iii. Diagnosis and management of Oil burn, Dhumopaghata, Ushnavata, Sunburn, Frost bite and Electric burn.
iv. Knowledge of modern thermal equipment - Diathermy, Laser therapy, microwave, Ultracission technique, Cryo Technique and its uses.
v. Effect of Agnikarma on skin, muscle tissue, nerves, metabolism, blood circulation and infective lesions.

3. Raktamokshana – Bloodletting Procedures

i. Introduction and importance of Raktamokshana.
ii. Indication and contraindication of Raktamokshana.
iii. Justification of usage of different types of Raktamokshana in various therapeutic applications.
iv. Different types of Raktamokshana – Sastrakritha - Siravyadhana, Prachana and Asastrakritha - Shringa, Jaluka, Alabu and Ghati.
v. Jalauka - Nirukti, Paryaya, Bhedha, Sangrahana,Samrakshana, Jalaukavacharana Vidhi - Poorva, Pradhana and Paschat karma.
vi. Knowledge of Leeches - Morphology, Anatomy, Physiology, Bio-chemical effects of its various constituents present in its saliva.
vii. Rakta- Importance, Formation, Panchabhoutikatva, RaktaSthana, Guna, Prakurta Karma and Rakta Sara Purashalakshanas. Suddha and Dushta Rakta Lakshanas. Rakta Pradoshaja Vyadhis.

PAPER – III Adhunika Shastra Karma - Modern Surgery **100 Marks**

1. Fundamentals of modern surgery and treatment of surgical disorders including surgical anatomy, physiology and pathology.
2. Diagnosis and surgical measures for disorders of vein, artery, ligaments, joints and muscles.
3. Diagnosis and Surgical management of neck disorders e.g. salivary glands, thyroid tumours, etc.
4. Diagnosis and Surgical management of breast diseases.
5. Diagnosis and surgical management of traumatic disorders - Head injury, thoracic and abdominal trauma.
6. Diagnosis and surgical management of diseases of Gastrointestinal system- stomach, pancreas, peritoneum, omentum, mesentery, retroperitoneal space, small intestine, large intestine and vermiform appendix.

7. Diagnosis and surgical management of Proctological disorders.
8. Diagnosis and surgical measures of diseases of Hepatobiliary system - Liver, gall bladder, bile ducts and spleen.
9. Diagnosis and surgical management of diseases of Urogenital system.
10. Diagnosis and surgical management of diseases of scrotum and testis. – Hydrocele, Ectopic testis and Undescended testis.
11. Diagnosis and surgical management of Hernias – Inguinal, femoral, umbilical, incisional, abdominal wall and other hernias.
12. Endoscopic procedures – Oesophagogastroduodenoscopy, Sigmoidoscopy and Colonoscopy.
13. Diagnostic and therapeutic laparoscopy.
14. Anaesthesia - Definition, Types, Anaesthetic agents, Indications, Contraindications, Procedures, Complications and Management.

PAPER – IV ShalyaVangmaya **100 Marks**

1. Thorough study of the Sushruta Samhita including other relevant portions of Brihattrayee and Laghutrayee.
2. Knowledge and importance of Surgical Audit.
3. Value of research and teaching in surgery.
4. Medico legal issues - Understanding the implications of acts of omission and commission in practice. Issues regarding Consumer Protection Act, medical profession, national health policy - Implications in a medico-legal case like accidents, assaults etc.
5. Surgical ethics including Informed consent.
6. Knowledge of different type of experimental Surgical Model for Research in Surgery.

Pattern of Practical examination **100** Marks

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111. Principles and Practice of Agnikarma - Dr. Anand Kumar and Dr. Kanchan Shekokar.
112. Manipal Manual of Surgery - Dr. Rajgopal Shenoy

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16. AYURVED DHANVANTRI - ASTHI SANDHI AND MARMAGAT ROGA

Paper – 1 ASTHI SANDHI MARMA ABHIGHAT SIDDHANTA **100 marks**

1. Asthi Sharira - Etymology, Embryology, Applied Anatomy and Physiology of Asthi. Its Panchbhautik constitution, Poshan (Nutrition), Asthivaha Srotas, Upadhatu and Mala. Total Number and classification of Asthi. Concept of Dhatwagni in Ayurveda. Asthi Dhatu Kshaya and Vriddhi lakshana. Knowledge about Tarunasthi.
   Embryology, Ossification, Histology, Metabolism, Blood Supply, Types and Biomechanics of Bone and cartilage.
2. Healing mechanism of bone and factors influencing the bone healing according to Ayurvedic and Modern concept. Biological and Biophysical technologies for the Enhancement of Fracture Repair. Knowledge of Sandhaniya and Ropaniya drugs.
3. Sandhi Sharira – Classification, Applied Anatomy and Physiology of Asthi Sandhi.
   Classification, Applied Anatomy and Physiology of Joints and Healing Mechanism of a joint.
4. Marma Sharira – Basic concept of Marma, etymological derivation, definition, classification, Pramana, importance & applied aspect of individual Marma. Interpretation of each Marma in present context *(Regional surgical anatomy)*. Detailed discription of Tri-Marma and Rogamarga. Prognosis of Marmaghata.
5. Sira, Dhamni, Lasika, and Snayu Sharira - Applied Anatomy and Physiology of Vessels, Lymphatic, Ligaments, Tendons, Muscles, Peripheral Nerves and Plexuses.
6. Knowledge of Splints, Orthotics & Prosthetics.
7. Disability calculation, Bio-mechanics of gait.
8. Vrana Vigyan – Etiology, classification, symptomatology, prognosis, complications and management principles of Nija and Sadyo Vrana. Knowledge of Shashti Upakrama, Seevana - Suturing and Vrana Bandhana -Bandaging.
   Wounds and Ulcers – Etiology, classification, symptomatology, complications. prognosis and management principles. Advanced wound closure techniques, suture materials, dressing / bandaging materials and techniques. Wound Healing Mechanism.
9. Vranitopasniya - Management of Vranita - Wounded person.
   Management Principles of wounded persons. Assessment and immediate management of poly-trauma patient , crush syndrome and Acute Respiratory Distress Syndrome.
10. Vranashotha and Vidradhi - Inflammation and Abscess – Etiology, Pathogenesis, classification, stages and management.
11. Knowledge of Orthopedic implants *(e.g. wires, screws, plates, nails)* and Instruments. Knowledge of equipments *(e.g. C-arm image intensifier and drill machines etc).*
12. Orthopedic Radiology - Knowledge of Radiological imaging techniques (X-ray, CT Scan, MRI, USG, Radioisotop scanning) in Orthopedics.
13. Medico-legal aspects in Orthopedics - Handling of Medico- legal cases and issuing of MLCs, Understanding the implications of relevant acts e.g. Consumer Protection Act, Motor Vehicle Act, Right to information Act and other relevant acts in force time to time.
14. Concept of Pain according to Ayurved and Modern Medical science.
15. Principles of Reconstruction, Transplantation, Bone grafting, Bone Banking, Bone transportation and Amputation.
16. Knowledge about National Health Policies and relevant guidelines by State Govt. or Govt. of India.

Paper – II ASTHI SANDHI MARMA GATA VYADHI VISESHA **100 marks**

1. Diseases of Asthi & Asthi Dhatu - Asthigata Vata, Asthivaha srothodushti, Asthi Dhatu Kshaya & Vriddhi, Adhyasthi, Asthi Vidradhi.
   a. Congenital, Degenerative, Infective, Metabolic, Neoplastic and Miscellaneous Disorders of Bones.

2. Diseases of Sandhi – Sandhigat Vata, Vatarakta, Amavata and Kroshtukashirshaka.
    a. Different diseases of joints – Etiology, classification, and treatment principles.
3. Vata Vikara – Asthi, Sandhi and Marma related Vata Vikara like Gridhrasi, Bisvachi, Avabahuka, Manyastambha, Khalvi, Dhatugata vata, Snayugata vata, Katishoola, Katigraha.
4. Diseases pertaining to Muscles,Tendons, Ligaments, Fascia and Bursae.
5. Diseases and Congenital anomalies of Spine e.g. Ankylosing spondylitis, Infective conditions,Tuberculosis, Spondylolisthesis, Inter-vertebral Disc Prolapse, Spondylosis, Scoliosis, Kyphosis, spina bifida, Hemivertebra, Block vertebra, Sacralisation and Lumbraisation etc.
6. Diseases and Congenital anomalies of Cervical Spine
7. Diseases and Congenital anomalies Sacroiliac Joint and Bony Pelvis.
8. Diseaeses and Congenital anomalies of Hand
9. Diseaeses and Congenital anomalies of Foot
10. Diseaeses and Congenital anomalies of Limbs
11. Orthopedic Neurological Disorders. Post Polio Paralysis & Cerebral Palsy.
12. Snehana, Swedana and Panchakarma in Marma, Asthi and Sandhi Vyadhi.
13. Yogic Practices in Orthopedics.
14. Principles of Arthroplasty- Joint Replacement.
15. Introduction of Peripheral Vascular Diseases.
16. Pediatric Orthopedics
17. Orthopedic Oncology
18. Introduction of Radiotherapy, Chemotherapy, Hormone Therapy, Immunotherapy and gene therapy.

Paper – III Abhighata Vigyan – Traumatology **100 marks**

1. Bhagna - Etiology, classification and General Management principles and Prognosis.
2. Modern concept of Bone and Joint injuries - Etiology, Epidemiology, Classification and General management principles.
3. Individual Bone and Joint injuries - Etiology, Epidemiology, Classification and management principles.
4. External immobilization techniques - Classical and traditional Kusha -splints, Plaster of Paris Technique, Knowledge of different splints and Plasters
5. Pathological Fractures including Fragility fractures, Stress Fractures and Peri-prosthetic Fractures.
6. Fractures in Children – Etiology, Epidemiology, Diagnosis, management and complications.
7. Prognosis of skeletal injuries, Complications of Fractures and Joint Injuries e.g. Myositis ossificans, Volkman's ischemic contracture, Compartment syndrome, Crush Syndrome, DVT, Thromboembolism, Fat Embolism.
8. Rehabilitation of trauma patient and Principles of Sukhchestaprachara - Physiotherapy and its use in skeletal injuries
9. Treatment Principles of Asahanta Bhagna - Non-unions, Vishmolvana Sahanta - Malunions and Ignored or un-reduced dislocations.
10. Diagnosis and management principles of injuries of Vessels, Nerves, Tendons and Ligaments.
11. Head, Chest and Abdominal Injuries and management principles.
12. Pelvis and Spine injuries and their management principles.
13. Sports Medicine – Sports medicine and sports related Shoulder injuries, Elbow injuries, Knee injuries, Ankle Injuries, Recurrent Dislocations and other sports related injuries.
14. Knowledge of Marma Chikitsa like Kalari Marma - Martial Art, Adankal - Marmaghata Chikitsa in Siddha Marma in trauma and sports medicine.

17. SANGYAHARAN

Paper 1 Sangyaharan siddhant avum vangmaya: Literary, Research And Development

- History of Sangyaharan and its development in Ayurveda.
- Importance of anesthesia in Ayurveda.
- Contribution of AAIM and other pioneers in the development of Sangyaharan.
- Applied aspects of Ayurveda with respect to sangyaharan Vrihattrayee and Laghuttryee.
- Instruments for anesthesia in ancient era and their development.
- Rakta,its importance, Raktadhana and Raktstambhana.
- Knowledge of disorders like Unmada, Apasmara, Mada, Murrcha, Sanyasa and Stabdhata etc.
- Madataya, Stages of Madataya and its management.
- Pharmacology of Medhya, Vednasthapak, Madkari, Sangyasthapak, Nidrajanan, Akshepjanan and shamana , Svedjanan, Hridyae, Hridyotejak, Raktbharshamak, Shoolprashaman, Vaman and hrillashar (Antiemetic) dravya as mentioned in Ayurvedic samhita & their application in Sangyaharan.
- Aroma therapy as complementary and alternative therapy in pain management and Palliative care.

Paper 2 Sangyaharan Bheshaja Vigyan (Pharmacology related to Anesthesia)

Pharmacology of:

- Drugs acting on Autonomic nervous system:
  - a .Cholinergic system and drugs- Agonist and antagonist
  - b .Adrenergic system and drugs- Agonist and antagonist
- Autocoids and related drugs:
  - a. Histamine and Antihistaminic
  - b. 5HT and antagonist
  - c. NSAID'S
  - d. Prostaglandins and leukotrienes
- Drugs acting on Respiratory system
- Drugs acting on Somatic nervous system
  - a. Skeletal muscle relaxants – Depolarizer and Non-Depolarizer.
  - b. Local anesthetics

5. Drugs acting on central nervous system
   - a. General Anesthetics- Fixed and Volatile anesthetic agents.
   - b. Sedative and hypnotics
   - c. Anti epileptics
   - d. Anti psychotic and anti-maniacs
   - e. Opioids Analgesics and antagonists
6. Drugs acting on cardiovascular system
   - a. Cardiac glycosides
   - b. Anti arrhythmic drugs
   - c. Anti anginal and other anti ischemic drugs
   - d. Anti hypertensive drugs
7. Drugs acting on Kidneys
   - a. Diuretics
   - b. Anti diuretics
8. Coagulants and anti coagulants

Paper 3 Vishishta Sangyaharan – Applied Anesthesia

- Airway management- Intubation, failed intubation drill, LMA, Bag and mask ventilation.

Clinical Orthopedic Examination (R. McRae)
Apleys System of Orthopedics (Apley Louis Solomon)
Orthopedics – Principles & Their Application Vol. I-II (Samuel L. Turek)
Textbook of Orthopedics and Trauma Vol. I-IV (G.S. Kulkarini)
Fractures in Adults Vol. I – II (Rockwood and Green's)
Fractures in Children Vol. I (Rockwood and Wilkins)
Campbell's Operative Orthopedics Vol. I – IV
A Concise Text Book of Surgery (S. Das)
Pye's Surgical Handicraft
Clinical Methods in Surgery (Sriram Bhatt)
Clinical Methods in Surgery (S. Das)
Operative Surgery (S. Das)
Schwartz Principles of Surgery
Surgical Exposures in Orthopedics - J.B. Lippincott Comp. Publication

Pattern of Practical Examination **100 marks**

- Discipline and regularity 10 Marks
- Bed side examination
  - Short case 10 Marks
  - Long case 20 Marks
- Identification of specimen / instruments/Radiographs 10 Marks
- Dissertation Presentation 25 Marks
- Viva –Voce 25 Marks

PRACTICAL TRAINING

- Training of History taking, bed side clinical examination and case presentations.
- Identification and demonstration of surgical instruments.
- Training of orthopedic related Diagnostic imaging techniques.
- Training of Local anesthetic techniques in orthopedics.
- P.G. Scholar shall develop the skills by observing, assisting and performing independently the following procedures:
  - Non-operative
    - Manipulative reductions and external immobilization techniques.
    - Application of POP cast, Splints and Braces.
    - Bandaging Techniques
    - External medicaments and Procedures like Snehana, Swedana, Vasti, Kati Vasti, Janu Vasti, Greeva Vasti etc.
    - Training in various massage techniques.
    - Corrective POP casts for club foot & other congenital deformities
  - Operative
    - External fixation of compound fractures
    - Debridement of crush injuries
    - Amputations
    - Internal fixation of common simple fractures
    - Polio surgery such as TA lengthening.
    - Sequestrectomy in chronic osteomyelitis
    - Biopsy from a mass
    - Internal fixation of Fractures.
- Training in Vrana (Wound) Management techniques.
- Practical training of Physiotherapy in orthopedic and trauma patients.
- Training of Anu Shalya Karma like Agni Karma, Kshara Karma and Rakta Mokshna in orthopedic disorders.
- Orthopedic related Panchakarma Procedures.

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Paper – IV Shalya Kriyatmaka - Operative Orthopedics **100 marks**

1. Agropharniya Vigyan – Knowledge about Pre-operative preparation and Post operative care, Operation Theatre and its requirements regarding Instruments / Equipments and Personnel.
2. Fumigation of Operation Theatre and sterilization of Instruments, Equipments, Linen and Implants by various techniques.
3. Anu Shalya Karma (Para surgical procedures) in orthopedics – Role of Kshara Karma, Agni Karma, Raktavsechana in orthopedic disorders.
4. Knowledge of various Implants regarding their material, types, mechanics and practical use.
5. Knowledge of Conventional and advanced procedures being done for Different Bone and Joint Injuries e.g. Open Reduction and Internal Fixation, Closed Reduction and Internal Fixation, External fixators and other operative techniques.
6. Knowledge of Plastic Surgery in orthopedics and Bone grafting techniques.
7. Knowledge of various surgical procedures being done for Different Bone and Joint Diseases.
8. Hand Surgery for Diseases, Deformities and Injuries.
9. Foot Surgery for Diseases, Deformities and Injuries.
10. Amputations and Arthrodesis – General Principles of Amputations /Arthrodesis and regional Amputations.
11. Knowledge of Diagnostic and Theraputic Arthroscopy.

Reference Books

Sushruta Samhita — Relevant Parts
Sushrut Samhita Ghanekar Commentary
Sushruta Samhita (Dalhana Commentary) — Relevant Parts
Charak samhita — Relevant Parts
Ashtang Hridaya — Relevant Parts
Ashtang Sangraha — Relevant Parts
Bhava Prakash — Relevant Parts
Yog Ratnakar — Relevant Parts
Bhaishajya Ratnavali — Relevant Parts
Sharangdhar Samhita — Relevant Parts
The Surgical instruments of the Hindus – Girindranath Mukhopadhyaya.
Bhagna Chikitsa (Dr. P.J. Deshpandey)
Agni Karma – Technological Innovations - Prof. P.D. Gupta
Shalya Tantra Samuchchaya - Pandit Ramadesh Sharma
Shalya Vijyan (Part 1-2) - Dr. Surendra Kumar Sharma
Shalya Samanvaya (Part 1-2) - Vd. Anantaram Sharma
Shalya Pradipika - Dr. Mukund Swarup Verma
Adhunika Shalya Chikitsa Siddanta - Dr.Katil Narshingham Udupa
Shalya tantra Ke Sidhant - Dr. K.K.Takral
Surgical Ethics in Ayurved - Dr.G.D. Singhal
Susruta's Contribution to Surgery - Dr. S. Sankaran
Anushastra Karma - Dr. D.N. Pande
Concept of Vrana is Ayurved - Dr. Lakshman Singh
Marma Chikitsa - Dr. C. Suresh Kumar
Joint Affections and their Ayurvedic Prospective - Vaidya Vilas M. Nanal
Marma Vimarsha - Vaidya Vilas M. Nanal
Significance for Purva Karma in Surgical Patient - Dr. Lakshman Singh
Medical Varmalogy - Dr. N. Shunmugom et.al.
Siddha Varmalogy - T. Vasanthakumar
Watson and Jones - Fracture and Joint Injuries (J.N. Wilson)
Practical Fracture Treatment (R. McRae)

- Anesthesia For: General surgery, Obstetric and Gynecology ,E.N.T. and Ophthalmic, Orthopedic ,Dental ,Pediatric , Urology , plastic and Outpatient / Day care surgery.
- Anesthesia for patients with: Diabetes mellitus, Thyroid diseases, inherited metabolic diseases, Obesity, Respiratory diseases, Cardiac diseases, Renal diseases, Geriatric problems and neuromuscular diseases.
- Regional anesthesia:
- Sub-arachnoid and epidural anesthesia, analgesia.
- Plexus and nerve blocks for upper and lower limb
- Regional anesthesia for thorax and abdomen
- Surface anesthesia, infiltration and field blocks
- Complications of Regional and general anesthesia, morbidity, mortality and medico-legal aspects.
- Anesthesia for Endoscopic, laparoscopic Surgery and Laser Surgery
- Anesthesia for Trauma and mass casualty
- Emergency anesthesia.

Paper 4 Monitoring Advances and Research in Sangyaharan

a. Monitoring in anesthesia:
   - Cardiovascular, Respiratory, Renal function, Neurologic and neuromuscular monitoring.
   - Peri- operative Thermo- regulation and monitoring
   - Peri- operative awareness and monitoring depth of anesthesia with BIS.
   - Peri- operative acid-base balance
   - Pt's positioning in anesthesia, its hazards and management
   - Peri- operative Fluid management and Blood transfusion.
   - Risks and hazards of anesthesia

b. Anesthesia equipments –
   - Medical gas systems
   - Breathing systems
   - Ventilators
   - Anesthesia machine

c. Post operative management-
   - Post anesthesia care
   - Post operative nausea and vomiting
   - Post operative Intra-Venous fluid therapy
   - Acute post operative pain

d. Misalleneous-
   - HDU,ICU, CCPR- BLS & ACLS.
   - Parentral nutrition.
   - Environmental factor and electrical safety

e. Management of Acute / Chronic Pain:
   - Assessment of pain
   - Peri-operative pain,
   - Chronic pain syndrome-detection and prevention,
   - WHO regime for Cancer pain,
   - TENS, Behavioral therapy

f. Anesthesia in remote locations
g. Clinical care in extreme environments (At high and low pressure and space).
h. Relevance of Sammohana (Hypnosis), Acupressure and Acupuncture in Sangyaharan.
i. Recent advances in research in Sangyahrana, Pain Management and Palliative Care. Scope and Application of principles of Ayurveda in Sangyahrana Research.

METHODS OF TRAINING AND TEACHING FOR M.D. (Ayu) ANAESTHESIOLOGY -

Case Presentation	Once a Week
Seminar / Symposia	Once a Week
Pre Anesthesia Care / Clinic	Thrice a Week
Critical Care unit / Recovery Room	Once a Week
Classroom Lectures	Twice a Week
Morbidity / Mortality	Once a Week
Audit	Once a month
Journal Club	Once a month
Record Keeping	Once a month
Emergency Drills / Protocols	Once a Week
Interesting Cases	Once a Month

Practical Examination

1. Case Record(25) -50 Marks
2. Presentation of different types of Anesthesia -50 Marks
3. Thesis Presentation -50 Marks
4. Viva-Voce -50 Marks

Minimum pass marks 50%

Result:- Pass/Fail

Staff required
Teaching- Professor-1
Reader/Asso. Prof-1
Lecturer/Assi Prof-2
Sen.Resident-2

Non Teaching staff
Anesthesia Technician- 1
Anesthesia Attendent-2
Ward boy-2
Sweeper-2

Reference Books

a. Sushruta Samhita -
b. Charka samhita -
c. Ashtang Hridaya -
d. Practice of Anesthesia - Churchill Davidson
e. Miller's Anesthesia - Ronald D Miller
f. Synopsis of Anesthesia - Alfred Lee
g. Sangyaharan Prakash - Dr. D. N. Pande
h. Agni karma-Technological Innovation - Dr. P.D. Gupta
i. Practice of Anesthesia and Resuscitation - Dr. P.K. Gupta et al
j. Essentials of Anesthesiology - Prof. A.K. Paul
k. Clinical Anesthesia - Prof. A.K. Paul
l. Anu Shastra karma - Dr. D.N. Pande
m. Textbook of Anesthesia - Aitkenhead

n.	Anesthesia and co-existing disease	-	Stoelting's
o.	Physiology and Pharmacology	-	Stoelting's
p.	Understanding Anesthesia Equipments	-	Dorsch & Dorsch's
q.	Clinical anesthesiology	-	G. Edward Morgan

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18. AYURVEDA DHANWANTRI-SHALAKYA - NETRA ROGA

Theory Four papers of- 100 marks each
Practical and Viva-voce - 100 marks

PAPER- I Netra Rog Vangmaya

1. Available literature of Netra roga vigyana in Brihattrayi, Laghuttrayi, Yogaratnakar, Chakradutta, Bhel Samhita, Harita samhita and Kashyap samhita.
2. Critical analysis of the available literature of netra roga vigyana in the above given classics e.g. Puyalasa and Vatahata Vartma In Sushruta samhita and Vagabhat samhita.
3. Unique/ specific contribution of different classics, Acharyas and commentators in the development of Netra roga vigyana.
4. Analytical determination of subjects related to eye disorders in ancient and modern literatures.
5. Update chronological development of Netra roga vigyana right from Vedic period.
6. Update chronological development of Ophthalmology.

PAPER- II Ayurvediya Netra Rog Vigyan

1. Enumeration and classification of Netra Rogas.
2. Descriptive knowledge of *etiology, pathogenesis, prodomal symptoms, clinical features, complications and prognosis of* pakshma -vartma- *sandhi*- - shukla- Krishna- dristi & sarvagata rogas along with exogenous eye diseases available in Ayurvedic classics. Medical and surgical Management of the above diseases with special skill development in Ashtavidha shastra & Trividha Anushastra chikitsa related to Netra roga.
3. Netra kriya kalpa procedures like seka, ashchyotana, vidalaka, pindi, tarpan, putapaka & anjana and their practical application and analysis based on ocular pharmacology. Standard operative procedures for Kriyakalpas including Aushada kalpanas.
4. Study of nayanabhighata and , its management and prevention.
5. Knowledge of preventive and community ophthalmology along with national programme for control of blindness and role of Ayurveda.
6. Ayurvedic Concept of Congenital, developmental and neoplastic diseases of netra.

PAPER – III Adhunik Netra Rog Vigyan

1. Knowledge and application of current diagnostic techniques and equipments and therapeutics in Ophthalmology.
2. Detailed study of refractive errors along with defects of accommodation and their management.
3. Detailed knowledge of classification, etiology, pathogenesis, signs and symptoms, differential diagnosis, prognosis and complications of diseases of eye orbit, lacrimal apparatus, lids, conjunctiva, cornea, sclera, uveal tract, lens, vitreous, retina, optic nerve and visual pathway with comprehensive knowledge of their medical and surgical management.
4. Ocular trauma , its emergencies and management.
5. Ocular motility disorders and their medical and surgical management
6. Neurological and systemic disorders affecting the eyes and their management.

PAPER – IV Recent Advances in Netra Chikitsa & Ophthalmology.

1. Update advances in the development of Ayurvedic drug formulations, therapeutic procedures and treatments of Netra roga.

2. Advanced technologies in the diagnosis of eye diseases.
3. Advanced technologies & techniques in the medical & surgical management of Netra roga.
4. Advanced management and technologies in Ophthalmology.
5. Detailed study of recent research works on chakshushya dravyas.
6. Comparative and critical study of modern advances in surgical techniques over the surgical methods described in Ayurvedic classics

Pattern of practical/Clinical training

1. Posting in OPD,IPD,OT & Kriya kalp Kaksha.
2. Case presentation ,clinical discussion, Seminars & Work shops.
3. Skill development in Ashtavidha shastra karma, Trividha Anushastra Karma and Modern Ophthalmic Surgical procedures viz lid surgery, pterygium surgery, cataract surgery, squint surgery, glaucoma surgery, DCR & DCT ect.

Methods of Training

- Intensive integrative training would be imparted to scholars in understanding the classical Ayurvedic aspects with an emphasis of critical comparative interpretation.
- Mandatory participation of scholars in seminars, group discussions, clinical demonstrations , journal review meetings, case study, continuing education activities and research clinical projects.
- During the first year course the emphasis would be laid to impart adequate knowledge on fundamental aspects and their applications, with a focus on latest diagnostic tools , instrumentations and laboratory procedures. Practical orientation and hospital based clinical training is an integral part of the curriculum all through.
- In the second year ,training would stress upon extending the knowledge on techniques and imparting skill for surgical performaqnce, ophthalmic procedure based therapies, surgical/para surgical procedures **so that the scholar is able to perform ophthalmic surgical procedures like** Ashtavidha shastra karma, Trividha Anushastra Karma and Modern Ophthalmic Surgical procedures viz lid surgery, pterygium surgery, cataract surgery, squint surgery, glaucoma surgery, DCR & DCT ect **independently**.
- In the third year the scholar should concentrate on the clinical work and research work based on the dissertation.
- The participation of the scholars in all the aspects of educational process is mandatory.
- Hospital postings – The student has to work for 6 terms of resident posting is compulsory out of which first 2 postings will be as a junior resident and the next four postings will be as a senior resident.
- The student should also develop in the academic work of the department.

Pattern of Practical Examination **100 Marks**

1. Bed side examination	
Short Case 2 of 10 marks each	-20 Marks
Long Case	-20 Marks
2. Identification of specimen / Instrument / Radiograph	-10 Marks
3. Thesis Presentation / Viva	-10 Marks
4.Teaching skill	-10 Marks
5. Viva Voce	-30 Marks

Reference Books

1. Charka Samhita with commentaries
2. Sushrut Samhita and vaghbhata with commentaries
3. Astanga hridaya and Astanga sangraha with commentaries
4. Madhava nidan with commentaries
5. Bhavaprakasha with commentaries
6. Sarangadhara Samhita with commentaries
7. Sahstrayoga Sangraha
8. Relevent part of Chakradhatta, Bhel Samhita, Harita Samhita
9. Shalakya Tantra - Ramanath Dwivedi
10 Shalakya Tantra - R.C. Chaudhary
11 The Actions and uses of Indigenous Ophthalmic Drugs - N.Srikanth
12 Clinical Examination of Ophthalmic Cases - Agarwal and Gupta
13 Alder's Physiology of the Eye and Clinical Applications - Cotlier, St. Louis
14 Disease of the Lens and Vitrous, Glaucoma and Hypotony - Duke Elder, St. Louis
15 A Text Book of Ophthalmology - Ahmed E.
16 A Text book of clinical ophthalmology - Dhanda
17 Modern Ophthalmology - Dutta, L.C. Jaypee Brothers
18 Manual of the Diseases of the Eye - May,C. and Worth, C.

Bailliere Tindal and Castell

19 Ophthalmology – Principles and Concepts - Newell, F.W., C.V. Mosby Co., St. Louis.
20 Ocular Differential Diagnosis - Roy Fedrick Hamptn Lea and Febiger
21 Clinical Ophthalmology - Smith, R.Verghese Company
22 Abrahm Manual of Refraction - Duke and Elder
23 Hand Book of ophthalmology - B.M. Chaterjee
24 Hand Book of ophthalmology - Khurana
25 Clinical ophthalmology - Kanski
26 Parsons Diseases of Eye
27 Stallard's Eye Surgery

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19.AYURVEDA DHANWANTRI- SHALAKYA - SHIRO- NASA- KARNA EVUM KANTHA ROGA

PAPER – I Shiro- Nasa- Karna - Kantha Roga Vigyan Maulik Siddhanta and Vangmaya

1. Detailed study of Shalakyatantra from Bruhat trayee, Laghutrayee, Kashyap samhita, Yoga ratnakar, Chakradutta, Bhel samhita , Harita samhita and other granthas.
2. Comparative and critical study of rogas explained by various granthas.
3. Syntactical derivation, definition and importance of the word "Shalakya". Sequential development and history of science of ear, nose, throat and Shiras disorders. Establishment of "Superiority of shiras' among the organs. Determination and importance of the verse **'Nasa Hi Shiraso Dvaram'.** Syntactical derivation and the synonyms of the words Karna, Nasa, Kantha, Shiras etc.
4. Descriptive knowledge of the anatomy and Physiology of ear, nose, throat and Shiras as per ancient and modern science.
5. Examination of the ear, nose, kantha and shira as per Ayurveda and modern science.
6. Common etiology of ear, nose, throat and shiras disorders, their pathogenesis, prodormal symptoms, classification, clinical features and general treatment.
7. Importance of shaman and sodhana therapy in ear, nose, throat and shira disorders with general introduction to local therapeutic procedures of ear nose and throat and shira e.g. kaval, gandusha etc.
8. Detailed applied knowledge of recent advanced diagnostic and therapeutic techniques and equipments (Yantra and Shastra) used for ENT and Shira disorders.
9. General knowledge of 'vrana bandhana' (bandaging of wounds) and applied bandage in ear etc.
10. Update chronological development of ENT from Vedic period.
11. Study of essential modern drugs, anaesethic agents of diagnostic and surgical importance.

PAPER – II Ayurvediya Shiro – Nasa - Karna - Kantha Roga Vigyan

1. Examination of the ear, nose, throat and shira patients.
2. Karna-Nasa –Kantha –and Shira rogas samkhya samprapti, descriptive knowledge of etiology, pathogenesis, prodromal symptoms, classification, clinical features, Upasaya-Anupsaya(prognostic measures) sadhyasadhyatwa and, complications of ear disorders described in the classics of Ayurved. Detail description along with practical orientation of their management.
3. Nasa rogas samkhya samprapti, descriptive knowledge, etiology, pathogenesis, prodomal symptoms, classification, clinical features, Upasaya-Anupsaya (prognostic measures), sadhyasadhyatwa and complications of nasal diseases described in the classics of Ayurved. Detail description along with practical orientation of their treatment.
4. Kantha rogas samkhyasamprapti, descriptive knowledge about etiology, pathogenesis, prodromal symptoms, classification, clinical features, Upasaya- Anupsaya (prognostic measures),sadhyasadhyatwa and complications of kantha diseases described in the classics of Ayurved. Detail description along with practical knowledge of treatment.
5. Shira and Kapala (cranial vault) disorders samkhya samprapti, descriptive knowledge, etiology, pathogenesis, prodromal symptoms, classification, clinical features, Upasaya-Anupsaya (prognostic measures) and complications of Shira and kapala diseases described in the classics of Ayurved. Detail description along with practical knowledge of treatment.

PAPER – III Adhunika Shiro- Nasa- Karna - Kantha Roga vigyan

1. Descriptive knowledge of instruments and recent equipments available for diagnosis of ear – nose – throat – head disorders along with their practical application.
2. Descriptive knowledge of etiology, pathogenesis, clinical features, differential diagnosis, classification along with complications of different ear – nose- throat and

head disorders. Detail knowledge of the treatment (including conservative and surgical) of the above mentioned disorders.

3. Imaging in ENT and Head disorders, detailed knowledge of LASERS, radiotherapy, chemotherapy and other recently advanced treatment modalities like speech therapy, cochlear implant, rehabilitation of the deaf and mute, etc. related to ear – nose – throat – and head disorders.
4. Management of emergencies in ENT and head disorders.

PAPER – IV Shiro- Nasa- Karna -Kantha Roga Vigyan Shalya Chikitsa

1. Knowledge of agropaaharniya and d trividha karma i.e pre operative, operative and post operative measures. Knowledge of eight types of surgical procedures (Astavidha Sasthra Karma) and post operative care of the patient with respect to ENT disorders (Vranitopasaniya).
2. Practical knowledge of updated surgical procedures in ear – like constructive surgery of external and middle ear,excision of pre auricular sinus, Tympanoplasty, Mastoidectomy, Stapedectomy, Endolymphatic sca surgery, Facial nerve decompression surgery, Cochlear implant, etc with their complications and their management.
3. Nose – Septo-rhinoplasty, SMR, Functional Endoscopic sinus surgery,Caldwell luc surgery, Antral puncture,Antral lavage,Turbinectomy,Polypectomy, Various surgical procedures done for malignancy of Nose and paranasal sinuses,Young's surgery,etc
4. Throat - Adenoidectomy, Tonsillectomy, Surgical procedures for pharyngeal abscesses, cauterization of pharyngeal wall granulations, tracheostomy, vocal cord surgery, surgery of vocal cord paralysis, management of laryngeal trauma, laryngectomy,etc.
5. General introduction of four treatment procedures like Bheshaj– Kshar – Agni– Shastra and Raktavsechana with their applied aspects in ear nose throat and shiro disorders . Chaturvidha upakrama in raktasandhan vidhi related to ear nose throat and head disorders. Haemostatic management in ENT.
6. Removal of foreign bodies in the ear nose throat and shira as per Ayurveda and modern science.
7. Karna-Sandhan Nasa-Sandhan, fundamental and applied aspects of Ayurveda.

Methods of Training

- Intensive integrative training would be imparted to scholars in understanding the classical Ayurvedic aspects with an emphasis of critical comparative interpretation.
- Mandatory participation of scholars in seminars, group discussions, clinical demonstrations , journal review meetings, case study, continuing education activities and research clinical projects.
- During the first year course the emphasis would be laid to impart adequate knowledge on fundamental aspects and their applications, with a focus on latest diagnostic tools , instrumentations and laboratory procedures. Practical orientation and hospital based clinical training is an integral part of the curriculum all through.
- In the second year ,training would stress upon extending the knowledge on techniques and imparting skill for surgical performaqnce, ENT procedure based therapies, surgical/para surgical procedures **so that the scholar is able to perform ENT surgical procedures independently**.
- In the third year the scholar should concentrate on the clinical work and research work beased on the dissertation.
- The participation of the scholars in all the aspects of educational process is mandatory.
- Hospital postings – The student has to work for 6 terms of resident posting is compulsory out of which first 2 postings will be as a junior resident and the next four postings will be as a senior resident.
- The student should also develop in the academic work of the department.

Pattern of Practical Examination:

1. Case Record(25)	-10 Marks
2. Bed side examination	
Long Case	-20 Marks
Short Case	-10 Marks
3. Identification of specimen / Instrument / Radiograph	-10 Marks
4. Thesis Presentation	-25 Marks
5. Viva Voce	-25 Marks

Reference Books

1. Sushrut Samhita
2. Charak Samhita
3. Ashtang Hridaya
4. Ashtang Samgraha
5. Laghutrayi
6. Modern books related to ENT disorder
7. Diseases of Nose Throat and Ear - Bhargav Shah
8. Diseases of Nose Throat and Ear, Head and Neck EB Edr.
9. A Text book of otorhinololaryngology - Scott Browns editions.
10. Text book of Ear Nose Throat diseases – Dhingra
11. Text book on ENT – Mohd. Maqbool
12. Logan Turner's book on ENT
13. Ballengers text book of ENT
14. Kumin's text book of ENT
15. Rob Smith's book of ENT surgery
16. Paprella's book of ENT
17. Hazarika's text book on ENT
18. Books on examination of ENT
19. Audiology Anirwan Biswas
20. Kurt's Audiology
21. Books on Speech therapy

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20. AYURVEDA DHANWANTRI-SHALAKYA - DANTA EVUM MUKHA ROGA

PAPER – I Danta evum Mukha Roga – Ayurveda Siddhanta and Vangmaya Marks 100

1. Etymology, definition and importance of the word 'Shalakya', History and development of the science of oral and dental diseases. Etymology and synonyms of the word 'Mukha' and 'Danta'. Ancient and recent knowledge of anatomy of oral cavity and teeth along with the knowledge of salivary glands.
2. Detailed study of Oral cavity and gustatory physiology.
3. Oral hygiene, Social aspect of oral hygiene, preventive measures in oral cavity diseases, general etiology, pathogenesis, prodromal symptoms, clinical features and general management of oral cavity diseases.
4. Agropaharaniya, knowledge of purva, pradhan and pashchat karma. Study of Ashta Vidha Shastra Karmas in relation to Danta and Mukha Roga.
5. Applied and detailed study of therapeutic measures for oral and dental disorders, like Kavala, Gandusha, Dhumapana, Nasya, Murdhtaila Mukhalepa and Pratisarana and their definition, types, indications, contraindications, procedure, features of proper,excess, deficient application and their management.
6. Importance of shodhan and shaman treatment in oral and dental diseases and knowledge of common recipes useful in oral and dental diseases.
7. General introduction of four types of treatment (Bheshja, Shastra, Kshara, Agni). Detail description of Anushastra karma; their practical knowledge in oral and dental diseases.
8. Analytical determination of related subjects of danta-mukha disorders available in ancient and modern commentaries of different Samhita.

PAPER – II Ayurvediya Danta evum Mukha Rog Vijnana **Marks 100**

1. Examination of oral cavity, periodontia and teeth. Teeth eruption and its systemic disturbances in a child, Classification, Number of teeth along with detail knowledge of abnormal tooth eruption. Dental disorders in paediatric age group, their prevention and treatment.
2. Danta gata rogas - Dental diseases detailed in the classics of Ayurved; their etiology, pathogenisis, prodromal symptoms, clinical features, complication and applied approach in the treatment of dental diseases.
3. Detailed study of etiology, pathogenesis, prodromal-symptoms, clinical features, complications and prognosis of diseases of the Danta-Mula Gata Roga (**gum-periodontia)** as detailed in the classics of Ayurved. Practical approach/orientation in Treatment of the periodontal diseases.
4. Oshtha (lip), Jihva (tongue) and Talu (palate) Rogas, detailed study of etiology, pathogenesis, prodromal - symptoms, clinical features, complications and, prognosis. Detailed description of their treatment along with practical orientation.
5. Sarvasara Mukharogas (Generalized oral diseases) available in ayurvedic classics. Detailed study of etiology, pathogenesis, prodromal-symptoms, clinical features, complications, prognosis and management of mukha rogas along with practical orientation.
6. Knowledge of Dantabhighata (dental trauma) and Mukhabhighata (oral injury) along with diagnostic and referral skills.

PAPER – III Adhunik Danta evum Mukha Rog Vijnana **Marks : 100**

1. Detail study of etiology, pathogenesis, clinical features, classification and complication of various oral and dental diseases available in literature of Modern sciences. Detail study of their recent available medical therapeutics.
2. Detail description of diagnostic technology in the diagnosis of oral and dental disease.
3. Study of essential modern drugs, anaesthetic agents of diagnostic and surgical importance.

4. Descriptive Knowledge of up-to-date available modern instruments and their application for examination, diagnosis and management of oral, periodontal and dental diseases.
5. Up-to-date knowledge of applied and available surgical procedures indicated in various dental diseases like tooth extraction, RCT, Dental filling, filling materials, tooth fixation and tooth implants etc.
6. Systemic Effects of oral, periodontal and dental diseases.

PAPER – IV Danta evum Mukha Rog Vijnana & Dentistry **Marks - 100**

1. Jaalandhara Bandha, its importance and application in Tooth extraction without anaesthesia.
2. Vishishta Upadanta parikalpana (Dental Material and Prosthesis).
3. Recent Research studies and advanced clinical applications of Kriya Kalpas in Danta and Mukha Rogas.
4. Detailed study of recent available medical therapeutics and Research studies in Dental and oral cavity disorders.
5. Adavnced diagnostic technology in Dentistry and oral pathology.
6. Benign and malignant tumors of Oral Cavity, their management and role of Ayurveda in Such conditions.
7. Useful conducts for treatment of oral and dental diseases with study of related medico-legal aspects.

Methods of Training

- Intensive integrative training would be imparted to scholars in understanding the classical Ayurvedic aspects with an emphasis of critical comparative interpretation.
- Mandatory participation of scholars in seminars, group discussions, clinical demonstrations, journal review meetings, case study, continuing education activities and research clinical projects.
- During the first year course the emphasis would be laid to impart adequate knowledge on fundamental aspects and their applications, with a focus on latest diagnostic tools , instrumentations and laboratory procedures. Practical orientation and hospital based clinical training is an integral part of the curriculum all through.
- In the second year, training would stress upon extending the knowledge on techniques and imparting skill for surgical performance, Dental procedure based therapies, surgical / para surgical procedures **so that the scholar is able to perform Dental surgical procedures independently**.
- In the third year the scholar should concentrate on the clinical work and research work based on the dissertation.
- The participation of the scholars in all the aspects of educational process is mandatory.
- Hospital postings – The student has to work for 6 terms of resident posting is compulsory out of which first 2 postings will be as a junior resident and the next four postings will be as a senior resident.
- The student should also develop in the academic work of the department.

Pattern of Practical Examination:

1. Bed side examination
   Short Case 2 of 10 marks each -20 Marks
   Long Case -20 Marks
2. Identification of specimen / Instrument / Radiograph -10 Marks
3. Thesis Presentation / Viva -10 Marks
4. Teaching skill -10 Marks
5. Viva Voce -30 Marks

Reference Books

1. Sushrut Samhita - Dalhana
2. Useful Portion of Charak Samhita-Ashtang Samgraha -Ashtang Hridaya
3. Useful portion of Laghutrayi related to Danta and Mukha Roga
4. Shalakya Vijnanam - Ravindra Chandra Chaudhary
5. Nimi Tantra - Ramanath Dwivedi
4. Dental Anatomy Histology - Dr. S.I. Bhalajhi
5. Essentials of Preventive and Community Dentistry -Dr. Soben Peter
6. Complete Denture Prosthodontics - Dr. J.J. Manappallil
7. Orthodontics the Art and Science - Dr. S.I. Bhalajhi
8. Text book of Pediatric Dentistry - Dr. S.G. Damle
9. Text book of Oral and Maxillofacial surgery -Dr. Vinod Kapoor
10. Clinical Periodontology - Dr. B.R.R. Varma
11. Anatomy for Dental Students - Inderveer Singh
12. Clinical Periodontology - Carranza , Newman
13. Operative Dentistry - M A Marzouk
14. Oral and maxilofacial surgery secrets - A.Omar Abubaker
15. Killey and Kay's Outline of Oral Surgery - Girdon R Seward
16. Clinical Dentistry - Ivor G. Chestnut , John Gibson
17. Synopsis of Oral Pathology - S N Bhaskar
18. Oral Pathology - Stone

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21. PANCHKARMA

PAPER–I Purva Karma-Snehana and Svedana

1. Panchkarma in Ashtanga Ayurved and Significance of Shodhana
2. Ama and Shodhana, benefits of Shodhana, Samikshya Bhavas in Shodhana,
3. Importance of Pachana prior to Snehana, methods, drugs, duration and dose for Pachana, samyak Lakshana of Pachana

Snehana

1. Etymology and definition of Sneha and Snehana
2. General considerations about Snehana
3. Classifications of Sneha, Sneha-Yoni, detailed knowledge of four types main Sneha-Ghrita, Taila, Vasa and Majja with their characteristics, importance and utility, various aspects of Uttama Sneha
4. Properties of Snehana Dravya and their interpretation
5. Effects of Snehana
6. Sneha Kalpana, various types of Sneha Paka with their utility
7. Indications and contraindications of Snehana
8. Classification of Snehana: Bahya and Abhyantara Snehana
9. Bahya Snehana and Bahir-Parimarjana, utility and importance of Bahya Snehana
10. Classification of Bahya Snehana
    Methods, indications, contraindications, specific utility of the followings Abhyanga, Mardana, unmardana, Padaghta, Samvahana, Udvartana/Utsadana, Udgharshana, Avagaha, Pariseka, Lepa, Pralepa, updeha, Gandusha, Kavala; Karana and Nasa Purna, Akshi Tarpana; Murdhni Taila: Shiro-abhyanga, Shirodhara, Siro Pichu and Siro Basti, Shiro Lepa (Talapotichil), Talam and Takradhara, etc.
11. Knowledge of digestion and metabolism of fat
12. Karmukata of Abhyantara and Bahya Snehan
13. Knowledge of different western massage techniques
14. Abhyantra Snehana: Brimhnartha, Shamanartha and Shodhanartha, definition, method and utility of Brimhanartha and shamanrtha Snehana; difference between Shamanartha and Shodhanartha Snehana
15. Methods of Abhyantar Snehana
16. Shodhanartha Snehana: Acchapana and Vicharana, Utility and various methods of Sadyasnehana, Avapidaka Sneha
17. Matra of Sneha : Hrasiyasi, Hrasva, Madhyama and Uttma Matra with their indications, specific utilty of Ghrita, taila, Vasa and majja; Anupana of Sneha
18. Need and method of Rukshana before performing Snehana in specific conditions and Samyak Rukshana Lakshana
19. Shodhannga Snehana Vidhi and methods of fixation of dose
20. Diet and Pathya during Snehana
21. Observation of sneha Jiryamana, Jirna and Ajirna Lkashana
22. Samyak, Asnigdha and Ati Yoga Lakshana of Snehana
23. Snehs vyapta and their management
24. Pariharya vishaya and Parihara Kala

Svedana

1. Etymology and definition of Svedana
2. General considerations about Svedana
3. Properties of Svedan and Svedopaga Dravya
4. Indications and contraindications of Svedana
5. Various Classifications of Sveda and Svedna
6. Detailed knowledge of four types of Sveda of Sushruta with their utility;

7. Hina, Mridu, Madhya and Mhana Sveda; Ekanga and Sarvanga sveda with their utility
8. Utility and method of each of 13 types of Sagni and 10 types of Niragni Sveda
9. Shodhannga and Samshamaniya Sveda
10. Methods to protect the vital organs (varjya anga) during Svedan Procedure
11. Detailed Knowledge about Utility of below mentioned Svedan procedures:- Patrapinda Sveda, Shashtika Shalipinda Sveda, Churna Pinda Sveda, Jambira Pinda Sveda, Dhanya Pinda Sveda, Kukkutanda Sveda, Anna lepa, Valuka Sveda, Ishtika Sveda, Nadi Sveda, Bashpa Sveda, Kshira bashpa Sveda, Avagaha Sveda, Parisheka Sveda, Pizichil, Dhanyamla Dhara, Kashaya Dhara, Kshira Dhara and Upanaha Sveda.
12. Avasthanusari Svedana in various disorders
13. Samyak, Ayoga and Atiyoga Lakshana, Sveda Vyapat and their management
14. Diet and regimens during and after Svedana
15. Karmukata of Svedana
16. Current sudation modalities like Sauna bath, Steam Bath, Infrared, etc.
17. Svedana with Kati Basti, Janu Basti and Griva Basti
18. Study of Snehana and Svedana related portions in classics with commentaries

PAPER – II Vamana and Virechana Karma

Vamana Karma

1. Etimology, definition and general considerations of vamana
2. Properties of Vamaka and Vamanopaga drugs
3. Knowledge and utility of important Vamaka drugs and their preparations (Vamana Yoga)
4. Avasthanusara Vamana and its utility.
5. Indications of Vamana
6. Contraindications of Vamana with reasons
7. Pachana prior to Snehana
8. Detailed knowledge and method of preparation of patient with Snehana
9. Abhyanga and Svedana as Purvakarma of Vamana
10. Diet and management of gap day
11. Need of increasing of Kapha for proper Vamana, Kapha increasing diet
12. Management of Patients on the morning of Vamana
13. Administration of food articles prior to Vamana
14. Drug, time, Anupana, Sahapana, dose and method of administration of Vamana and Vamanopaga preparations
15. Method of Vamana Karma, waiting period for automatic Vamana Vega and manipulation in its absence
16. Observations prior to beginning of Vamana such as sweat on forehead, horripilation, fullness of stomach and nausea
17. Observation and assistance of the patient during Vamana
18. Vega and Upavega of Vamaana and its counting, observations and preservation of vomitus matter and its weighing
19. Samyak, Ayoga and Atiyoga of Vamana
20. Laingiki, Vaigiki, Manaki and Antiki Shuddhi,
21. Hina, Madhya and Pravara Shddhi and Samsajana Krama accordingly
22. Detail knowledge of methods of Samsarjana Krama and its importance
23. Kavala and Dhumapana after vamana
24. Management of Ayoga, Atiyog and Vyapat of Vamana with Ayurveda and modern drugs
25. Parihara Vishaya and Kala for Vamana

26. Vamana Karmukata with Pharmaco-dynamics of Vamana

Virechana Karma

1. Etymology, definition and general considerations of Virechana
2. Importance of Vamana and Virechana as shodhana, Virechana better than Vamana
3. Necessity of Vamana prior to Virechana
4. Preparation of patients for Virechana after Vamana
5. Preparation of patients directly for Virechana
6. Properties of main Virechaka and Virechanopaga drugs, Classifications of Virechana drugs with definition, example and utility of each type
7. Indications of Vamana Karma
8. Contraindications of Virechana with reasons
9. Utility of Virechana for the specific conditions and stages of the disease
10. Internal Snehana for Virechana with diet
11. Management of 3 gap day with diet and importance of low Kapha for proper Virechana
12. Abhyanga and Svednana as Purvakarma of Virechana
13. Management of Patients on the morning of Virechana
14. Virechana should be performed in empty stomach
15. Drug, dose, time, Anupana, sahapana and method of administration of Virechana and Virechanopaga preparations
16. Method of performing of Virechana Karma
17. Observations during Virechana, Vega and Upavega of Virechana and its counting, observations and preservation of fecess and its weighing
18. Samyak, Ayoga and Atiyoga of Virechana
19. Laingiki, Vaigiki, Manaki and Antiki Shuddhi of Virechana
20. Hina, Madhya and Pravara Shddhi and Samsajana Krama accordingly
21. Detail knowledge of methods of Samsarjana Krama and its importance, and Tarpana krama and its importance
22. Management of Ayoga, Atiyog and Vyapat of Virechana with Ayurveda and modern drugs
23. Parihara Vishaya and Kala for Virechana
24. Virechana a Karmukata with Pharmaco-dynamics of Virechana
25. Applied anatomy and physiology of Gastrointestinal system related with Vamana and Virechana
26. Study of Vamana and Virechana related portions in classics with commentaries
27. Recent advances of researches on the effect of Vamana and Virechana
28. Scope of research for Vamana and Virechana.
29. Role of Vamana and virechana in promotion of health prevention and treatment of diseases

PAPER – III Basti Karma and Nasya Karma

Basti Karma

1. Etymology, definition and general considerations of Basti
2. Importance of Basti in Kayachikitsa and other branches of Ayurveda
3. Classifications of Basti
4. Drugs useful in Basti
5. Indications of Basti, its role at the various stages of diseases
6. Contraindications of Basti with reasons
7. Description of Basti yantras, Basti netra and Basti putaka and their Doshas. Modified Basti Yantra, their merits and demerits

8. Dose schedules of Niruha and Anuvasana basti

Niruha basti

Etymology, synonyms, definition and classifications and subclassifications of Niruha Basti and detailed knowledge of each type of Niruha Basti along with indications and contraindications and benefits
Contents of various types of Niruha Basti, their peoportions, methods of mixing basti Dravya,
Relation of Virechana, Shodhana, Anuvasana Basti with Niruha Basti
Purvakarma for Niruha Basti; Pathya before, during and after Niruha Basti; all the aspects of administration of various Niruha Basti
Observations during and after Niruha Basti
Basti Pratyagamana,
Samyakyoga, Ayoga and Atiyoga Lakshana and Various Vyapat of Niruha Basti and their management according to Ayurved and Modern Systems of Medicines
Management during and after Niruha Basti
Pariharya vishaya and pariharakala,

Anuvasana basti

Etymology, synonyms, definition and classifications of Anuvasana Basti and detailed knowledge of each type of Anuvasana Basti along with indications and contraindications and benefits
Various types of Ghrita and Taila useful in Anuvasana Basti; Anuvasana Basti with Vasa and Majja along with their merits and demerits
Relation of Virechana, Shodhana, Niruha Basti, Snehana with Anuvasana Basti
Purvakarma for Anuvasana Basti; Pathya before, during and after Anuvasana Basti;all the aspects of administration of Anuvasana Basti including Kala
Observations during and after Anuvasana Basti
Anuvasana Basti Pratyagamana,
Samyakyoga, Ayoga and Atiyoga Lakshana and Various Vyapat of Anuvasana Basti and their management.
Management during and after Anuvasana Basti
Pariharya vishaya, Pathya and pariharakala for Anuvasana
Various combined basti schedules such as Karma, Kala, yoga Basti etc.
Detailed knowledge of Matra Basti
Detailed Knowledge of different basti formulations like Piccha Basti, Kshira Basti, Yapana Bastis, Madhutailika Basti, Erandamuladi Niruha Basti, Panchaprasrutika Basti, Kshara Basti, Vaitarana Basti, Krimighna Basti, Lekhana Basti,Vrishya Bsti,Manjishtadi Niruha Basti,Dashamula Basti, Ardhamatrika Basti,Sarva roghara Niruha Basti,Brimhana Basti, Vataghna Basti, Pittaghna Basti and Kaphaghna Basti etc, and their practical utility.

Uttara basti

1. Definition and Classification of Uttara Basti, its Netra and Putaka. Dose of Uttara Basti Sneha and Kashaya Basti. Different Uttara Basti Kalpanas in various diseases.
2. Detailed knowledge of Purvakarma and Administration of uttara Basti in male and female, precautions, aseptic measures, complications and thier management Karmukata of Basti. Applied anatomy and physiology of colon, Pharmaco-dynamics of Basti.
3. Concept of 'Gut Brain' and its relevance to Basti Therapy.
4. Study of relevant portions of Basti in classics with commentaries.

Nasya Karma

1. Etymology, synonyms, importance and definition of Nasya
2. Nasya drugs according to various Samhita

3. Classifications and sub-classifications of Nasya with detailed knowledge of each type
4. Indications and contraindications of each type of Nasya with reasons
5. Drugs useful for Nasya with Dose and methods of preparations and their doses
6. Nasya Kala and Pathya before, during and after Nasya; Duration of different Nasyas
7. Purvakarma of each types of Nasya
8. Detailed knowledge of administration of each type of Nasya with management during and after Nasya.
9. Detailed knowledge of common Nasya formulations such as Shadabindu Taila, Anu taila, Kshirabala Taila, Karpasastyadi Taila, Bramhi Ghrita.
10. Samyak yoga, Ayoga and Atiyoga of each types of Nasya, its Vyapat and their management
11. Pashchata Karma; Role of Dhumapana, Kavala after Nasya,
12. Diet and Pathya before, during and after Nasya Karma
13. Pariharya vishaya, Parihara Kala,
14. Nasya Karmukata, Applied anatomy and physiology related to Nasa hi Sirso Dvaram, blood and nerve supply to nose, Shringataka marma, olfactory nerve and centers, aroma therapy, trans nasal administration of drug, recent advances in nasal drug delivery
15. Study of relevant portion in classics with commentaries

PAPER – IV Raktamokshana, Physiotherapy and Diseasewise Panchakarma

A. Raktamokshana-33 Marks

1. Definition, importance, classifications and detailed knowledge of each type of Raktamokshana with their methods of performance
2. General principles, indications, contraindications of Raktamokshana
3. Detailed knowledge of Jalaukavacharana: Indications and contraindications of Jalaukavacharana, various tyoes of Jalauka with their beneficial and harmful effects.
4. Purvakarma and method of Jalaukavacharana, observations and Pathya before, during and after Jalaukavacharana
5. Management during and after Jalaukavacharana
6. Symptoms of Samyak, Ayoga and Atiyoga and Vyapat of of Raktamokshana and their management with Ayurveda and Modern medicines.
7. Pariharya vishaya and Parihara kala
8. Karmukata of different types of Raktamokshana

B. Clinical Physical Medicine-33 Marks

1. Definitions and terminology
2. Biomechanics of human movements; Physiology of exercise
3. Treatment modalities used in Physical Medicine- general properties and detailed clinical use of each

a. Heat – general physiological properties and mode of action as a treatment agent, Forms of heat therapy – superficial and deep heating. General knowledge of Infrared, Paraffin Wax bath, short wave diathermy, electro magnetic therapy, ultra sound therapy, convection heating devices,
b. Cold as a therapeutic agent
c. Prescription of physical modalities and their applications in medicine.

4. Clinical use of massage, manipulation, stretching
5. Principles of occupational therapy, training in activities of daily living for rehabilitation, self-help devices (walking aids, wheelchairs, tricycles & modified vehicles), instrumental activities of daily living,
6. Physiotherapy exercises for Paralytical disorders, cervical spondylosis, frozen shoulder and slip disc.

C. Disease-wise Panchakarma-34 Marks

Role of Panchakarma in Different Stages of the following Diseases:

Jvara, Raktapitta, Madhumeha, Kushtha, Shvitra, Unmada, Apasmara, Shotha, Plihodara, Yakridaluodara, jalodara,, Arsha, Grahani, Kasa,Tamaka Shwasa, Vatarakta, Vatavyadhi, Amlapitta, Parinama Shula, Ardhavabhedaka, Ananta Vata,, Amavata, Sheetapitta, Shleepada, Mutrakruchchra, Mutrashmari, Mutraghata, Hrudroga, Pinasa, Drushtimandya, Pandu, Kamala, Sthaulya, Krimi, Madatyaya, Moorchcha, Padadari, Mukhadushika, Khalitya, Palitya,

Use of Various panchakarma Procedures in the following disorders -

Migraine, Parkinson's Diseasse, trigeminal neuralgia, Bell's palsy, cerebral palsy, Muscular dystrophy, hemiplegia, paraplegia, Lumbar Disc disorders, Spondylolisthesis, Ankylosing spondylosis, Carpel Tunnel Syndrome, Calcaneal Spur, Plantar fascitis, GB syndrome, Alzhiemer's disease, Irritable Bowel Syndrome, ulcerative colitis, psoriasis, hypothyroidism, hyperthyroidism, hypertension, allergic rhinitis, , Eczema, diabetes mellitus, Chronic obstructive pulmonary Disease, Insomnia, Rheumatoid Arthritis, Gout, Osteoarthritis,multiple sclerosis, SLE, male & female infertility, cirrhosis of liver, Jaundice, General Anxiety Disorders,

Referance Books:

1	Charak Samhita with commentary of Ayurved Dipika by Chakrapanidatta and Jalpakalpa taruby Gangadhara	Agnivesha
2	Sushrutha Samhita with the Nibhandha Samgraha commentary of Dalhana and Nyayachandrika panjika of Gayadasa on nidansthana	Sushrutha
3	Ashtang Hridaya with Sarvanga sundara and Ayurved rasayana commentaries	Vaghbhata
	Ashtanga Sangraha with Shashilekha commentery	Vaghbhata
	Bhela Samhita	
	Kashyapa Samhita	
	Bhavaprakasha of Bhavamishra	
	Sharangadhara Samhita	
	Vangasen	
	Gadanigraha	
4	Ayurvediya Panchkarma chikitsa	Dr Mukundilal Dwivedi
5	Panchkarma Vigyan	Dr Haridas Shreedhar Kasture
6	Illustrated Panchkarma	Dr.G Srinivasa Acharya
7	Ayurveda-Principles and Practice of Panchakarma	Dr. Mandip and Dr Gurdip Singh
8	The Panchkarma Treatment of Ayurved with Kerala Specialities	Dr. T.L. Devaraj
9	Panchkarma Therapy	Dr. R.H. Singh
10	Principles and practice of vasti	Dr. Vasudevan Nampoothiri and Dr. L. Mahadevan
11	Claiton's Physiotherapy	
12	Teddy's Physiotherapy	
13	Harrison's Principles of Inernal Medicines	
14	Guyton's Physiology	

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22.Chhaya Avum Vikiran Vigyan

Paper-1 Fundamentals of Chhaya Avum Vikiran Vigyan (Radio-diagnosis & Imaging)

Part-A

Detail knowledge of principles of Ayurveda and their applied aspects, specially Panch Mahabhuta, Dosh, Dhatu, Mala, Panch Nidan, Prakriti, Shatkriyakaal, Praman, Chhya-Pratichchhaya , Prabha, , Rogi pariksha (Trividha, Shatvidha especially Darshan pariksha),their relevance with Chhaya avum Vikiran Vigyan.
-Study of Ayurvedic classics and modern Medical Science texts related to Chhaya avum vikiran vigyan
- Chhaya avum Vikiran vigyan as a means of Darshan priksha.

Part-B

- Infrastructure of an ideal Chhaya avum vikiran unit.
- Fundamental principles of Chhaya avum vikiran vigyan
- Detail knowledge of equipments (yantra) used in Chhaya avum Vikiran Vigyan.
- Dark room techniques
- Ionizing and non ionizing energies related to Chhaya avum Vikiran Vigyan - relevant hazards, prevention and precautions, their management by Ayurvedic and modern measurements.
- Trividh Karma –Poorva ,Pradhan avum Pashchat Karma in Chhaya avum Vikiran Vigyan
- Occupational physical disorders of consultants related to Radio-diagnosis and imaging.

Paper-2 Applied Anatomy, Physio-pathology and Procedures in Chhaya avum Vikiran Vigyan (Radio-diagnosis & Imaging)

Part-A

Applied Anatomy, Physiology & Pathology in Chhaya avum vikiran Vigyan (Radio-diagnosis & Imaging)

Detail knowledge of Ayurvedic and Modern applied radiological Anatomy (including sectional), Physiology and Pathology of the human body;

1. Sira(Vessels), Gaurya Sira, (Lymphatic channels), Mansa (Muscles), Snayu (Ligaments), Kandara (Tendons), Sandhi(Joints), Nadi(Nerve), Asthi(Bones), Strotas,Marma, Antahsravi granthi (Endocrine glands) etc.
2. Urdhwajatrugata(Supraclavicular) parts-Kapaal(Skull),Karna(Ears),Chakshu(Eyes), Nasa(Nose), Paranasal sinuses, Lalagranthi(Salivary glands), Face, Greeva(Neck), Sushumna(Spinal cord) and Kaseruka (vertebrae), Mukha(Mouth), Danta(Teeth), Mastulunga(Brain), Lasika granthi(Lymph glands)etc.
3. Koshtha (Trunk) parts-Sushumna(Spinal cord) and Kaseruka(vertebrae).
    a. Vaksha(Thoracic)parts-Phuphphus(Lungs),Hridaya(Heart)&Sira(Vessels), Shwashnalika (Trachea, Bronchi), Annamarg (Esophagus), Lymph nodes, Kooch (Breast), Hridayabandhan (Diaphragm)etc.
    b. Udar(Abdominal)parts- Audaryyakalaa (Peritoneum) Aamashaya(Stomach) , Kshudrant (Smallintestine), Vrihadantra (Large intestine), Guda(Rectum and Anal canal), Aantrapuchchha (Appendix) , Yakrit(Liver), Tilam(Gall bladder), Billiary channels, Pleeha(Spleen), Agnyashaya(Pancreas), Vrikka (Kidney),Gavini(ureter), Basti(urinarybladder), Shishna(penis),Paurushgranthi (prostate) ,Vrishan(testes),Shukrashaya (seminalvesicles),Dimbashaya(ovaries), Perineum Garbhashaya(uterus), Yoni, Dimbvahini(fallopian tubes), Lasika granthi (lymph nodes) etc.
4. Shakha-parts of upper and lower extremities.

Part –B Procedures in Chhaya avum Vikiran Vigyan (Radio-diagnosis & Imaging)

- Various routine and special, non-contrast and contrast radiography, Digital radiography, Radiographic positions and views.
- Various Ultra Sonographic procedures -Various diagnostic and therapeutic Ultrasonography [routine,,joint study, various Endo-USG, Obstetrics -Garbha vinishchaya (confirmation of pregnancy) , Masanumas Garbh vriddhi (fetal development), Garbha swastha (fetal well being) and Vyadhi (fetal diseases) ,Vikrita garbha (congenital anomalies) . Apara (Placenta), Nabhinadi darshan (umbilical cord),Garbhapatta (abortion) Apara / Garbhaavayav Apaatan (Retained conceptual products), Gynaecology –Yonivyapat (gynaecological disorders), Bandhyatva (infertility) , Garbhashayabhransha (uterine prolapse)etc. Dopplers USG guided techniques and other advances.
- CT, MRI, Radionuclide scanning, PET and other recent advanced procedures in Radio-diagnosis & Imaging.
  Mammography
  Bone Densitometry
  Interventional radiology

Paper 3 ***Physics and Biology related to Chhaya avum Vikiran Vigyan(Radio diagnosis & Imaging)***

Part-A

- Physics of radiography, Digital radiography, Fluoroscopy, their application.
- Physics of ultrasonography, its applied aspect related to various U.S.G, Doppler procedures.
- Study of contrast materials used in Radio-diagnosis and imaging.

Part-B

- Physics of CT scan, its applied aspect, efficiency and limitations.
- Physics of MRI, its applied aspect, efficiency and limitations.
- Physics and its applied aspect related to other imaging procedures e.g. PET, Radio-Nuclides imaging etc.
- Biology related to Chhaya avum Vikiran Vigyan

Paper-4th ***Applied Chhaya avum Vikiran Vigyan (Radio-diagnosis & Imaging)***

Part-A

Applied aspects of radiographic interpretation and reporting of various diseases related to systems, organs (as mentioned in paper-2nd, part-A) and metabolism.

Part-B

- Applied aspects of Ultrasonography, interpretation and reporting of various diseases related to system, organ (as mentioned in paper-2nd, part-A,) and metabolism, routine joint study, various Endo-USG. , Obstetrics -Garbha vinishchaya (confirmation of pregnancy) , Masanumas Garbh vriddhi (fetal development), Garbha swastha (fetal well being,bio-physical profile) and Vyadhi (fetal diseases) ,Vikrita garbha (congenital anomalies,2nd level obstretic USG) . Apara (Placenta), Nabhinadi darshan (umbilical cord),Garbhapatta (abortion) Apara / Garbhaavayav Apaatan (Retained conceptual products), Gynaecology –Yonivyapat (gynaecological disorders), Bandhyatva (infertility) , Garbhashayabhransha (uterine prolapse)etc. Dopplers, USG guided techniques and other advances..
- Applied aspect , interpretation and reporting of CT scan, MRI scan and other advanced Radiological techniques.

- Application of Chhaya avum vikiran vigyan in context to Ayurvedic fundamentals, diagnosis, management and research.

Reference Books;

Shusruta Samhita	Relevant part
Charak Samhita	- do-
Astang Hridaya/Sangrah	- do-
Text Book of Radiographic Positioning and Related Anatomy	- By Kenneth L Bontrager, John P Lampignano
Radiographic interpretation to general practitioner	-W.H.O.
Procedures in diagnostic Radiology	- By T. Doyle, W. have, K. Thomson.
Radiographic positioning	- By Clark
Radiobiology for the Radiologist	- By Hall.Christensen's
Physics of Diagnostic Radiology	- By Curry T S , Dowdey J E , Murry R C
Farr's Physics for Medical Imaging	- By Penelope Allisy-Roberts , jerry Williams
Fundamental of Diagnostic Radiology	- By Brant.
Diagnostic Imaging	- By Federle
Diagnostic Imaging	- By Peter Armstrong , Martin Wastie , Ansrea Rockall
Gastrointestinal radiology	- R.L. Eisenberg
Uro-radiology	- T.Sherwood, A.J.Davidson, .B.Talner
Grainger and Allison's Diagnostic Radiology	-Text book of medical imaging
Text Book in Radiology and Imaging	- By D. Sutton.
Introduction to Vascular Ultrasonography	- By Zwiebel , Pellerito
Text book in Ultrasonography	- By Roumack
Manual of Medical Diagnostic Ultrasonography	- By W.H.O. Scientific group.
Computed Tomography & MRI of the whole body	- By Hagga.
Surface and Radiological Anatomy	- By A. Halim
X-Ray equipment for student Radiographers	- By DN and MO Chesney
Clinical Sonography , A Practical Guige Tom Winter	- By Roger C. Sanders ,
Ultrasonography in obstretics and gynaecology	-Callen

Standard Journals like Indian Journal of Radiology, Radiology, Radiological clinics of north America, British Journal of Radiology etc.

Audio-visual aids -CDs & DVDs

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2.K.C
94 Pages

CENTRAL COUNCIL OF INDIAN MEDICINE
NEW DELHI

SYLLABUS FOR POST – GRADUATE DIPLOMA COURSE

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AYURVEDIC PHARMACEUTICS
D. Rasa Shastra and Bhaishajya Kalpana
First year

Theory (Two papers) - Maximum Marks -100 (each)
Practical (one) - Maximum Marks-100

Paper – I
Raw Materials Science
Part-A

1. Definition and categories of raw materials from plant, animal, metallic and mineral origin.
2. Plant concentrates, extracts and exudates, resins, excipients, sweetening agents, volatile oils, perfumes, flavours and colours.
3. Collection, shelf-life and storage of raw materials.
4. Study of plant material derived from prioritized medicinal plants.
5. Study of nomenclature, synonyms, description-macro and micro, identification, purity and strength, constituents, assay, properties – pharmacological activity, important formulations, therapeutic uses and dose of raw materials as given in the pharmacopoeia as applicable for following plants.

1) Ahiphena	2) Agnimantha	3) Agaru
4) Amalaki	5) Apamarga	6) Aragvadha
7) Ardraka-Shunthi	8) Arjuna	9) Arka
10) Ashvagandha	11) Ashvagola	12) Ashoka
13) Ativisha	14) Bakuchi	15) Baladvayam.
16) Bharangi	17) Bhallataka	18) Bibhitaka
19) Bijaka/Vijayasara	20) Bilva	21) Brahmi
22) Bringaraj	23) Brihati	24) Chandandvaya
25) Chitraka	26) Dadima	27) Danti
28) Daruharidra	29) Dhanyak	30) Dhatki
31) Draksha	32) Durva	33) Ela
34) Eranda	35) Gambhari	36) Gokshura
37) Guduchi	38) Guggulu	39) Haridra
40) Haritaki	41) Hingu	42) Jambu
43) Jatamamsi	44) Jatiphal	45) Jeerakdvaya
46) Jyotishmati	47) Kalmegh	48) Kampillak
49) Kanchanar	50) Kantakari	51) Kapikacchu
52) Karkatashringi	53) Karpur	54) Katuki
55) Khadira	56) Kiratatikta	57) Kumari
58) Kupilu	59) Kumkum/Keshara	60) Kushmanda

61) Lavang
62) Kutaja
63) Lodhra
64) Madanaphal
65) Manjishtha
66) Marich
67) Markandika
68) Mushali
69) Musta
70) Nagakeshar
71) Nimba
72) Nirgundi
73) Palasha
74) Palandu
75) Pashanabheda
76) Patala
77) Patola
78) Pippali-Pippalimula
79) Punarnava
80) Rasna
81) Rasona
82) Saireyaka
83) Shallaki
84) Saptaparna
85) Sarpagandha
86) Sariva
87) Shalparni
88) Shalmali
89) Shankhapushpi
90) Shatavari
91) Shatapushpa
92) Shigru
93) Shirish
94) Shyonaka
95) Talisa patra
96) Tila
97) Trivrit
98) Tulsi
99) Tvak
100) Ushira
101) Vacha
102) Varun
103) Vasa
104) Vata
105) Vatsanabha
106) Vidari
107) Vidanga
108) Yashtimadhu
109) Yavani
110) Devadaru

Part-B

1. Short introduction to minerology - including the process of mineral origin and formation, classification of minerals, their geographical distribution, as well as their utilization. Physical, chemical and minerological properties, identification, classification, categorization, pharmacological properties and uses of minerals.
2. Brief introduction to metallurgy, including the physical and chemical behavior of metallic elements, extractive metallurgy, properties of metals, important common alloy systems, general principles of metal working process, various heat treatments and chemical properties of metals.
3. Definition, classification, scientific and classical nomenclature, synonyms, characteristic features, physico-chemical properties of Rasa, Maharasa, Uparasa, Sadharanrasa, Ratna-Uparatna, Vishopavisha, Dhatu and Upadhatu (Metals and mineral containing drugs) along with their properties, pharmacological activity, important formulations, therapeutic uses and dose.
4. Brief introduction to animal products used in therapeutics, their physical and chemical properties, pharmacological activity, therapeutic uses and dose.
5. Storage and shelf life of metal, mineral and animal origin raw materials.

Paper – II

Drug Standardization and Regulations

Part-A

1. Methods of drug standardization in relation to drugs prepared from plant, mineral, metal and animal products.
2. Concept of evaluation of Plant drugs as per WHO guidelines.
3. Review of general methods of evaluation of drugs and foods.
4. Morphological, Microscopical, Cytomorphological examination of finished products.
5. Determination of physical and chemical constituents and its extractive values.
6. Techniques of separation, identification, estimation and characterization of various chemical components of drug.
7. Determination of Physical, Chemical and Biological adulterants and contaminants.

Part-B

Indian Statutory Regulations applicable to Ayurvedic products

1. Good Manufacturing Practices related to Ayurvedic Drug Industry.
2. Laws Governing Pharmacy
   a) Relevant regulatory provisions of Ayurvedic drugs in Drug and Cosmetic Act 1940 and Rules 1945
   b) Laws pertaining to Drugs and Magic remedies (objectionable advertisement) Act-1954.
   c) Prevention of Food Adulteration (PFA) Act.
   d) Laws pertaining to Narcotics
   e) Factory and Pharmacy Acts
   f) Consumer Protection Act -1986
   g) Standards of Weights and Measures (Enforcement) Act 1985
3. Regulatory Affairs related to International Trade and Practices of Ayurvedic Drugs.
4. Introduction to Ayurvedic Pharmacopeia of India, Ayurvedic Formulary of India.
5. Introduction to Indian Pharmacopeia, British and United States Pharmacopeia, Pharmacopeial Codex.
6. Introduction to Traditional Knowledge Digital Library.

Patent and product registration

1. Intellectual property, importance and types of intellectual property.
2. Paris convention, World Trade Organization and GATT.
3. The Indian Patents Act 1970 and Indian Patents (Amendments) Act 2005.
4. Concepts of patentability – issue of novelty, inventive steps and industrial application with special reference of differences in Indian, United States and European patents.
5. Knowledge of US FDA and statutory regulations as applicable to plant drugs in U.S.
6. Introduction to European Union. Traditional Health Medicinal Product Directive (THMPD) and other directives and regulations related to plant drugs, Neutraceuticals applicable in European Union.

7. Introduction to product registrations in many countries such as - Natural Health Products of Canada, Traditional Medicine Registration of Malaysia, EMEA's Human Herbal Medicines, etc.
8. New Drug Application (NDA) and Abbreviated New Drug Application (ANDA).

Second Year

Theory (Two papers) - Maximum Marks -100(each)

Practical (one) – Maximum Marks -100

Paper - I

Pharmaceutical Technology of Kashtaushadhi

Part-A

1. Introduction to Pharmaceutical technology, standard operating and manufacturing procedures.
2. Dosage forms of drugs- liquids, semi-solids and solids.
3. Size reduction- disintegrator, hammer mill, ball mill, fluid energy edge runner, roller mill.
4. Size separation, mixing and homogenization.
5. Filtration- various devices and methods.
6. Extraction- percolation and maceration, infusion, decoction, soxhlet extraction.
7. Distillation- Double and triple distillation, fractional distillation (rectification), molecular distillation, vacuum distillation.
8. Heat processes- fusion, calcination, ignition, exsiccation, sublimation.
9. Drying process– knowledge of current and advanced technologies of drying.
10. Freeze drying (Lipholization).
11. Tablet making- types of tablets, binders, adhesives, lubricants, colorants etc., compression- single, multiple station machines, coating, polishing.
12. Capsules– types of capsules, hard and soft gelatin, granulation, capsule filling technology.
13. Introduction to Stability studies and use of preservatives, anti-oxidants and other material with reference to shelf life of drug material.
14. Syrups, elixirs, ointments, emulsion, pastes, dental and cosmetic preparations.
15. Packaging technology, strip packing, blister packing, aerosols, labeling.
16. Marketing of Pharmaceutical products

Part-B

1. Introduction to technical terminologies used in Bhaishajya Kalpana.
2. Definition, composition, method of preparation of following dosage forms:
   a) Liquid dosage forms - Svarasa, Kvatha, Hima, Phanta, Taila, Asava-Arista and Basti kalpa, etc.
   b) Semi Solid Dosage forms – Avaleha, Ghrita, Kalka, etc.
   c) Solid dosage forms – Churna, Gutika, Vati, Varti, Guggulu, Kshara, Lavana, Tablet, Capsules, etc.
   d) Pathya / Aahara kalpana- Krita- akrita and Aushadh Siddha.

e) Topical dosage forms – Malahara, Upanaha, Lepa, Udvartana, Karnapuran, Anjan, Ascchyotanadi Netra Kalpa, Nasya Kalpa and Mukha Kalpa.
f) Preparation of Ksharasutra.

3. Study of organoleptic and physico-chemical characteristics, determination of heavy metal content and microbial load in different formulations.
4. Study of therapeutic uses, dosage and method of applications of different dosage forms described in Bhaishajya Kalpana.
5. Introduction to methods of packing and storage of drugs.
6. Introduction to new dosage forms –
   a) Neutraceuticals and food supplements.
   b) Concept of Organic food and Genetically Modified Food
   c) Cosmeceuticals / Cosmetics – Study of ingredients used in various cosmetic products such as creams, powders, lotions, hair oils, toiletries, etc.
   d) Introduction to raw materials of plant origin like fixed oils, waxes, gums, hydrophilic colloids, colours, perfumes, protective agents, bleaching agents, preservatives, antioxidants and other ancillary agents.
   e) Plant Products – Evaluation of plant products using physico-chemical studies in whole form and identification of chemical components.

Paper – II
Pharmaceutical Technology of Rasaushadhi

Part-A

1. Introduction to technical terminologies used in Rasashastra
2. Knowledge and application of yantra, puta, musha, chullika, koshthi etc. used in preparation of Rasaushadhis.
3. Introduction to current technology and equipments such as heating appliances like furnaces, boilers, drying chambers, heating mantles, hot plates, gas stoves, mixers, grinders, edge and end runners, mills, shifters, sieves used in pharmaceutical processing, manufacture and quality control of Rasaushadhi.
4. Concept of pharmaceutical engineering and instrumentation technology.

Part-B

1. Knowledge and application of processing techniques in Rasashastra.
   a) Shodhana of raw materials like Rasa, Maharasa, Uparasa, Sadharanarasa, Ratna-Uparatna, Vishopavisha, Dhathu and Upadhatu. (Metals and mineral containing drugs).
   b) Marana, Satvapatana, Amritikarana, Lohitikarana, Druti Nirmana of Rasa, Maharasa, Uparasa, Sadharanarasa, Ratna-Uparatna, Vishopavisha, Dhatu and Upadhatu.
2. Definition, composition, method of preparation of following dosage forms:
   a) Pishti
   b) Khalvi Rasa
   c) Parpati Rasa
   d) Kupipakva Rasa
   e) Pottali Rasa

3. Study of organoleptic and physico-chemical characteristics
4. Determination of microbial load and heavy metal content (wherever relevant) in different formulations.
5. Study of therapeutic uses, dosage and method of applications of different dosage forms described in Rasashastra.
6. Introduction to methods of packing and storage of Rasaushadhi.

PRACTICALS

Contents of Practical

1. Preparation of minimum two formulation of each class (Total 50).
2. Work experience in every pharmaceutical process.
3. Visit to two GMP certified pharmacies.

Pattern of Practical Examination

1.	Practical Records	10 marks
2.	Practical (Rasa Shastra)	20 marks
3.	Practical (Bhaishajya Kalpana)	20 marks
4.	Project Work	20 marks
5.	Viva - voce	30 marks
	Total	**100 marks**

Text Books for Reference

1.	Aushadhi Guna Dharma Shastra	:	Vd.Gune
2.	Aushadhikaran	:	Vd.Dhamankar
3.	Ayurved Prakash	:	Madhav Upadhyaya
4.	Ayurvediya Rasashastra	:	Dr.C.B.Jha
5.	Bhaishajya Kalpana Vigyan	:	Dr S K Mishra
6.	Bhaishajya Kalpana Vigyan	:	Dr.K.R.C. Reddy
7.	Bhaishajya Kalpana Vigyan	:	Dr.S G Hiremath
8.	Bharat Bhaishajya Ratnakara		
9.	Bhavaprakasha Nighantu	:	Bhavamishra
10.	Bhaishajya Ratnavali	:	Govind Das
11.	Kashyapa Samhita	:	Kashyapa
12.	Paribhasha Khanda	:	Yadavji Trikamji Aacharya
13.	Ras – Tarangini	:	Sadanand Sharma
14.	Rasaratnasamucchya	:	Rasa Vagbhata
15.	Rasashastra	:	Dr.V.A.Dole (English)
16.	Rasayogasagara	:	Hariprapanna Sharma
17.	Rasendrachintamani	:	Dundukanath
18.	Sharangadhar Samhita		

19. Relevant portions from Charak Samhita, Sushrut Samhita, Ashtanga Hridaya, Ashtanga Samgraha.
20. Bentley's T.B. of Pharmaceutics : Rawllins
21. Compendium of Medicinal Plants : Orient Longmann
22. Drugs & Cosmetic Act, 1940 and Rules1945
23. Industrial Pharmacy : Lachmann
24. Indian Pharmacopoeia : Govt. of India
25. Pharmacognosy of Ayurvedic Drugs : Govt. of Kerala
26. Pharmacognosy of Ayurvedic Drugs : CCRAS
27. Pharmacopoeial standards of Ayurvedic Formulations – CCRAS, 1978, 1984.
28. Quality Standards of Indian Medicinal Plants : ICMR
29. Textbook of Clinical Practice of Pharmacy : Remington
30. Textbook of Mineralogy : Dana
31. Textbook of Pharmacognosy : Kokate
32. Textbook of Pharmacognosy : Trease & Evans
33. The Ayurvedic Formulary of India : AYUSH
34. The Ayurvedic Pharmacopoeia of India : AYUSH
35. Vogel's quantitative in Organic analysis : G.Svehla
36. Vogel's Text Book for Quantitative Chemical Analysis : G.H.Jeffery, J.Bassett, O.Mendham. R.C.Denny

AYURVEDIC DIETETICS
[Diploma in Nutrition - Ay.] (D.N. (Ay.))

First Year
Theory (Two papers) - Maximum Marks -100(each)
Practical (one) - Maximum Marks-100

Paper - I
Maulika Siddhanta
Part-A

Ahara (आहार)

1. Its व्युत्पत्ति (etymology), निरूक्ति एवम् परिभाषा।
2. History of the evolution of the Ahara Shastra from primitive times to today's era – From the use of raw food in the primitive times to the gradual change in the dietary habits according to time and invention of various Ahara Kalpana. The relevant references of Ahara Dravya and its kalpana in the ancient texts like Veda, Upanishada, etc.
3. Vaidyakiya Subhashita Sahityam (वैद्यकीय सुभाषित साहित्य)– Chapters 13, 14 and 36
4. Understanding the Ahara and Sharir relationship based on-
   a) Loka-Purusha Samya Siddhanta (लोकपुरुषसाम्यसिद्धान्त)
   b) Samanya Vishesha Siddhanta (सामान्यविशेषसिद्धान्त)with examples.
   c) Panchamahabhuta Siddhanta (पंचमहाभूतसिद्धान्त)
   d) Tridosha Siddhanta (त्रिदोष सिद्धान्त)
5. Classification of Ahara based on its Prabhava:
   a) Sukhakara (सुखकर) – Dukhakara (दु:खकर) - Psychological concept
   b) Satmya (सात्म्य) – Asatmya (असात्म्य) - Physiological concept
   c) Pathya (पथ्य) – Apathya (अपथ्य) - Physio-pathological concept
   d) Hitkara (हितकर) – Ahitkara (अहितकर) - (Ekantika Hitkar, Ekantika Ahitkar)
6. Role of Avastha-
7. Classification of Ahara according to its mode of intake- Bhakshya (भक्ष्य), Bhojya (भोज्य), Lehya (लेह्य), Chooshya (चूष्य),etc.
8. Classification of Ahara based on Source (Yoni) – Sthavara, Jangama, Khanija.
9. Classification of Ahara as Samisha (सामिष) and Niramisha (निरामिष) and their individual properties and effect on the body.
10. Understanding of this classification in context with social and health status, opinion of contemporary medicine for this classification.

Part-B

Ahara and Physiological Study (आहार और शारीर क्रिया)

1. Detailed understanding of Ahara Dravya on the basis of Shadrasa (6 tastes)
2. Effect of Desh on Ahara
3. Effect of Kaal on Ahara
4. Effect of Ahara on self (आहार विज्ञानम्)
5. Ahara and Sharir Sambandha: (आहार-शरीर संबन्ध)
   a) The concept of Panchabhautikatva of Ahara as well as Sharir
   b) Dosha, Dhatu, Mala and Oja vigyana. (Prakrita Sthana, Guna, Karma, Prakara, Vriddhi, Kshaya, Pradoshaja Vikar, Sama, Nirama and Dhatu Sara Lakshanani)
   c) Effect of Ahara Dravya on Tridosha and Triguna
   d) Interrelation between Ahara and Agni.
   e) Agni vigyan (अग्नि विज्ञान) – Types of Agni, Prakrit Agni (प्राकृत अग्नि) and Vikrit Agni (विकृत अग्नि).
   f) Inter relation between Ahara and Srotas.
   g) Srotasvigyan (स्त्रोतस् विज्ञान) – Description of the Srotas according to Charak and Sushrut Samhita and effect of Ahara Dravya on these Srotas.
6. Prakriti Vigyan (प्रकृति विज्ञान): Understanding of Prakrityadi Dasha Pariksha Vidhi.
   a) Body constitution, mental constitution, the dominant Guna and the status of Agni in different Prakriti and their importance in the selection of appropriate Ahara.
   b) Understanding of the Manasik Prakriti of a person on the basis of the diet preferred by the person.
7. Pachanakriya and Dhatu Poshana:
   a) Pachana Samsthana - A brief review of the organs which take part in the process of Ahara Pachana- Amashaya, Grahani, Pakwashaya, Yakrita, Agnyashaya, etc.
   b) Trividha Awasthapaka (त्रिविध अवस्थापाक)
   c) Aharaparinamakara Bhava (आहारपरिणामकरभाव)
   d) Dhatu Poshankrama (धातु पोषणक्रम)- Trividha Nyaya (त्रिविधन्याय) - Kshiradadhinyaya (क्षीरदधिन्याय), Kedarikulyanyaya (केदारीकुल्यान्याय), Khalekapotanyaya (खलेकपोतन्याय)
   e) Effect of Dravya, Matra and Kaal on Annapachana Kriya (अन्नपाचनक्रिया)
   f) Role of Tridosha along with their subtypes in the process of Ahara Parinamana or Pachana.
   g) Sarakitta Vibhajana (सारकिट्ट विभजन)
   h) Samyaka Pachana Lakshanani (सम्यक पचन लक्षणानि)
   i) Dhatu Utpatti Krama (धातु उत्पत्ति क्रम)
   j) Saarata Nirmana (सारता निर्माण)
   k) Oja Utpatti (ओजोत्पत्ति)

Paper - II
Ahara- Dravya – Guna Kalpana Evam Sanskara Gyana
(आहार द्रव्यगुण कल्पना एवं संस्कार ज्ञान)

Part-A

1. Classification of the Ahara Dravya on the basis of Gurvadi (गुर्वादि) and Paradi (परादिगुण) Guna with Rasa panchaka and their utility particularly of Paradi Guna in the preparation and Gurvadi Guna in the selection and administration of Ahara Dravya.
2. Prakritisamasamaveta Dravya (प्रकृतिसमसमवेतद्रव्य), Vikritivishamasamaveta Dravya (विकृतिविषमसमवेतद्रव्य)
3. Samanapratyarabdha dravya (समानप्रत्यारब्धद्रव्य), Vichitrapratyarabdha Dravya (विचित्रप्रत्यारब्धद्रव्य)
4. Study of single dravya
5. Ahara Dravya– 14 Ahara Varga (आहार वर्ग)–
   - a) शूकधान्यवर्ग
   - b) शिंबीधान्यवर्ग
   - c) शाकवर्ग/पत्रशाक
   - d) हरितवर्ग
   - e) लवणवर्ग
   - f) गोरसवर्ग
   - g) मांसवर्ग
   - h) तैलवर्ग
   - i) फलवर्ग
   - j) इक्षुवर्ग
   - k) मधुवर्ग
   - l) मद्यवर्ग
   - m) जलवर्ग
   - n) आहार योगि वर्ग
6. All the classifications of Ahariya and Paniya Dravya in Brihattrayi (Varga Gyana)

Part-B

Ahara Kalpana (आहार कल्पना)

1. Introduction and Importance of Ahara kalpana.
2. Use of Paradi-Guna in Ahara kalpana, Methods of processing of various Ahara Dravya including water (both in the ancient times and present era) with respect to following Processes with examples-
3. Types of Samsakara (Processes)-
   - a) Roasting - भूनना / भर्जित
   - b) Boiling - उबालना
   - c) Baking
   - d) Fermenting - सन्धान
   - e) Mixing - मिश्रण
   - f) Wet Mixing - घोल
   - g) Dry Mixing - शुष्क मिश्रण
   - h) Churning - मंथन
   - i) Preserving / Pickling - संरक्षण उपाय/अचार

j)	Smoking	-	धूपन
k)	Frying	-	तलना
l)	Rubbing	-	घिसना / पीसना / मसलना
m)	Heating	-	गर्म करना
n)	Soaking	-	भिगोना
o)	Pounding / Crushing	-	कूटना
p)	Garnishing	-	प्रक्षेप
q)	Temperature regulation	-	ताप नियन्त्रण
r)	Washing	-	धोना
s)	Doughing	-	पीडन एवं पिण्डीकरण
t)	Chopping	-	काटना
u)	Sprouting	-	विरूढ़

4. Understanding the action of samskara individually and also in combination.
5. Indications, contraindications and role of each samskara during preparation of recipe.
6. Alterations in Guna of Krita and Akrita Kalpana of Dravya with examples as Kritanna Varga – Manda, Peya, Vilepi, Yusha (Krita and Akrita), Yavagu, Odana, Siddhodana, Mantha, Khada, Kambalika, Kulmasha, Ladduka, Apupa, Modaka, Veshavara, Parpat, Dugdha vikriti, Payasam, Lapsika, Takra kalpana, Vatakam, Shadava, Saktu, Ghritapura, Phenika, Samyava (गुझिया), Shulyadi mansa prakara alongwith other Sneha pravicharna, their use and effect on body.
7. Samisha and Niramisha Kalpana and their comparative effect on the body.
8. Guna of the Ahara Dravya traditionally used in day to day diet e.g. Roti of the various cereals available (Wheat, Maida, etc.), Dals, Vegetable preparations, Chutneys, Pickles, Papad, Salad, etc.
9. Food value of Virudha Ahara prevailing in the society traditionally.
10. Ahara Dravya and Kalpana commonly used in the present era. e.g. bread, pizzas, burgers, chats, cold drinks, coffee, tea, canned food, etc. and their effect on the body.
11. The Bhakshya, Lehya, Chushya and other Kalpana with their criteria of selection and effect on the body.
12. Ancient system and Contemporary Sanskara and effect of Ancient and Modern tools used for various Ahara Kalpana on Ahara Dravya e.g. kandookadi (तन्दूर), cookers, mixers, gas stoves, ovens, microwave, choolah, etc.
13. Preservation techniques of various Krita as well as Akrita Ahara Dravya (both ancient and modern kriya), their effect on Guna and Karma of Ahara Dravya.
14. Samyogkarna, Sayogvidhi Sayogakaal of Ahara Yogi Dravya.
15. The Dravya used as flavouring agents in the Ahara recipes. eg. Haridra, Sarshapa, Methika, Jeeraka, Hingu, Maricha, etc. Changes in the Guna of the Kalpana by their addition and manner and time of addition during the preparation of the Kalpana (e.g. addition of Haridra during the time of boiling of the uncooked Dal or after it is properly cooked changes the properties of the Kalpana) and their effect on the body.

16. Paryushita Ahara (पर्युषित आहार) –Definition, Guna and its effects on the body. The specific time after which the particular Kalpana can be called as Paryushita e.g. Mamsa, Odana, Dugdha, etc. Kalpana have shorter time span but pickles, fried or dried foods have a longer time span.
17. Savishakta Lakshanani (सविषाक्त लक्षणानि) - Garavisha Lakshanani (गरविष लक्षणानि) – The factors like nature of dravya, their specific samyoga with other substances, their Kalpanas, specific Patra, Kaal and Agni Samskar which add to Vishaktata of Ahara Dravya.
18. Siddha Annapariksha (सिद्धान्नपरीक्षा) - (पक्व अपक्व अन्न परीक्षा) Ancient methodology of cooked food.
19. Viruddha Ahara- 18 types.
20. Modern food analysis methods- Adulteration, Pesticides, Insectiside, Fertilizers and Soil therapy, understanding of organic and inorganic food items.
21. PFA (Prevention of Food Adulteration Act).

Second Year

Theory (Two papers) - Maximum Marks -100 (each)
Practical (one) – Maximum Marks-100

Paper – I
Health Promotive Dietetics
(स्वास्थ्यवर्धक आहार विहार)

Part-A

Swasthya (स्वास्थ्य)

1. Swastha – Paribhasha and Vyutpatti.
2. Trayopasthambha (त्रयोपस्तम्भ) – Ahara, Nidra and Brahmacharya.
3. The preventive and promotive aspect of Ahara. The same Ahara which is responsible for the Sharir Poshana, if used against the rules and regulations of Ahara Vidhi is the cause of Vyadhi.
4. Ahara and its selection according to the norms of Dinacharya, Ritucharya, Desh, Prakriti, Kaal, Vaya, Agni, etc.
5. Ahara Vidhivisheshayatanani (आहार विधिविशेषायतनानि), Aharamana Vikalpa Vishesha (Kashyapa- Khilasthana), Ahara vidhi vidhana (च.वि.1), Dwadasha Ashana Pravicharana.
6. Concept of Trividha Kukshi. (च.वि.2).
7. Concepts of Samashana, Adhyashana, Atyashana, Anashana, Vishamashana. Samkirna Bhojana and their effect on health.
8. Method of serving Ahara Dravya– Ancient and Modern methodology .

9. Ahara Vidhi (आहार विधि)- Bhojana Vidhi (प्रधानकर्म), Bhojana Purva (पूर्वकर्म) and Paschata Karma(पश्चातकर्म) e.g. use of Lavana and Ardraka before meal, walking of a hundred steps after meals (शतपदचंक्रमणं), sleeping on the left side (वामपार्श्व शयन) etc. after meals.
10. Tambula sevana and its utility and unhealthy aspect.
11. Changes in the Bhojana Vidhi in present era and its effects on the body.
12. Effect of disturbed meal and sleeping timings (working in shifts) on health and its dietary management.
13. Sahapana - Anupana (Use of liquids in the diet - analysis based on their quantity, quality and mode of administration).
14. The various types of vessels or utensils used for cooking, storing, serving and eating and their effects on the Ahara components - (ancient as well as modern aspect).

Part-B

Pathya

1. The definition of Pathya, Apathya, Upashaya and Anupashaya
2. Pathyapathya according to Prakriti, Desha, Kaal and Agni.
3. Ekantatah Ahita and Hita Ahara
4. Abhyasa Yogya Ahara Dravyaani, Abhyasa Ayogya Ahara Dravyani.
5. Concept of Satmya and Asatmya. Methodology of leaving Asatmya Ahara and adapting Satmya Ahara in one fourth parts of the total Ahara quantity. (पादांश परित्यागत: आहार त्याग विधि)
6. Study of Desh Satmya, Deha Satmya.
7. As per Ayurveda and Modern dietetics - signs and symptoms of optimum, under and over nutrition.
8. Balanced diet, food counseling and budgeting and meal planning.

Rasayan and Vajikaran (रसायन-वाजीकरण)

1. Nitya Hita Rasayan Ahara Dravya
2. Nitya Ahita Ahara Dravya
3. Importance of Ahara in Apunarbhava Chikitsa
4. Ahara Dravya and their Kalpana which aid in Vajikaran e.g. Dugdha, Masha, Modaka, Rasala, etc.

Modern approach

Concepts in Modern dietetics-

1. Classification of dietary products as carbohydrates, proteins, etc.
2. Daily dietary chart.
3. Rules and regulations followed during eating.

4. Nutrition Education
   a) Nutrition and Health Status of Community
   b) Learning and working with Community
   c) Factors influencing Community Nutrition
   d) Themes and messages in Nutrition Education
   e) Method of communication in Nutrition Education
5. Nutrition Programme -
   Past and Present Programme - ICDS (Integrated Child Development Services) etc.
6. Nutrition Education Programme - Planning, Implementation, Evaluation etc.

Paper - II
Therapeutic Dietetics
(रोगानुसार आहार)

Part-A

Ahara as a cause of disease

1. Ahara Dravya responsible for Agni dushti, Dosha dushti, Mano dushti, Indriya dushti, Dushya Daurbalyakar, Khavaigunya, Srotodushti, Amotpadaka and Ama Pradoshaja Vikar and Dhatu Pradoshaja Vikar
2. Ahara Kaal Diseases – Akaal Bhojana –Atitkaal Bhojana
3. Avidhi Bhojana – Disease due to not following the code and conduct of food like Dwadasha Anna Pravicharana
4. Manoabhighatkara Bhava and their effect on food intake, digestion and diseases
5. Nutrition related disorders- Santarpanajanya and Aptarpanajanya Diseases
6. Food borne diseases- Diseases due to sankramita, vishakta and paryushita ahara
7. Food, facts and misconceptions.

Part-B

Chikitsa

1. Ahara as Maha Aushadha.
2. Shadavidhopakrama Anuroopa Ahara (षडविधोपक्रमानुरूप आहार)
3. Importance of Pathyapathya in the treatment of following diseases-
   a) प्राणवह स्रोतस – प्रतिश्याय, श्वास, कास, हिक्का, राजयक्ष्मा।
   b) अन्नवह स्रोतस – अम्लपित्त, अजीर्ण, ग्रहणी।
   c) उदकवह स्रोतस – उदर रोग, शोथ।
   d) रसवह स्रोतस – हृद्रोग, ज्वर, पांडु।
   e) रक्तवह स्रोतस – अर्श, कामला, रक्तपित्त, विसर्प।
   f) मांसवह स्रोतस – अर्बुद, ग्रन्थि, अपतर्पणोत्थ विकार - कार्श्यादि।
   g) मेदोवह स्रोतस – संतर्पणोत्थ विकार - स्थौल्य, प्रमेह।
   h) अस्थिवह स्रोतस – संधिगतवात, वातव्याधि।
   i) मज्जावह स्रोतस – भ्रम।
   j) शुक्रवह स्रोतस – क्लैब्य, वंध्यत्व, गुह्यरोग।

k) पुरीषवह स्रोतस – अतिसार, प्रवाहिका।
l) मूत्रवह स्रोतस – अश्मरी, मूत्रकृच्छ्र।
m) स्वेदवह स्रोतस – कुष्ठ।
n) मनोवह स्रोतस – उन्माद, अपस्मार, अतत्वाभिनिवेष।
o) संज्ञावह स्रोतस – सन्यास, मूर्च्छा, मदात्यय ।

4. Guidelines for dietary causativity (आहार कारणता) and dietary treatment (आहार चिकित्सा) of contemporary prevalent diseases - e.g. Hypertension, Angina, Diabetes Mellitus, Obesity, HIV , Cancer, Liver disorders, Stress, Musculo-skeletal disorders, Arthritis, Polio, Auto immune disorders, etc.
5. Awastha Sapeksha Pathyapathya, importance of Ahara before, during and after Shodhana Karma, and surgical procedures.
6. Use of liquids in Chikitsa as Anupana, their mode of action and specificity in relation to particular diseases with medicines and conditions where liquids are prohibited in diet e.g. Udararoga, Shotha, etc.
7. Dietary Regimen according to Medicine and Rasayan.
8. Ajirna Nashaka Gana (Bhaishajya Ratnavali and Yogaratnakara)

PRACTICALS

Contents of Practical

1. Selection of Ahara according to the occupation.
2. Selection of Ahara in specific conditions:
   a) According to age – Bala (Infants, Preschool, School, Adolescent) Madhya evam Vriddhavastha
   b) Pregnancy (Antenatal and Postnatal)
3. Effect of the changes in the method of Ahara intake in present era.
4. Case studies - 25 cases (Planning Dietary regimen for contemporary diseases mentioned in syllabus)

Pattern of practical

1.	Case Record in respect to pathyapthya in various conditions of the diseases	10 Marks
2.	Diet prescription for given cases	20 Marks
3.	Spotting	20 Marks
4.	Project Work	20 Marks
5.	Viva-voce	30 Marks
	Total	**100 Marks**

Text Books for Reference

1. Charak Samhita:
   - Sutrasthana – Chapter 1, 5, 6, 11, 13, 21, 22, 23, 25, 26, 27, 28 and 30;
   - Vimanasthana – Chapter 1, 2, 5 and 8;
   - Sharirsthana – Chapter 4 and 6;
   - Chikitsasthana – Chapter 1, 2, 15 and 23;
2. Sushrut Samhita:
   - Sutrasthana – Chapter 14, 15, 21, 40, 42, 45 and 46;
   - Sharirsthana – Chapter 1, 4 and 9;
   - Chikitsasthana – Chapter 26, 27 and 28;
   - Kalpasthana – Chapter 1;
   - Uttarasthana – Chapter 64;
3. Ashtanga Samgraha:
   - Sutrasthana – Chapter 3, 4, 6, 7, 8, 9 and 10
4. Ashtanga Hridaya:
   - Sutrasthana – Chapter 2, 3, 5, 6, 7, 8, 9, 10, 11, 13, 14 and 18;
   - Sharirsthana – Chapter 3;
   - Uttarasthana – Chapter 39 and 40;
5. Triskandha Kosh Especially Hetu and Chikitsa Kosha : Tilak Ayurved Vidyapeeth, Pune, M.S.
6. Bhava Prakash
7. Kshemakutuhal : Indradeva Tripathi.
8. Yogaratnakar : Sadashiva Shastri
9. Chakradatta : Indradeva Tripathi
10. Siddha Bhaishajya Manimala
11. Bhojana Kutuhal : Raghunath Bhatta
12. Kaideva Nighantu : Acharya Priyavrat Sharma
13. Aartha Shastra (Food poisoning)
14. Nighantu Ratnakara : Panshikar
15. Pathya Apathya Adhikar : Shivadas

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BALROGA

[Diploma in Paediatrics -Ay.] D.CH. (Ay.)

First Year
Theory (Two papers) - Maximum Marks -100 (each)
Practical (one) – Maximum Marks-100

Paper - I
Kaumarbhritya- Siddhanta (Fundamentals of Kaumarbhritya)
Part-A

Kaumarbhritya Paribhasha and Parichaya (Definition and Introduction), Pratishedha evam Samudayika Bal-Swasthya (Preventive and Community Paediatrics) and Bal-Panchkarma (Paediatric Panchkarma)

1. Definitions, Vaya vibhajan (classification of age), Raksha Karma, Lehan, Vyadhikshamatva and Vardhanopaya (concept of Immunity, Immunization), National Programme on child health care, role of Ayurveda in National Programme, Bheshaja and Bheshaja-Matra (Brief about the drugs and drugs dosages in children)

2. Bal-Panchkarma (Paediatric Panchkarma): Fundamentals of Purvakarma, Pradhan Karma and Paschata Karma in relation to Children. Panchkarma management of various paediatric disorders like Mashtishkaghat (Cerebral Palsy), Pakshaghat (Hemiplegia) Mamsagatvata (Muscular Dystrophy), Ardita (Facial Palsy), Ekangaghata (Monoplegia), Adharangaghat (Diplegia), Apasmara (Epilepsy), and Mastishka-shotha and Mastishkavaran-shotha janya updrava (Encephalitis and Post Meningitis Sequele) Aamvata (Rheumatoid Arthritis), Shwasgata Roga (Respiratory Disorders) and Twak Vikar (Skin Disorders)

Part-B

Balroga Nidan (Paediatrics Diagnostic Techniques) and Chikitsalaya Prabandhan (Hospital Management)

1. Vedanadhyaya, clinical examination of children, Roga and Rogi Pariksha Vidhi, common laboratory investigations including biochemical, haematological, urine and stool tests, use of X-ray, USG.
2. Chikitsalaya Prabandhan (Hospital Management) –
   Hospital function, staff pattern and their utilization, work load, maintenance of medical records, equipments and standards, evaluation of clinical services specific to paediatric hospital services and financial management in Hospital.

Paper - II
Kaumarbhritya-Samanya Vivechana (General Paediatrics)

Part-A

Vriddhi evam Vikasakram-Samanya evam Vikriti (Growth and Development along with related disorders), Poshana evam Kuposhanajanya Vyadhi (Nutrition and Nutritional disorders)

1. Important milestones in Infancy and early Childhood in the areas of gross motor, fine motor, language and personal-social development.
2. Anthropometry: Measurement and interpretation of weight, length/height, head circumference, mid arm circumference.
3. Dwarfism and other common genetic disorders related to growth and development.
4. Poshana evam Kuposhanajanya Vyadhi (Nutrition and Nutritional disorders)
5. Nutrition, nutritional requirements, nutritional disorders- Parigarbhika, Bal-Shosha, Karshya, Phakka.
6. Protein Energy Malnutrition: Definition, classification, clinical features of Marasmus and Kwashiorker. Etiology and management of PEM.
7. Vitamins-Diagnosis of vitamin deficiencies, hypervitaminosis and their management.

Part-B

Bal-Manovigyan evam Vyavaharajanya Vikar (Child psychology and behavioral disorders) and Atyayika Chikitsa (Emergency Management)

1. Mental development, ADHD, Pica, Nocturnal Enuresis, Learning Disability, Autism, etc.
2. Atyayika Chikitsa (Emergency Management), Visha-Chikitsa: Principles of Management of common poisons.
3. Anya Atyayika Avastha evam Chikitsa (Other emergency conditions and their management) - Status Asthmaticus, Status Epilepticus, Shock and Anaphylaxis in children, Fluid and Electrolyte management, Epistaxis, etc.
4. Different paediatric emergency procedures e.g. venepuncture, pleural tap, ascitic tap, blood transfusion and monitoring, lumbar puncture and blood sampling, etc.

Second Year

Theory (Two papers) - Maximum Marks -100 (each)
Practical (one) – Maximum Marks-100

Paper - I
Navjata Shishu Paricharya (Neonatal Care)
Part-A
Garbha Vigyaniya (Embryology) and Navjata Shishu Paricharya (Neonatal Care):

1. Garbha Vriddhi evam Vikasa (fetal growth and development), Garbha Poshana (fetal circulation, changes in fetal circulation after birth). Garbhopaghatakar Bhava (factors affecting fetal growth and development), Congenital Anomalies, Beejabhagavayava Vikriti (Genetic disorders)
2. Navjata Shishu Paricharya (Neonatal Care)
3. Sadyojat Shishu Paricharya: Definition – Live birth, neonate, neonatal period, classification according to weight and gestation, mortality rate, delivery room management, care of newborn, normal variations and clinical signs in the neonate, temperature regulation and transport of sick neonates.
4. Navjat Shishu Ahara (Neonatal feeding): Principles of feeding, Stanya (Breast milk) and their properties, Stanya Pariksha (examination of milk), Breast feeding, Problems in breast feeding.

Part-B

Navjata Shishu Vyadhi (Neonatal Disorders) and Navjata Shishu Kaksha Prabandhan (Nursery Management)

1. Pranapratyagaman (Neonatal resuscitation), Knowledge of traumatic disorders including perinatal injuries, Ulvaka (Aspiration pneumonia), Navjat Shvasavarodha (Asphyxia neonatorum): Clinical features, principles of management and prevention of Birth Asphyxia, Kamala (Neonatal Jaundice); Neonatal infections- Superficial infections, Sepsis, Hypoglycemia, Hypocalcaemia, Anemia, Necrotizing Enterocolitis, Akshepaka (Seizures), Raktavaishamyata (Rh and ABO Incompatibility), Sadhyojata Atyayaika Chikitsa (Management of Neonatal emergencies)- Diagnosis of life threatening conditions in neonates, management of common minor paediatric surgical disorders, hemorrhagic diseases of newborn.
2. Navjata Shishu Kaksha Prabandhan (Nursery Management) - Nursery plan, staff pattern, maintenance of medical records, Visanukramikarana (Sterilization), knowledge of equipments used in nursery such as resuscitation equipments, open care system, phototherapy, etc.

Paper - II
Balroga (Paediatric Disorders and their Management)
Part-A

1. Annavaha Srotasa Vikar (Gastrointestinal disorders)- Atisara (Diarrhoea), Assessment of dehydration, ORT/ ORS. Jirnatisara (Persistent/ Chronic Diarrhoea), etc.
2. Pranavaha Srotasa Vikar (Respiratory disorders)- Pratishyaya, Kasa (ARI), Pneumonia, Tamaka Swasa (Bronchial Asthma), etc.
3. Rasavaha and Raktavaha Srotovikar (Haemopoietic, Cardiovascular disorders)- Yakrita Shotha, Yakritodar (Hepatitis/Hepatomegaly), Pandu (Anemia), CHF, Thalassemia, etc.
4. Mutravaha Srotasa Vikar (Urinary disorders)- Acute post streptococcal glomerulonephritis, Nephrotic syndrome (Vrikka-shotha), Mutrakriccha (Dysuria), Mutraghata (Acute Renal Failure), etc.

Part-B

Aupsargika Roga, Krimi and Tvak Vikar (Infection, infestation and skin disorders) and Anya-Vikar (Miscellaneous Disorders)

1. Common bacterial, viral and parasitic infections with special reference to vaccine-preventable disease: Rajyakshma Roga (Tuberculosis) , Rohini (Diphtheria), Kukkur Kasa (Whooping cough), Aptanaka (Tetanus including neonatal tetanus), Romantika (Measles, Mumps, Rubella and Chickenpox), Antrika Jwar (Typhoid and Viral hepatitis), Pravahika (Amoebiasis), Krimi Roga (Giardiasis and Intestinal helminthiasis); Vishama Jwar (Malaria, Kala Azar and Dengue Fever), Ahiputana (Napkin rashes), Shakuni (Impetigo), Sidhma, Pama, Vicharchika, Charmadal (Infantile atopic dermatitis).
2. Anya-Vikar (Miscellaneous Disorders): Jwar (Fever), rational management of PUO, clinical features, diagnosis, investigations, treatment and prevention of Aam-Vatik Jwara (Acute rheumatic fever), Basic concepts of Bal graha (specific syndromes).
3. Vata/Nadivaha Samsthan (CNS Disorders): Clinical diagnosis, investigations and treatment of pyogenic meningitis, encephalitis and tubercular meningitis. Apasmara (Seizural disorder) - causes and types of convulsion at different ages, diagnosis, categorization and management of epilepsy.
4. Antahsravi Granthi Vikar (Endocrinal disorders).

PRACTICALS

Contents of Practical

1. Kaumarbhritya- History taking, Clinical examination and complete record keeping – 10 cases
2. Navjata Shisu- History taking, Clinical examination and complete record keeping – 15 cases
3. Exposure of various Panchkarma Procedures in Balroga Practice – Minimum 50 procedures
4. Exposure to Neonatal Intensive Care Unit - The candidate should be posted in Neonatal Intensive Care Unit for atleast 150 hours per year.
5. Exposure to Pranapratyagaman Vidhi (Resuscitation Techniques) - The student should have exposure of Resuscitation Techniques on newborn "Mankin" and Live.
6. Exposure to use various instruments used in Neonatal Care Unit like Incubator, Radiant Warmer, Phototherapy, Bag and Mask etc.
7. Exposure to Immunization practices

Note: The Logbook and Case Record to be maintained and duly signed by teacher and Head of the department.

Pattern of Practical Examination:

1.	Case Record	10 Marks
2.	Case Taking	
	a) Short Case	10 Marks
	b) Long Case	20 Marks
3.	Identification of instruments	10 Marks
4.	Project Work	20 Marks
5.	Viva-voce	30 Marks
	Total	**100 Marks**

Text Books for Reference

1.	Kashyap Samhita or Vridhajivakiya Tantra; with english translation and commentary	: Prof. (Km.) P. V. Tewari with Dr. Neeraj Kumar, Dr. R. D. Sharma and Dr. Abhimanyu Kumar
2.	Kashyapa Samhita (Hindi translation with commentary	: Nepal Raj Guru Pandita Hemaraja Sharma commentary by Shri Satyapal Bhishagacharya
3.	Charak Samhita	: Pt. Kashi Nath Shastri, Dr. Gorakh Nath Pandey; Vishvabharti
4.	Sushrut Samhita Commentary	: Ambikadutta Shastri
5.	Ayurvedic concepts of Human Embryology	: Prof Abhimanyu Kumar
6.	Ashtanga Samgraha (Part-I &II), Hindi commentary	: Atrideva Vidyalankar
7.	Madhava Nidan	
8.	Bhava Prakasha	
9.	Harita Samhita	
10.	Clinical Methods	: Meharban Singh
11.	Child Health Care in Ayurveda	: Prof Abhimanyu Kumar
12.	Care of the Newborn	: Meharban Singh
13.	Text book of Paediatrics	: Nelson
14.	Principles and Practice of Paediatrics in Ayurveda	: Prof CHS Shastri
15.	Bal Chikitsadarsh	: Dr. RD Sharma
16.	Kaumarbhritya	: Dr. D.N. Mishra

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MANASIK SWASTHYA VIGYAN

[Diploma in Psychiatry - Ay.] D.P.M. (Ay.)
First Year

Theory (Two papers) - Maximum Marks -100 (each)
Practical (one) - Maximum Marks-100

Paper - I
Manovigyan
Part-A

1. A brief history of Manovigyan and Manasik Roga Vigyan from vedic period to modern psychology and psychiatry highlighting Ayurvedic contribution.
2. Synonyms, qualities, functions and Bhoutikatva and Ahankarikatva of Mana.
3. Satva and Sharir relationship, relationship between Tridosha and Mana.
4. Trigunatmakatva of mana.
5. Vata and Mana relationship - applied aspects.
6. Mana, Indriya and Oja relationship.
7. Jnanotpatti Prakriya- Sensory process and perception.
8. Atma and Mana relationship - applied aspects.
9. Knowledge and application of concept of Shatchakra.

Part-B

1. Manovaha srotas and its karma with sub classifications.
2. Psycho-anatomy and physiology of brain and related nervous system, psychoneuroendocrinology.
3. Behaviour, attitude and emotions.
4. Manas Prakriti – Personality.
5. Essential elements of Child psychology, Developmental psychology of child, adolescence and adult.
6. Assessment of Dhee, Dhriti and Smriti.
7. Assessment of cognition, intelligence and memory.

Paper - II
Manas Swasthya Vigyan
Part-A

1. Definition of Manas Swasthya.
2. Manasik Bhava, Satva assessment and examination of mind.
3. Nidra (sleep) – normal and abnormal.
4. Manovighatakara Bhavas.
5. Classification of Manasik Roga.
6. Etiology and patho-physiology of Manasik Vikar.
7. Psychiatric and psychometric tools for diagnosis.

Part-B

1. General line of treatment of Manasik Vikar.
2. Ayurvedic and modern principles of management of Manovikar
3. Preventive aspects of Manovikar – Achara Rasayan, Sadvritta, Shodhana, Rasayan
4. Oorjaskara and Manaskar Dravya
5. Psychological rehabilitation
6. Forensic psychiatry
7. Research and recent development in Manas Swasthya.

Second Year

Theory (Two papers) - Maximum Marks -100 (each)
Practical (one) - Maximum Marks -100

Paper – I
Manasik Roga Vigyan
Part-A

1. Introduction to Bhutavidya and Graha Chikitsa.
2. General Etiopathogenesis of Unmada, classification and its modern correlation.
3. Nija Unmada and its management.
4. Agantuja Unmada and its management.
5. Chittodvega, Vishada, Atatvabhinivesha, Bhaya, Krodha, Kama, Lobha, Moha, Shoka, Maana, Dambha, etc. and their management.
6. Mood and effective disorders - Bipolar mood disorders, major depressive disorder, mania and their Ayurvedic correlation and management.

Part-B

1. Madatyaya (Alcoholism), other addictions related disorders and their management.
2. Substance abuse related disorders and their management.
3. Delusional disorders: Mano - Buddhi – Sangyajanana – Smriti Vibhrama and their management.
4. Sensorial disorders: Tandra – Murcha - Sanyasa and their management.
5. Apasmara (Epilepsy) and its management along with modern perspective.
6. Nidra vikar (Sleep disorders) and their management.
7. Sex related mental disorders and their management.
8. Altered life style and stress related disorders and their management.

Paper - II
Manas Swasthya Upakrama Vigyan
Part-A

1. Childhood psychiatric disorders and their management (behavioural, learning and developmental disorders).
2. Jarajanya Manasik Vikar (senile psychiatric disorders) – Dementia, Alzheimer's disease and their management.
3. Importance of Panchkarma and allied procedures in the management of Manas Roga
4. Satvavajaya Chikitsa – Definition, relevance in manasik and manodaihika vikara.

5. Applied aspect of Ashtanga Yoga in Manovikar.
6. Daivavyapashraya and Adravya Bhuta Chikitsa in Manovikar.

Part-B

1. Schizophrenia and its Ayurvedic correlation and management
2. Somatoform and dissociative disorders and their Ayurvedic correlation and management
3. Importance and utility of Medhya Rasayan and Vajikaran drugs in Manas Swasthya.
4. Essentials of modern psychoneuropharmacology
5. A detailed study of Ayurvedic single and compound drugs for Manas Roga:
   Single Drugs: Bramhi, Mandukaparni, Vacha, Sarpagandha, Shankhapushpi, Ashwagandha, Yashtimadhu, Guduchi, Jyotishmati, Kushtha, Tagara, Kooshmanda, Jatamansi, Swarna, Rajata, Pravala, Mukta and other useful medicines, etc.
   Compound Drugs: Manasmitravati, Smritisagararasa, Unmadagajankhusharasa, Apatantrakarivati, Kumarakalyanarasa, Yogendrarasa, Kalyanakaghrita, Brahmighrita, Mahapaishachikaghrita, Panchagavyaghrita, Hingwadighrita, Kooshmandaghrita, Saraswatarishta, Ashwagandharishta, Himasagaratаila, Brahmi Taila, Tungadrumadi Taila, Chandanadi Taila and other useful yoga, dhoopa, nasya and anjana yoga mentioned in the context of Apasmara and Unmada
6. Psychiatric Emergencies and their management

PRACTICALS

Contents of Practical

S.No.	Topic		No. of Cases
1.	Hypnotherapy techniques		25
2.	Case study-	a) Unmada	20
		b) Apasmara	20
		c) Atatvabhinivesh	10
		d) Chittodvega	20
		e) Vishada	20
		f) Madatyaya	20
		g) Sexual disorders	05
		h) Psychogenic headache	05
		i) Nidra vikar	10
		j) Stress related disorders	10
3.	Examination of Manasik Bhava in psychosomatic illness		25
4.	Yogasana Pranayama and Meditation Techniques		25
5.	Panchkarma Procedures in Manas Roga		25
6.	Anjana, Dhoopanadi Karma		25
7.	Instruments (GSR Biofeedback, EST, ECT, EEG, etc.)		25
8.	Counselling on the pattern of Satvavajaya		25

Pattern of Practical Examination

1.	Case Record	10 Marks
2.	Case Presentation	10 Marks
3.	Assessment of Scales and Inventories (Modern and Ayurvedic aspect)	10 Marks
4.	Project Work	20 Marks
5.	Viva-voce	50 Marks
	Total	**100 Marks**

Text Books for Reference

1. Charak Samhita
2. Sushrut Samhita
3. Ashtanga Samgraha
4. Ashtanga Hridaya
5. Kashyapa Samhita
6. Harita Samhita
7. Bhagavadgeeta
8. Yogavasistha
9. Comprehensive Text book of Psychiatry : Kaplan and Saddock
10. Text Book of Child and Adolescent Psychiatry : Weiener
11. Bourne Psychology
12. Carlon Abnormal Psychology and Modern Life
13. Ayurvediya Manas Vigyan : Rama Harsha Singh
14. Concept of Mind published at Ayurveda College, Kottakkal.
15. The Mind in Ayurveda and other Indian Tradition : Dr A.R.V.Murthy
16. Psychopathology in Indian Medicine : Satypal Gupta
17. A Text Book on Medical Jurisprudence and Toxicology : Modi
18. DSM IV and ICD 10
19. Other relevant textbooks

NETRA ROGA VIGYAN

[Diploma in Opthalmology-Ay.] D.O.(Ay.)
First Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) –Maximum Marks-100

Paper - I

Netra Chikitsa Vigyan – Maulika Siddhanta and Samanya Parichaya (Basic principles and General considerations in Ayurvedic Opthalmology), Anusandhana evam anya Vishishta Vigyan (Research Methodology, Medical Statistics and Ethical Considerations)

Part-A

1. Etymological aspects- Shalakya Tantra Nirukti, Parichaya and scope.
2. Historical considerations in Shalakya Tantra (Itihasa, vikasa and contribution from ancient to modern era)
3. Importance of Shalakya Tantra (Shalakya Tantrasya Ayurveda Pradhanyam)
4. Importance of Head (Shiropradhanta) and organ of Vision (Sarvaendriyanam Nayanam Pradhanam)
5. Important texts of Shalakya and contributors (Ancient ,medieval and modern period)
6. Netra Vyutpatti, Paryaya, Parichaya and Netra Panchabhautikata.
7. Netra Sharir Rachana and Embryological, anatomical considerations in Opthalmology- basic and applied aspects

Part-B

1. Netra Sharira Kriya , Chakshurendriya Kriya and Physiological considerations in Opthalmology- Basic and applied aspects
2. Shirogata Marma Vichara (Anatomical and clinical aspects of vital points of head and neck).
3. General methodologies of Research and Evaluation in Ayurveda and traditional medicine (drug development comprising of standardisation, quality control of drugs, pre clinical safety and toxicity and clinical evaluation, etc.)
4. Guidelines on Good Clinical Practices (GCP) and Good Laboratory practices (GLP)
5. Ethical considerations in clinical and biomedical research and practice alongwith medico legal aspect in Netra Chikitsa.
6. Current trends and Contemporary developments in Opthalmology.

Paper - II

Netra roga Nidan evam Chikitsa Samanya Parichaya (General Principles of Clinical Diagnosis and Management in Opthalmology)

Part-A

1. General examination of eye.
2. Subjective and objective examination and clinical methods in Opthalmology.
3. Latest instruments, diagnostic tools, technology and its utility in diagnosis and evaluation.
4. Other advanced diagnostic techniques and imaging technology.
5. General aetiological considerations (Netra Roga Samanya Nidan).
6. Pathological considerations in Opthalmology (Hetu, Samprapti).
7. General principles of management (Chikitsa Sutra)

Part-B

1. Preventive Opthalmology (Preventive or Netrasanrakshanopaya)
2. Pathyapathya in Netra roga (Diet and practices in eye diseases)
3. Introduction to Opthalmic surgical instruments and equipments (Netra sambandhi Yantra, Shastra Parichaya) and asepsis and sterilization methods - Ayurvedic and modern aspects
4. Classification of Eye diseases (Netra Roga Bheda) and its significance.
5. Community Opthalmology.
6. Essential modern drugs and anaesthetic agents of diagnostic and surgical importance.

Second Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) - Maximum Marks-100

Paper - I

Clinical Opthalmology (Sandhi, Vartma, Shukla, Krishna, Drishti, Sarvagata, Mandalagata Roga Vishesha Nidan evam Chikitsa)

Part-A

Sandhigata Roga, Vartmagata Roga, Shuklagata Roga

1. Introduction, aetiopathogenesis, clinical features and treatment.
2. Understanding and interpretations of diseases with a comparative study of contemporary knowledge of modern Opthalmology.
3. Congenital, developmental, neoplastic and degenerative disorders, other occular problems and their management.

Part-B

Krishnagata Roga, Drishtigata Roga and Sarvagata Roga

1. Introduction, aetiopathogenesis, clinical features and treatment.
2. Malnutritional occular disorders.
3. Understanding and interpretations of diseases with a comparative study of contemporary knowledge of modern Opthalmology and its management.
4. Eye donation, Eye Bank and Keratoplasty.
5. Basics of refraction and refractive errors.
6. Orthoptics and Neuro Opthalmology.
7. National Programme for Control of Blindness.
8. Geriatric Opthalmology(Jaravastha Janya Netra Vikar)
9. Occular manifestation of systemic diseases
10. Occular trauma and emergencies in Opthalmology (Netra Abhighata and Atyayika chikitsa)
11. Congenital, developmental, neoplastic and degenerative disorders of Krishna, Drishti gata roga and other occular problems.

Paper – II

Netra Kriya Kalpa, Netra Chikitsa Sambandhi Dravyaguna Evam Bhaishajya Kalpana Gyanam. Shastra, Anushastra and Other Vishishta Chikitsa Prayoga Gyanam

Part-A

Kriya Kalpa

1. Introduction, development of topical Ophthalmic therapeutic procedures (Netra rogeshu kriyakalpadi vishishtopakramascha parigyanam, vikas-krama cha)
2. Rational use and relevance of selection of Kriya Kalpas in the management of occular diseases(based on inflammatory status of eye ,seat of origin of disease etc.)
3. Netra Kriya Kalpa procedures, Seka, Ashchyotana, Pindi, Bidalaka, Tarpana, Putapaka, and Anjana and their practical aspects.
4. General introduction, types, indications, contraindications, dose, Kaal, Purva Karma, Pashchat Karma, Pradhan Karma, Complication, their management, drugs used for Seka, Ashchyotana, Pindi,Bidalaka, Tarpana, Putapaka and Anjana.
5. Standard operative procedure in respect of application of Kriya Kalpa as well as preparation of the dosages used in the procedures.
6. Critical interpretation of Kriya Kalpa procedure based on the fundamentals of modern pharmacology viz. routes of administration, compliance, disposal , absorption, drug vehicles and bioavailability, duration and quantum of bioavailability and physical measures, Pharmaceutical dosage forms, etc.
7. Important Ayurvedic drugs/ formulations used in Opthalmology (Netraroga chikitsa upayogi vishishtayoganam parigyanam).

Part-B

Lekhana, Chedhanadi Ashtavidh Shashtra Karma

1. Basic principles of Ophthalmic surgery (Shastra sadhya vyadhi parichaya)
2. Rational use and relevance of selection of surgical procedures in the management of occular diseases
3. Modern occular surgical techniques of the surgical diseases related to eye and its appendages.
4. General introduction, Poorva, Pradhan & Paschat karma, complications with management of Lekhana, Chedhana, Bhedhana, Vedhana, Eshana, Aaharana, Visravana and Seevana procedures with special Netra Roga Chikitsa.
5. Standard Operative Procedures to be adopted in above mentioned surgical procedures.

Raktamokshan (Therapeutic bloodletting)

1. Shuddha Raktalakshana, Dustarakta Lakshana
2. General introduction to Raktamokshan (Therapeutic blood letting), Jalaukavacharana (different types of Jalauka, collection and identification of Jalauka, Purva, Pradhan and Paschat Karma of Jalauka)
3. Procedure of Prachhanna (bloodletting by incision), Sira Vedha (bloodletting by venepuncture)
4. Complications and their management
5. Standard Operative Procedures

Agnikarma & Kshara Karma

1. Agnikarma and Kshara Karma applications in Netra Chikitsa and Utility of Lasers in Opthalmology
2. Research and development (R&D) update on Opthalmic drugs and surgical procedures

PRACTICALS

Contents of Practical

1. Application of Shadviddha parikshoupakrama in clinical Opthalmology.
2. Clinical application of Asthaviddha shastrakarma and Ksharadi anushastra karma in Ophthalmic practice.
3. Retinoscopy followed by refractive corrections.

4. Diagnostic procedures
   a) Anterior Segment – Gonioscopy, A scanning, B scanning, Pachymetry
   b) Posterior Segment – Knowledge of Indirect Opthalmoscopy and other aids for posterior segment examination
5. Therapeutic procedures
   a) Observation, assistance and performance of parasurgical and kriyakalpa procedures.
   b) Practical hands on modern Opthalmic surgical procedures.
6. The candidate should fulfill the participation of compulsory regular In House Clinical postings at attached hospital of teaching institute, Postings at Exclusive Eye Hospitals, centres of excellence and other national and regional institutes of Opthalmology supported by submission of Case Documentation throughout the two academic years.

Pattern of Practical Examination

1.	Short case	10 Marks
2.	Long Case	20 Marks
3	Procedures (Practical demonstration of Kriyakalpa/parasurgical/surgical procedures)	10 Marks
4.	Project work	20 Marks
5.	Viva-voce	40 Marks
	Total	**100 Marks**

Text Books for Reference

1. Charak Samhita with commentaries
2. Sushrut Samhita with commentaries
3. Ashtanga Hridaya and Ashtanga Samgraha with commentaries
4. Madhava Nidan with commentaries
5. Bhavaprakasha with commentaries
6. Sarangadhara Samhita with commentaries
7. Sahashrayoga Samgraha
8. Chakradatta
9. Shalakya Tantra : Ramanath Dwivedi Chowkhambha Sanskrit Prathisthan, Delhi
10. Shalakya Tantra : R.C. Chaudhary, Chowkhambha Sanskrit Prathisthan, Delhi
11. The actions and uses of Indigenous Ophthalmic Drugs : N.Srikanth, Chowkhambha Sanskrit Prathisthan, Delhi
12. Ayurvedic Formulary of India (AFI) and Ayurvedic Pharmacoepia of India (API), All Volumes : Dept. of AYUSH, Govt.of India
13. Clinical Examination of Opthalmic Cases : Agarwal and Gupta, CBS publishers, Delhi

14. Alder's Physiology of the Eye and Clinical Applications : Cotlier, St. Louis.
15. Disease of the Lens and Vitreous, Glaucoma and Hypotony : Duke-Elder, St. Louis, Mosby.
16. A Text Book of Opthalmology : Ahmed E. Oxford University Press, Calcutta.
17. A Text book of Clinical Opthalmology : Dhanda et al.Galgoti Publishers, New Delhi
18. Modern Opthalmology : Dutta, L.C. Jaypee Brothers, Medical Publishers New Delhi.
19. Manual of the Diseases of the Eye : May C. and Worth, C. Bailliere Tindal and Castell, London.
20. Opthalmology – Principles and Concepts : Newell, F.W.C.V. Mosby Co. St. Louis.
21. Occular Differential Diagnosis : Roy Fedrick Hamptn Lea & Febiger
22. Clinical Opthalmology : Smith, R.Verghese Company, Bombay.
23. Abrahm Manual of Refraction : Duke and Elder
24. Hand Book of Opthalmology : B.M. Chaterjee
25. Hand Book of Opthalmology : Khurana
26. Clinical Opthalmology : Kanski
27. Parsons Diseases of Eye
28. Stallard's Eye Surgery

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PRASUTI TANTRA AND STRI ROGA

[Diploma in Obstetrics and Gynaecology-Ay.] D.G.O. (Ay.)

First Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) –Maximum Marks-100

Paper - I
Prasuti Tantra - Garbha Garbhini Prasava Vigyan
Part-A

1. Importance of Ayurvediya Prasuti Tantra evam Stri Roga in women health care
2. Epocs of woman's life
3. Stri vishishta sharir rachana (applied anatomy of female reproductive system, pelvis and pelvic floor)
4. **Garbha Vigyan**
   a) Garbha paribhasha, Garbhadaana samskara (prenatal counselling), Garbhavakranti, Garbha Sambhava Samagri, Garbhasya Shadghatak, Garbhasya Panchabhautikatwa.
   b) Garbhasya Masanumasika Vriddhi, Garbhasya Avayavotpatti, Garbhasya Poshana (Physiology of conception, implantation and embryology)
   c) Jarayu, Apara, Nabhinala evam Garbhodak Nirmaan evam Karya (Formation and functioning of Placenta, Umbilical cord and Amniotic fluid)
5. **Garbhini Vigyan**
   a) Sadyograhit Garbha Lakshan, Vyakt Garbha Lakshan, Pumsavan Vidhi, Garbhini Masanumasik Lakshan (Signs, symptoms, diagnosis and differential diagnosis of pregnancy)
   b) Garbhini Paricharya (Anatomical and physiological changes during pregnancy, nutrition during pregnancy).

Part-B

1. Prasav Kaal, Sutikagaar, Prasav Paribhasha, Prasava Hetu, Prasav Kaleen Garbhashayantar Garbha Sthiti, Prasavasya Vividh Awastha, Aavi, Prasav Paricharya.
2. Intrapartum maternal and foetal monitoring, Partogram, CTG.
3. Prasav Purva Raktasrav (Ante partum haemorrhage)
4. Kritrim Prasav Arambh (Augmentation of Labour)
5. Sutika Vigyan, Sutikaki Paribhasha, Sutika Kaal, Sutika Paricharya, Sutika Kaleen Sarvadaihik Parivartan
6. Stana, Stanya Sampat evam Stanya Dushti
7. Jatmatra Shishu Paricharya, Navjaat Shishu Paricharya.
8. Knowledge regarding writing research papers.

Paper - II
Stri Roga Vigyan
Part-A

1. Description of Raja, Artava and concept of Shukra in Stri Prathama Rajo Darshan (Menarche), Rituchakra (Menstrual cycle).
2. Ashta Artav Dushti, Shukra Dushti, Rajah Kshaya, Anartava including scanty menstruation and Amenorrhoea.
3. Asrigdar including abnormal uterine bleeding.
4. Rajo Nivritti (Menopause).

Part-B

1. Striroga vishishta sthanik chikitsa–Uttar Basti, Pichu, Yonidhavan, Dhoopan, etc.
2. Prasuti Tantra evam Stri Rogopayogi Aushadhasya Matra, Ghatak evam Upadeyata, (Pharmacology of selected Modern medicine used in Obstetrics and Gynaecology).
3. Stri evam Matru Kalyan Karyakram (National Programme related to Women Health Care), Parivar Niyojan evam Santati Nirodhasya Upaya evam Shalya Vidhi (Medical and Surgical methods of Female Contraception and Sterilisation)
4. Yogasya prasuti evam Stri Roga chikitsakeeya upayogita.
5. Chikitsiya upyogita of Rasayan in Prasuti evam Stri Roga.
6. Prasuti evam Stri Rogaya naidanikiya parikshana (Diagnostics in Obstetrics and Gynaecology)
7. Shock and its management, Raktadana, Fluid and Electrolyte imbalance, Fluid therapy.

Second Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) –Maximum Marks-100

Paper - I
Garbha Garbhini Evam Prasav Vyapad
Part-A

1. **Garbhavyapad** - Garbhasraav, Garbhapaat (Abortion), Garbhashosh, Upvishtak, Upashushka (IUGR), Leen Garbha, Mrit Garbha (IUD), Jarayu dosh (Abnormalities of Amniotic fluid, Placenta and Umbilical cord), Rakta Gulma Bahuapatyata (Multiple Pregnancy), Ectopic Pregnancy, Molar Pregnancy, Rh incompatibility.
2. **Garbhanga Vikriti** - Clinical aspects of genetics and teratology. Prenatal diagnosis of foetal abnormalities and its management.
3. **Garbhini Vyapad** - Kikkis, Makkal, Hrillas, Emesis and Hyperemesis gravidarum, Jwar, Pandu, Kamala, Garbha janya Vishmayata (Toxaemia in pregnancy), Infections during pregnancy, Hridroga, Prameha (Diabetes) etc.
4. High Risk Pregnancy, management of pregnancies complicated by medical, surgical or Gynaecological diseases.

Part-B

1. Kashta Prasav, Garbhasang, Vilambit Prasav, Distocia with its management, Garbha evam Matru Shroni Asamanjasya (CPD).
2. Malpresentations and their management
3. Aparasanga (Retention of Placenta and its management)
4. Prasavottar Raktasraav (PPH) and its management.
5. Complications during Labour and their management
6. Purva Kalik evam Kalateet Prasav (Preterm and post term labour)
7. Mudh Garbha (Obstructed Labour)
8. Sutika roga - Number, causes, clinical features, prognosis and treatment of Sutika Jwara, Shotha, Makkala and other complications.

Paper - II
Part-A

1. Detailed study of Yoni Vyapad mentioned by different Acharya and their possible modern correlations
2. Yoni-Kand, Yoni-Arsha, Yoni-Arbud (Benign and malignant cysts and tumors of female genital organ) and PCOS
3. Stri Vandhyatva (Female infertility) and its management with Ayurvedic and Modern techniques.
4. Sexually transmitted disease AIDS, etc.
5. Stan Roga evam Chikitsa –Stan Vidradhi (Mastitis and Breast abscess).

Part-B

Shastra Karma

1. General principles of Gynaecological and Obstetric surgeries, analgesics and anesthesia in Gynaecology and Obstetrics, Nirjantukikaran (sterilisation), suturing materials and methods.
2. Muladhar Chhedan, Yantra Shastrena Garbhasya Aaharan, Udarpatan poorvak Garbha Nirharana.
3. Garbhashayamukh vistritikaran evam garbhashaya lekhan, Garbhashaya mukha samvritikaran, Garbhashayamukh dahan, Pap smear, Cervical biopsy, Swasthane garbhashaya sthapan, Yoni-arsh nirharan, Gulma Nirharan, Vidradhi Patan and Vrana Chikitsa.
4. Garbhashaya nirharana
5. Provision of safe abortion services.
6. Medico legal aspects in Prasuti Tantra including PNDT and MTP Act.
7. Record keeping of Gynaecological and Obstetrics cases.
8. Conditions and norms of referral cases in Gynaecology and Obstetrics.

PRACTICALS

Contents of Practical

A. Kriyatmaka

1. O.P.D and IPD duties	06 months
2. Labour Room duties	06 months
3. Ultrasound Unit	01 months
4. Casualty related to the subject	15 Days

B. Case records – Total 20 cases

1.Prasuti Tantra (Obstetrics)	10 cases
2.Stri Roga (Gynaecology)	10 cases

Pattern of Practical Examination

1. Case Record	10 Marks
2. Case Study	
a) Long Cases	20 Marks
b) Short Cases	10 Marks
3. Identification of Instrument	10 Marks
4. Project Work	20 Marks
5. Viva - voce	30 Marks
Total	**100 Marks**

Text Books for Reference

1.	Abhinava Prasuti Tantra	: Vaidya Damodar Sharma Gaur
2.	Prasuti Vigyana	: Dr. Acharya Ramanath Dwivedi
3.	Prasuti Vigyana	: Dr. Mrinmayi Mukherjee
4.	Prasuti Vigyana	: Dr. Alakh Narayan Singh
5.	Prasuti Vigyana	: Dr. Manjari Dwivedi
6.	Prasuti Vigyana	: Vaidya Nirmala Tai Rajwade
7.	Prasuti Tantra and Stri Roga	: Dr. Premvati Tiwari
8.	Abhinava Prasuti Vigyana	: Dr. Ayodhya Prasad Achal
9.	Striroga Vigyana	: Vaidya Ramanath Dwivedi
10.	Abhinava Striroga Vigyana	: Dr. Rajendra Bhatnagar
11.	Abhinava Striroga Vigyana	: Dr. Ayodhya Prasad Achal
12.	Stri Roga Chikitsa	: Dr. J.S. Chauhan
13.	Janasankhya Siddhanta aur Upadeyata	: Dr. Nirmal Sahani
14.	Theory of Population in Outline	: Dr. D.I. Vallentev
15.	Text Book of Gynaecology	: Dr. C.S. Dawn
16.	Text Book of Obstetrics	: Dr. C.S. Dawn

17. Clinical Obstetrics and Gynaecology	:	Dr. Williams
18. Shaw's Textbook of Gynaecology	:	Shaw
19. Shaw's Textbook of Obstetrics	:	Shaw
20. Text Book of Obstetrics	:	Dr. Dutta
21. Textbook of Gynaecology	:	Dr. Dutta
22. Notes on Obstetrics	:	Dr. Sachedeva
23. Ayurvedic Concepts in Gynaecology	:	Vaidya Nirmala Joshi
24. Useful parts of Charak, Sushrut, and Vagbhata and Sharangdhara.		

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DRAVYAGUNA (PHARMACOGNOSY AND STANDARDIZATION)

D. Pharmacognosy (Ay.)
First Year

Theory (Two papers) - Maximum Marks -100 (each)
Practical (one) –Maximum Marks-100

Paper - I
Namaroopa Vigyan
Part-A

1. Historical background of Dravyaguna from Vedic era, Samhita and Nighantu periods till modern times.
2. Introduction to Pharmacognosy, methods of classification of crude drugs- morphological, microscopical, chemical, taxonomical,pharmacological, therapeutical, chemotaxonomical, etc.
3. Brief knowledge regarding nomenclature, identification and classification of drugs in Ayurveda based on Samhita and in various Nighantu.
4. Organized and unorganized drugs and their methods of evaluation.
5. Cultivation, collection, storage and preparation for the market of ASU Drugs. Introduction to Good Agricultural Practices (GAP), Good Field Collection Practices (G.F.C.P.) and Good Storage Practices (G.S.P.), etc.
6. Environmental (Desh, Kaal, Ritu, etc.), genetic and gender factors affecting qualities of crude drugs.

Part-B

1. Introduction of tissue culture techniques used for Ayurvedic Drugs.
2. Anukta dravya (extra Pharmacopeial Drugs).
3. Controversial aspects of Ayurvedic Drugs.
4. Adulteration and substitutes of crude drugs and methods for detection of adulterants.
5. Standardization of crude drugs as per Ayurvedic Pharmacopeia of India (API) and WHO guidelines.

Paper – II
Guna Karma Vigyan
Part-A

1. Fundamental principles of Dravyaguna
2. Detailed study on the Rasa, Guna, Virya, Vipaka, Prabhava and Karma with their applied aspects.
3. Evaluation of karmas (Deepana, Pachana, Grahi, Stambhana, Mutrala, Mutrasangrahaniya, Anulomana, Rechana, Jwaraghna, Vedanahara).
4. Introduction to general pharmacology.
5. Knowledge on procedure, equipments and instruments used in pharmacological evaluation.
6. Introduction to phytochemistry, chemical analysis and chromatography.

Part-B

1. Detail study of 50 Medicinal Plants and 25 Ahara Dravya according to therapeutic classification e.g. Rasayan Vajikaran, Medhya, Jvarahara, Kasahara, Shvasahara, Shothahara, Kushtghna, Krimighna, etc.
2. Biological Screening methods including animal experiments.
3. Safety evaluation of drugs (Toxicological evaluation) and their guidelines for evaluation for example OECD guidelines, WHO guidelines, etc.

Second Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) –Maximum Marks-100

Paper – I
Aushadha Prayoga Vigyan
Part-A

Aushadha prayoga marga (routes of drug administration) of Dravya, its Prayoga Vidhi, Matra-Anupana (Drug delivery regimen), etc.

1. Consideration of Samyoga-Virodha (Drug incompatibility).
2. Principles of Clinical pharmacology.
3. Introduction to Reverse pharmacology.
4. ADR in Ayurveda and conventional system of medicine.
5. IPR, Regulations pertaining to Import and Export of Drugs.

Part-B

1. Knowledge of Therapeutic Administration (Amayika prayoga) of plants mentioned as follows:

1) Ahiphena	2) Agnimantha	3) Agaru
4) Amalaki	5) Apamarga	6) Aragvadha
7) Ardraka-Shunthi	8) Arjuna	9) Arka
10) Ashvagandha	11) Ashvagola	12) Ashoka
13) Ativisha	14) Bakuchi	15) Baladvayam
16) Bharangi	17) Bhallataka	18) Bibhitaka
19) Bijaka/Vijayasara	20) Bilva	21) Brahmi
22) Bringaraj	23) Brihati	24) Chandanadvaya
25) Chitraka	26) Dadima	27) Danti
28) Daruharidra	29) Dhanyak	30) Dhatki
31) Draksha	32) Durva	33) Ela
34) Eranda	35) Gambhari	36) Gokshura
37) Guduchi	38) Guggulu	39) Haridra
40) Haritaki	41) Hingu	42) Jambu

43) Jatamamsi
44) Jatiphal
45) Jeerakdvaya
46) Jyotishmati
47) Kalamegh
48) Kampillak
49) Kanchanara
50) Kantakari
51) Kapikacchu
52) Karkatashringi
53) Karpur
54) Katuki
55) Khadira
56) Kiratatikta
57) Kumari
58) Kupilu
59) Kumkum/Keshara
60) Kushmanda
61) Lavang
62) Kutaja
63) Lodhra
64) Madanaphal
65) Manjishtha
66) Marich
67) Markandika
68) Mushali
69) Musta
70) Nagakeshar
71) Nimba
72) Nirgundi
73) Palasha
74) Palandu
75) Pashanabheda
76) Patala
77) Patola
78) Pippali-Pippalimula
79) Punarnava
80) Rasna
81) Rasona
82) Saireyaka
83) Shallaki
84) Saptaparna
85) Sarpagandha
86) Sariva
87) Shalparni
88) Shalmali
89) Shankhapushpi
90) Shatavari
91) Shatapushpa
92) Shigru
93) Shirish
94) Shyonaka
95) Talisa patra
96) Tila
97) Trivrit
98) Tulsi
99) Tvak
100) Ushira
101) Vacha
102) Varun
103) Vasa
104) Vata
105) Vatsanabha
106) Vidari
107) Vidanga
108) Yashtimadhu
109) Yavani
110) Devadaru

2. Clinical trial- protocol designing, stages of Clinical Research and data management.
3. Bioethics in Clinical Research.
4. Introduction of Pharmaco epidemiology/observational study

Paper – II
Aushadha Yoga Vigyan
Part-A

Importance and principles of formulations as per Ayurveda

1. Introduction to relevant portions of Drugs and Cosmetic Act, Magic remedies Act, Intellectual Property Right (IPR), regulations pertaining import and export of drugs.
2. Good manufacturing practices (GMP).
3. Quality control procedures of formulations prescribed by Drug Regulatory Authorities.
4. General awareness about neutraceuticals, cosmoceutical, food addictives, excipients, etc.

Part-B

1. Detail study of five formulations from each kalpana of Ayurvedic Formulary of India (AFI)
2. Knowledge about herbal extracts, colours, flavours and preservatives
3. Standardization of various Ayurvedic Kalpana, eg- Churna, Vati, Avaleha, Siddha Sneha, Asava, Arishta, etc.

PRACTICALS

Contents of Practical

1. Survey of Adverse Drug Reaction (ADR) in prescribed format of national pharmacovigilance programmes of ASU Drugs (Minimum 2)
2. Shodhana methods of Visha Dravya.
3. Preparation of two Yoga from each kalpana of Ayurvedic Formulary of India.
4. Microscopical evaluation of certain Churna formulation e.g. Sitopaladi, Hingvashtak, Trikatu, Triphala etc.
5. Chemical evaluation of Asava and Arishta.

Pattern of Practical Examination-

1.	Herbarium File	10 Marks
2.	Experiment related to Macroscopial,Microscopial, Organoleptic evaluation, Extraction and Phytochemical Evaluation	30 Marks
3.	Spotting of Dravya	10 Marks
4.	Project Work	20 Marks
5.	Viva-voce	30 Marks
	Total	**100 Marks**

Text Books for Reference

1. Abhinav Buti Darpan (Vol.1-2) : Vd. Roop Lal Vaishya
2. Aushadha Vigyana Shastra : Acharya Pt. Vishvanath Dwivedi
3. Ayurvediya Aushadhkarma Vigyana : Acharya V.J. Thakur
4. Bedi Vanaspati Kosha : Prof. Ramesh Bedi
5. Bhaishajyaguna Vigyana : Dr. Alakhnarayan Singh
6. Bhav Prakash Nigantu (English) : Shreekanthamurti
7. Bhav Prakash Nighantu : Vd. Krishna Chandra Chunekar with commentary
8. Bhrihad Dravyagunadarsha : Mahendra Kumar Shastri
9. Classical Uses of Medicinal Plants : Acharya Priyavrata Sharma
10. Controversial Medicinal Plants : Vd. G. Bapa Lal
11. Dalhana Ka Dravyaguna Shastra Ke Kshetra Me Yogadana : Vd. Shiv Kumar Vyas
12. Dravyaguna Kosha : Acharya Priyavrata Sharma

13. Dravyaguna Sutram	:	Acharya Priyavrata Sharma
14. Dravyaguna Vigyana	:	Dr. Gyanendra Pandey
15. Dravyaguna Vigyana(Vol. 1-2)	:	Acharya Yadavji Trikam Ji
16. Dravyaguna Vigyana	:	Dr. V.M. Gogate
17. Dravyaguna Vigyana (Vol. 1-5)	:	Acharya Priyavrata Sharma
18. Dravyaguna Shastram	:	Vaidya G.A. Phadake
19. Dravyaguna Vigyana	:	Dr. A.P. Deshpande
20. Dravyagunavigyana Basic Principles	:	Prof.D.S.Lucas
21. Forgotten Healers (Indian Medicinal Plants)	:	Dr. Prakash Paranjape
22. Glossary of Vegetable Drugs in Brihattrayi	:	Thakur Balwant Singh & Vd. Krishna Chandra Chunekar
23. Introduction to Dravyaguna	:	Acharya Priyavrata Sharma
24. Kriyatmaka Aushadi Parichaya	:	Acharya Pt. Vishvanath Dwidevi
25. Materia Medica	:	Acharya Ghosh
26. Nighantu Adarsh (Vol. 1-2)	:	Vd. Bapa Lal
27. Pharmacological basis of Medical Practice	:	Goodman & Gillman
28. Pharmacology and Pharmacotherapeutics	:	Satoskar Bhandarkar & Ainapure
29. Prayogatamaka Dravyaguna Vigyana	:	Dr. Maya Ram Uniyal
30. Priya Nighantu	:	Acharya Priyavrata Sharma
31. Raspanchaka/Dravyaguna Siddhanta	:	Prof. Shivcharan Dhyani
32. System of Plant Nomenclature in Ayurveda	:	Dr. Gyanendra Pandey
33. Text Book of Pharmacology	:	Trees & Valis
34. Textbook of Dravyaguna	:	Dr.K.Nishteswar
35. Unani Dravyaguna Vigyana	:	Hakim Daljeet Singh
36. Useful parts of Charak, Sushrut, and Vagbhata.		
37. Uttarakhand Ki Vanaspatiya	:	Dr. Gyanendra Pandey
38. Vanoaushadi Darshika	:	Thakur Balwant Singh
39. Vanoaushadi Nidarshika	:	Dr. Ram Sushil Singh
40. Vedic Vanaspatiyan	:	Dr. Dinesh Chandra Sharma

PANCHKARMA
D.Panchkarma
First Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) –Maximum Marks-100

Paper – I
Introduction to Snehana, Swedana, Vamana and Virechana Karma
Part-A

Introduction

1. Basic Principles of Ayurveda and Kayachikitsa.
2. Derivation, Definition, History, Origin and scope of Panchkarma.
3. Panchkarma in Ashtanga Ayurveda.
4. Indication for Shodhana and Shamana Therapy.
5. Qualities of Panchkarma Vaidya.

Snehana

1. Etymology and definition of Sneha and Snehana.
2. Introduction and General consideration about Snehana.
3. Snehashrayas.
4. Properties of Snehana Dravya.
5. Classification of Snehana.
6. Quality and utility of Uttama Sneha.
7. Snehapaka vidhi with their varieties and uses.
8. Indications and contraindications of Snehana.
9. Abhyantara Snehana – Acchapanas, Snehavicharana, Sadyasnehana and Avapidaka Sneha.

Swedana

1. Etymology and definition of Swedana.
2. General consideration about Swedana.
3. Properties of Swedana and Swedopaga Dravya.
4. Classification of Swedana therapy.
5. Indications and contraindications.

Upakalpana

1. Knowledge about the materials, equipments and instruments used in Panchkarma and physical medicine.
2. Knowledge of technical modification of equipments to be used in Panchkarma.
3. Knowledge of Ahara and Aushadhi Kalpana used in Panchkarma.

Part-B

Sharir Vivechana in relation with Panchkarma

1. Concept of Twacha, Kaal, Ashaya, Kostha, Shakha, Srotas, Nasa Sharir Pranayatana, Shatchakra, Nadi, Peshi, Snayu, Sandhi, Marma and their implication in the practice of bio-purificatory and rehabilitative procedures of Panchkarma.
2. Concept of 'Gut Brain', its relevance to Vata System and Basti Therapy.

Vamana Karma

1. Etymology and definition
2. General consideration
3. Properties of Vamaka and Vamanopaga Dravya.
4. Vamaka dravya according to various Samhita.
5. Vamana Yoga and their different ways of administration.
6. Sadyo Vamana and its utility.
7. Indications and contra-indications (general and specific) in various diseases and their stages.
8. Dose fixation- general and specific.

Virechana Karma

1. Etymology and definition
2. General consideration
3. Properties of Virechaka and Virechanopaga Dravya
4. Virechana Dravya according to various Samhita
5. Types of Virechana and administration method
6. Indications and contra-indications (general and specific) in various diseases and their stages
7. Dose fixation- general and specific.

Paper – II

Introduction to Basti, Nasya, Raktamokshan and Physiotherapy

Part-A

Basti Karma

1. Etymology and definition
2. General consideration and introduction
3. Classification of Basti
4. Drugs useful in Basti
5. Indications and contraindications (General and Specific) of Basti Kalpana in various diseases and their stages
6. Description of Basti Yantra - Basti Netra and Basti Putaka
7. Dose fixation of Niruha and Anuvasana Basti

Uttar Basti

1. Definition of Uttar Basti
2. Uttar Basti Netra and Basti Putaka
3. Dose of Uttar Basti both in Male and Female / Sneha and Kashaya Basti

Part-B

Nasya Karma

1. Etymology and definition
2. General consideration and introduction
3. Nasya Dravya according to various Samhita
4. Classification of Nasya
5. Indications and contraindications
6. Dose fixations of different Nasya
7. Detailed study of different Nasya formulations like Ksheerabala/Anutaila/ Shadbindu, etc.

Raktamokshan

1. Definition
2. General principles of Raktamokshan
3. Classification of Raktamokshan
4. Indications and contra - indications
5. General and specific indications of different Raktamokshan techniques

Physiotherapy

1. Definition
2. Introduction to physiotherapy
3. Basic principles of physiotherapy
4. Utility of physiotherapy vis a vis Ayurveda
5. Indication and contra-indications of physiotherapy in various disorders.

Second Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) –Maximum Marks-100

Paper – I

Applied aspects of Snehana, Swedana, Vamana and Virechana Karma

Part –A

Snehana

1. Abhyantar Snehana
   - Poorva karma - Rogipariksha (Examination of Patient), Koshtapariksha, Agnipariksha (Fixation of dose Diet)
   - Pradhana karma - Administration of Sneha
     Jeeryamana (observation) – Jeerna, Ajeerna, Asnigdha, Atisnigdha Lakshana-Samyak Yoga/ Ayoga/ Atiyoga Lakshanas, Sneha Vyapat and treatment.
   - Pashchat karma - Pariharavishaya (Planning of shodhana).
2. Bahya Snehana
   Detailed description of Lepana, Samvahana, Udvartana, Mardana, Padaghata, Murdhni taila, Gandusha, Kavala, Abhyanga– Marma and massage, Karna poorana, Akshi tarpana, Taila dharana, Kati Basti (Tarpan), Janu Basti (Tarpan), Prishtha Basti (Tarpan), Hridaya Basti (Hridaya tarpan) etc.

3. Proper understanding of digestion and metabolism of fat.
4. Karmukatva of Snehana
5. Prescription of different Sneha Yoga in different disorders
6. Knowledge of new Sneha dravya used at present time like olive oil, groundnut oil, etc.

Swedana

1. Kerala specialities of Swedana like Churna, Pinda Sweda, Jambeera/Patrapottali/ Shastikashali Pinda Swedana/ Kayaseka/ Ksheera Bhaspa Sweda, etc.
2. Administration of Swedana chikitsa- Poorvakarma
3. Samyak Yoga/Ayoga/Atiyoga lakshana
4. Swedana complications and management.
5. Karmukatva of Swedana.

Part-B

Vamana Karma

Poorva karma –

1. Collection of medicine and materials
2. Examination of Patient
3. Preparation of patient

Pradhana karma –

1. Administration of vamana dravya
2. Observation of Samyakyoga/Ayoga/Atiyoga lakshana and their management.

Pashchat karma –

1. Dhumapana
2. Samsarjana and Santarpana karma
3. Parihara vishaya
4. Vyapat and its management

Physiology and pharmaco-dynamics of Vamana Karma.

Virechana Karma

Poorva karma-

1. Collection of medicines and materials
2. Examination of patient
3. Preparation of patient

Pradhana karma –

1. Administration of Virechana dravya
2. Observation of Samyakyoga/Ayoga/Atiyoga lakshana and treatment

Pashchat karma –

1. Samsarjana and Santarpana karma
2. Parihara vishaya
3. Planning of next shodhana
4. Vyapat and its management

Physiology and pharmaco-dynamics of Virechana Karma.

Paper – II
Applied aspects of Basti, Nasya Karma, Raktamokshan and Physiotherapy
Part-A

Basti Karma

Administration of Basti

Niruha Basti

Poorva karma-

1. Examination of the patient according to Dosha, Aushadha, Desh, Kaal etc.
2. Preparation of medicine
3. Preparation of patient

Pradhana karma-

1. Administration of Basti
2. Observation of expulsion
3. Samyakyoga /Ayoga/Atiyoga lakshana

Pashchat karma-

1. Follow up
2. Parihara vishaya, Kaal Diet
3. Vyapat and its management.

Anuvasana Basti

Poorva karma-

1. Preparation of medicine
2. Preparation of patient

Pradhana karma-

1. Administration of Basti
2. Samyakyoga /Ayoga/Atiyoga lakshana

Pashchat karma-

1. Basti pratyagamana
2. Diet
3. Vyapat and its management

Matra Basti

Detailed study of different Basti formulations like Ksheera Basti, Vaitarana Basti, Vrishya Basti, etc.

Uttar Basti

Administration of Uttar Basti-

a) Poorva karma
b) Pradhana karma
c) Pashchat karma

Physiology, pharmaco-dynamics of Uttar Basti karma

Part-B

Nasya Karma

Administration of Nasya-

Poorva karma-

1. Collection of medicine and materials
2. Examination of patient
3. Preparation of patient

Pradhana karma -

1. Administration
2. Observation and follow up
3. Samyakyoga /Ayoga/Atiyoga lakshana
4. Vyapat and its management

Pashchat karma -

1. Immediate follow up
2. Dhumapana , kavala, gandusha
3. Diet
4. Parihara vishaya
5. Nasyottara karma

Physiology, pharmaco-dynamics of Nasya Karma

Raktamokshan

Administration of Raktamokshan-

Poorva karma-	Collection of Jalauka (Leeches) and materials Examination of Patient, preparation of patient, preparation of Jalauka
Pradhana karma-	Administration of Raktamokshana by different techniques Observation of Samyakyoga/Ayoga/Atiyoga lakshana and Management
Pashchat karma-	Management of patient Parihara vishaya and Parihara kaal Vyapat and its Management

Karmukatva of Raktamokshan (pharmacodynamics)

Physiotherapy

Knowledge and administration of below mentioned Physiotherapy techniques / instruments-

1. Ultrasound
2. Magneto therapy
3. Nerve conduction therapy
4. Diathermy
5. Laser therapy
6. Ultraviolet therapy
7. Wax therapy, etc

PRACTICALS

Contents of Practical

1. The student should undertake the responsibility in the management and treatment of patients independently through Panchkarma and Upadrava of Panchkarma.
2. Students should have to go through exposure to all the physiotherapy procedures.
3. Student should acquire self experience of the Panchkarma procedure according to the seasons.
4. Assesment of the Vega.
5. Knowledge of Samsarjana Krama.

Pattern of Practical Examination

1.	Case record	10 marks
2.	Upakarma (Minor procedures)	10 marks
3.	Pradhan karma (Major procedures)	20 marks
4.	Identification of drugs useful in Panchkarma	10 marks
5.	Project work	20 marks
6.	Viva-voce	30 marks
	Total	**100 Marks**

Text Books for Reference

1.	Charak Samhita with Ayurveda Dipika by Chakrapani and Jalpakalpataru by Gangadhara	
2.	Sushrut Samhita with Nibhandha Samgraha by Dalhana and Nyayachandrika by Gayadasa and Panjika by Swami Kumar	
3.	Ashtanga Hridaya with Sarvanga Sundara and Ayurveda Rasayan commentaries	
4.	Ayurvediya Panchkarma Chikitsa	: Dr Mukundilal Dwivedi
5.	Panchkarma Vigyan	: Dr Haridas Shreedhar Kasture
6.	Illustrated Panchkarma	: Dr G Srinivasa Acharya
7.	Clinical Panchkarma (English)	: Dr P.Yadaiah
8.	Prayogika Panchkarma (Hindi)	: Dr P. Yadaiah
9.	Vividha Vyadhiyome Panchkarma (Hindi)	: Dr P. Yadaiah
10.	The Panchkarma Treatment of Ayurveda with Kerala Specialities	: Dr T.L. Devaraj
11.	Panchkarma Therapy	: Dr R.H. Singh
12.	Principles and practice of Basti	: Dr Vasudevan Namboodri, Dr. L. Mahadevan

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SWASTHAVRITTA AND YOGA

[Diploma in Public Health-Ay.] D.P.H.(Ay.)

First Year

Theory (Two papers) - Maximum Marks -100(each)

Practical (one) – Maximum Marks-100

Paper – I

Vaiyaktika and Samajika Swasthavritta

Part-A

Vyaktigata Swasthyam (Individual health)

1. Definition of Swastha, Swasthavritta and Health.
2. Swasthavritta Prayojana and Mahatwam.
3. Swasthapurusha lakshana - Signs of Health.
4. Introduction to Preventive Medicine and its Terminologies.
5. Detail knowledge of Dinacharya, measures such as Danta Dhavana, Jihva Nirlekhana, Gandusha-Kavala, Pratimarsha Nasya, Anjana, Vyayama, Abhyanga, Dhumapana, Udvartana, etc and their physiological effects in terms of modern knowledge.
6. Ritucharya and its importance in Swastha Paripalana
7. Importance of Vega and their role in Health & Disease.
8. Description of Sadvritta and Achara Rasayan and their role in Prevention of psycho-somatic diseases. (Satvavajaya chikitsa)
9. Concept of Nindita & Anindita purusha.
10. Introduction to Trayopastambha- Ahara, Nidra and Brahmacharya and their role in maintenance of health and their clinical importance.
11. Role of Pragyaparadha in producing diseases and Sharir Rakshanatmaka Karya-Preventive measures - Roga anutpadaniya vigyan.
12. Concept of Vyadhikshamatwa – Sahaja, Kalaja and Yuktikrit.

Ahara Vichara (Food and Nutrition)

1. Nirukti, Vivechan of Ahara; Definition of food, diet and nutrition.
2. Aharasya Swaroopam, Shadrasatvam, Panchabhautikatvam and Chaturvidhatvam.
3. Ahara mahatvam (Importance of food).
4. Aharadravya Parichaya, Vargeekarana, advantages and disadvantages of Vegetarian and Non - Vegetarian food.
5. Ahara Vidhi Vishesha Ayatana.
6. Ahara Poshana (Nutrition) - Food proximate principles - Carbohydrates, Proteins, Fats, Vitamins etc., their functions, deficiency disorders and prevention. Diet in different types of diseases.
7. Balanced diet

Nidra (Sleep)

Definition, physiology, types, proper way of sleep and its relation to Health and Disease.

Brahmacharya (Celibacy)

1. Vyakhya, Lakshana (Characteristic)
2. Importance and Utility of Brahmacharya
3. Abrahmacharya Vyakhya
4. Vyavaya Sambandhi Niyama
5. Effect of Ativyavaya
6. Veeryotpatti
7. Veerya Naasha Phala
8. Veerya Rakshanopaya
9. Menstrual Hygiene (Stri Ritucharya)

Part-B

Samajika Swasthavritta (Social Hygiene)

1. Concept of Health, Health for all (H.F.A.) (Sarvesham Krute Arogyam).
2. Concept of Disease
3. Concept of Prevention

Introduction to Public Health

1. Definition of Hygiene, Public Health, Sanitation etc.
2. Health systems and Health Services in India.

Environment and Health

1. Water
2. Air and ventilation
3. Soil and residential dwellings (Healthful Environment of Housing).
4. Light, sound and radiation
5. Disposal of waste products (solids and liquids) [sewerage system].
6. Hospital waste management (Biomedical waste management)
7. Sanitation of fairs, festivals and villages.
8. Methods of disposal of dead body
9. Medical entomology

Industrial Health

1. Ergonomics
2. Health hazards of Industries.
3. Prevention and controlled measures of occupational diseases.
4. Measures of health protection in Industries.
5. ESI Act
6. Indian Factory Act.

School Health

1. Construction of school/college building
2. Arrangement of light, ventilation, water supply

Aturalaya bhavan nirmana (Hospital building construction)

Paper – II
Janapadodhwamsa and Yoga – Nisargopachara

Part-A

Janapadodhwamsa (Epidemiology)

1. Janapadodhwamsa- causes, manifestation and measures of its control.
2. Introduction to Basic epidemiology
3. Selected definition of infectious disease epidemiology like - infection, contamination etc.
4. Epidemiological Triad - Agent, Host and Environment.
5. Dynamics of disease transmission.
6. Screening for disease.
7. Classification of infectious diseases.
8. Disease prevention and control- notification, isolation, quarantine, etc.

Disinfection/Visankramana - Definition and types

Immunity - Definition, types of Immunity, Immunizing agents, Immunization schedule and hazards of Immunization

Health Statistics / Vital Statistics

1. Definition of statistics/ health statistics
2. Sources and uses of health statistics
3. Collection, classification, presentation and interpretation of data
4. Mortality, morbidity and fertility rate

Part-B
Yoga – Nisargopachara

Yoga

1. Introduction to Yoga.
2. History, Nirukti, Vyutpatti and Paribhasha of Yoga.
3. Aims and Objectives of Yoga in relation to Ayurveda.
4. Different schools of Yoga.
5. Scriptural basis of Ashtanga Yoga according to Patanjali Yoga Sutra, Bhagavad Geeta and Yoga Vashishta.
6. Introduction to Meditation and its techniques
7. Introduction to Yogic diet and behaviour.
8. Description of Hatha Yoga and Shatkarma - Neti, Dhauti, Nauli, Trataka, Basti and Kapalabhati; Kundalini Yoga.
9. Description of Bandha, Mudra, Shatchakra, Panchakosha and Nadi.

Nisargopachara (Naturopathy)

1. Definition, history and basic principles of Naturopathy.
2. Concept of Naturopathy in disease manifestation and diagnosis
3. Aims and objectives of Nisargopachara
4. Relation of Ayurveda and Naturopathy
5. Schools of Naturopathy- Indian and Western
6. Importance of Naturopathy
7. Treatment modalities of Naturopathy.
8. Vishranti – Role of rest and relaxation.

Second Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) –Maximum Marks-100

Paper – I

Applied aspects of Vaiyaktika and Samajika Swasthavritta in Swasthya Rakshan

Part-A

Vaiyaktika Swasthavrittam (personal hygiene)

1. Description and Applied aspects of regimens of Dinacharya, Ratricharya, Ritucharya with practical knowledge of preventive aspects.
2. Shodhana therapy in Swastha Purusha
3. Garbhini, Sutika Paricharya and Balopachara (preventive O.B.G and paediatrics)
4. Malnutrition and its preventive measures
   a) Santarpana apatarpana janya vikar and its preventive measures
   b) Assessment of nutritional status and Nutritional surveillance
   c) Nutritional problems in public health.
   d) National Nutritional Programmes.
   e) Food Hygiene and food poisoning.
5. Concept of Rasayan/Jara (Preventive Geriatrics)

Part-B

Samajika Swasthavritta (Community Health Care)

1. Health Care Management
   a) Health Administration at International, Central, State and Local level.
   b) Health schemes programmes in India
   c) National eradication and control programmes of declared communicable diseases
   d) Community development programmes.
   e) Health Education and communication.
   f) Laws related to Health (Medical Legislation).
   g) Primary Health Care in India.
   h) International Health Organizations - WHO, UNICEF etc.
   i) Disaster management.
   j) Hospital management

2. Family Welfare Programmes (Parivara Kalyana Karyakrama)
   a) Demography
   b) Definition and scope of family planning.
   c) Family planning methods (both Modern and Ayurveda).
   d) Family planning services.
   e) National family planning programmes including R.C.H. programme.
   f) Establishment of MCH centre, urban family welfare centre and their role in community health.
   g) School health programmes.
   h) Care of handicapped children.
   i) Care of senior citizen.
3. Concept of Mental health- Manasika swasthya – Ayurvedic perspective.

Paper – II
Aupasargika - Anoupasargika Roga Pratishedha and Applied Aspects of Yoga – Nisargopachara

Part-A
Aupasargika evam Anoupasargika Roga Pratishedha

1. Communicable disease prevention and their management
   a) Ayurvedic aspect of Kuprasangaja roga and Aupasargika roga.
   b) Laboratory investigations for detection of various infectious diseases.
   c) Description and preventive measures of viral, bacterial, vector borne and other communicable diseases.
   d) Description and preventive measures of various STD's (HIV/ AIDS)
   e) Emerging and re-emerging infectious diseases like SAARS, Chikungunya, Bird-flu etc.
   f) Hospital acquired infections
2. Non-communicable diseases and their management– Hypertension, Cancer, Obesity, Blindness, Diabetes, etc.
3. Health promotive nutrition in Ayurveda like Balya, Urjaskara, Hridya, Chakshushya Dravya etc.
4. Disaster management in Natural calamities

Part-B
Yoga
1. Practical application of Ashtanga Yoga
2. Practising of Asana with precautions.
3. Individual Yoga practice- procedures, indications, contraindication and their effect on various organs and Dosha
   a) Standing Position Asana- Tadasana, Vrikshasana, Chakrasana, Ardhakati Chakrasana, Trikonasana, Parivrittatrikonasana and Ardhachakrasana.
   b) Sitting position Asana (Meditative Asana)- Padmasana, Vajrasana, Siddhasana etc.

c) Cultural Asana- Ardhamatsyendrasana, Gomukhasana, Yogamudrasana, Pashchimottanasana, Janushirshasana, Baddhakonasana, Ushtrasana, Kukkutasana, Kurmasana.
d) Supine Asana- Pavanamuktasana (Purna and Ardha), Ekapada Uttanasana, Halasana, Matsyasana, Viparitakarani, Sarvangasana, Chakrasana, Suptavajrasana, Ekapadasana and Shavasana.
e) Prone position Asana - Bhujangasana, Naukasana, Shalabhasana, Dhanurasana, Mayurasana, Makarasana.

4. Practice of Pranayama – Bhastrika, Ujjayi, Suryabhedi, Chandrabhedi, Anuloma-Viloma, Bhramari, Sheetali and Sheetkari.
5. Shatkriya practice - Neti, Nauli, Dhouti, Trataka, Kapalabhati, Shankhaprakshalana, Agnisara.
6. Practice of Bandha and Mudra.
7. Practices of meditation and its importance in maintenance of health.
8. Therapeutic application of yoga for various diseases and conditions.
9. Researches conducted for management of diseases by Yoga and their results.

Nisargopachara

1. Jala Chikitsa (Hydrotherapy) –
   Different types of water used in treatment.
   Different types of baths and their indications and contra indications.
   Steam bath- indications and contra indications
2. Surya Rashmi Chikitsa (Solar therapy) - Mahatwa and methods of sun bath.
3. Mrittika Majjana- Mud therapy
4. Diet therapy
5. Upavasa (fasting) - techniques and benefits
6. Mardanam (massage)-Techniques and therapeutic effects

PRACTICAL

Content of Practical

1. Family planning appliances like condom, copper-T, oral pills, etc.
2. Educational visits – P.H.C, Family Welfare Centre, Leprosy sanatorium, Rural Ayurvedic dispensary, M.C.H centre.
3. Health survey and field work in rural community.
4. Participation in National Health Programmes like immunization programmes and such other programmes, active participation in various health event days i.e. WHO day, AIDS day, etc.
5. Clinical Suggestion-Field Study-Case taking, recording and discussion of-
   a) Non-infectious diseases
   b) Infectious disease
   c) Rugnapatrika regarding Yoga and Naturopathy
   d) Antenatal cases
   e) Vaccination report and Malnutrition - each of 10 cases
6. Applicability and management of the Janpadodhvansa in present era.
7. Applied aspect of the Pathyapathya, Dincharya, Ritucharya and Yoga.

Pattern of Practical Examination

1. Case Record in respect to Pathyapathya, Dincharya, Ritucharya and Yoga	10 Marks
2. Therapeutic application of Yoga and Naturopathy	20 Marks
3. Spotting	20 Marks
4. Project Work	20 Marks
5. Viva-voce	30 Marks
Total	**100 Marks**

Text Books for Reference

1. Brihatrayee - Laghutrayee - related portion	
2. Hatha Yoga Pradeepika	
3. Patanjalyogapradeep	
4. Yogavashistha	
5. Gherand Samhita	
6. Swasthavritta Samucchaya	: Vd Pandit Rajeshwardatta Shastri
7. Swasthya Vigyan	: Dr. B.G. Ghanekar
8. Yoga aur Ayurveda	: Acharya Rajkumar Jain
9. Swasthavritta Vigyan	: Ram Harsh Singh
10. Preventive and Social Medicine	: K. Park
11. Preventive and Social Medicine	: Yashpal Bedi
12. Preventive and Social Medicine	: Kulkarni
13. Preventive and Social Medicine	: Mahajan
14. Dr. Reddy's Comprehensive guide to Swasthavritta	: Dr.P. Sudhakar Reddy (Chowkhamba Sanskrit Pratishtan) New Delhi
15. Food and Nutrition Part I & Part II	: M. Swami Nathan
16. WHO publications on preventive and social medicine	
17. Kashyapa Samhita	
18. Yogaratnakara	

g # f

RASAYAN AND VAJIKARAN

D. Geriatrics (Ay.)

First Year

Theory (Two papers) - Maximum Marks -100(each)

Practical (one) – Maximum Marks-100

Paper – I

Rasayan and Vajikaran Siddhanta

Part-A

1. Fundamentals of Rasayan
   a) Historical evolution and concept of Rasayan (from Vedic to contemporary)
   b) Source material related to Rasayan in various classics
   c) Synonyms, utility, scope, etymology and definition of Rasayan.
   d) Present scenario and future prospect in practice of Rasayan
2. Anatomy and applied physiology in context to Rasayan
   a) Triguna, Mahabhuta, Dosha, Dhatu, Mala, Srotas, Agni, Ojas, Indriya and Mana.
   b) Brief Introduction to Ahara Rasa Nirman, Dhatu Poshanakrama- Kedari Kulya, Kshiradadhi, Khale Kapota Nyaya and their role in Dhatu formation.
   c) Concept of nutrition, preservation & promotion of tissue health. Role of various nutrients like vitamins, proteins, fats, micronutrients and trace elements in preservation and promotion of tissue health.
   d) Metabolism: General and pertaining to ageing
   e) Endocrinology: General, growth related and ageing.
   f) Immunity: Antigen antibody reactions, cell mediated and humoral immunity, immune responses, immune deficiency states, hypersensitivity and autoimmunity.
3. Classification and application of Rasayan alongwith their types and examples
   a) Kutipraveshik, Vatatapika, Droni praveshik
   b) Kamya, Naimittika, Ajasrika, Medhya
   c) Indriyanusari, Dhatvanusari
   d) Lekhan-Brimhanusari
   e) Samshodhan-Samshamananusari
   f) Swasthyanuvartaka Rasayan- Achara Rasayan, Sadvritta, Brahmacharya.
   g) Rasayan adhikaritva-Indications and contraindications.
   h) Optimum time for the use of Rasayan as per age, season, day/night, etc.
   i) Pathyapathya during and after the use of Rasayan
   j) Methods of using Rasayan- Poorva, Pradhana and Pashchat Karma.
4. Preservation and Promotion of health by Rasayan
5. Prevention of recurrence of Physical and Mental disorders by Rasayan
6. Kutipraveshik Rasayan
   a) Concept of Trigarbha Kuti and its descriptions
   b) Scope and limitation of Kuti Praveshika Rasayan
   c) Standard Operative Procedures for Kutipraveshika Rasayan in general and specific to different Rasayan usage.

d) Duration of Kutipraveshik Rasayan and rules for termination of Kutipravesha
e) Benefits of Kutipraveshika Rasayan.

Part-B

1. Fundamentals of Vajikaran
   a) Historical evolution and concept of Vajikaran (from Vedic to contemporary era)
   b) Source material related to Vajikaran in various classics
   c) Etymology, definition, synonyms, utility and scope of Vajikaran
   d) Epidemiology of sexual disorders and infertility – Indian and global scenario.
   e) Present scenario and future prospects in practice of Vajikaran
   f) Cross cultural perspectives of sexuality and fertility.
2. Applied Anatomy and Physiology in context of Vajikaran
   a) Triguna, Mahabhuta, Dosha, Dhatu, Mala, Srotas, Agni, Oja, Indriya and Mana.
   b) Srotas with special reference to Sukravaha Srotas and Artavavaha Srotas Shukradhara kala.
   c) Study of Beeja, Shukra, Veerya, Retasa and Rupadravya
   d) Dhatuposhan Krama with special reference to Shukra formation
   e) Reproductive anatomy and physiology- spermatogenesis, oogenesis
   f) Shuddha Shukra Lakshana, Falavata Shukra Lakshana, Shudha Artava Lakshana.
   g) Process of fertilization, Factors responsible for Garbhotpatti
3. Sexual behavior and response
   a) Physiology of erection, ejaculation and orgasm
   b) Hormonal regulation of human sexuality and fertility
   c) Metabolism: general and pertaining to sexuality and fertility
4. Types and Methods of Vajikaran.
   a) Classification of Vajikaran.
   b) When and which Vajikaran is to be used.
   c) Methods of using Vajikaran – Poorva, Pradhan and Pashchatkarma.
   d) Dietetic, physical and behavioural code for using Vajikaran.
   e) Contraindications for Vajikaran.

Paper - II
Part-A
Jara Samprapti Vigyan (Ageing)

1. Concept of Jara and ageing
   a) Introduction and definition.
   b) Epidemiology of ageing and degenerative diseases.
2. Causes of ageing
   a) Dosh, Dhatu, Agni and Mala in Jara.
   b) Age of onset of ageing, different Ayurvedic and Modern concepts regarding onset of ageing.
   c) Factors of ageing process- Swabhav, Jara, Kala.
   d) Prakriti and ageing
   e) Environment and allied factors in ageing.

f) Town dwelling and Diet articles such as Lavana, Kshara, etc. in ageing.
g) Effect of life style in ageing.
h) Psychological factors in ageing- Irshya, Bhaya, Krodha, Chinta etc.

3. Samprapti of Jara
4. Roopa of Jara- Srotanusari Rupa of Jara
5. Epidemiology of ageing and degenerative diseases
6. Classification of Jara
   a) Reversible and Irreversible ageing process.
   b) Introduction to common geriatric disorders like- Dementia, Alzheimer's disease, Degenerative diseases, Stress induced diseases, Injuries, Urinary retention, GIT problems, BPH, CVA, TIA, PVD, OA.

Part-B
Vajikaran

1. Concept of Vajikaran
   a) Knowledge of different terms used in reference to Vajikaran- Vrishya, Vajikaran, Chatakavat, Hastivat, Ashwavat, Apatyam, Santankaram
   b) Different types of Shukradushti and their symptoms
   c) Different types of Artavadushti and their symptoms
2. Panchanidan of diseases related to Shukravaha Srotas
   Klaibya, Shandya, Napunsakata, Shukragatavata, Dhwajabhanga, Vyavayashosha, Shighrapatan, Shukrataralya, Shukadosha
3. Sexual dysfunctions
   a) Libido related disorders-increased libido, decreased libido
   b) Erectile dysfunctions : - Organic,secondary to chronic diseases, functional and iatrogenic
   c) Ejaculatory disorders – premature, delayed, retrograde, anejaculation
4. Infertility
   a) Male infertility-oligozoospermia, asthenozoospermia, teratozoospermia, obstructive azoospermia, immunological infertility, pyospermia
   b) Female infertility
5. Introduction to sexually transmitted diseases- Phiranga, Upadamsha, Puyameha, Syphilis, Gonorrhea, HIV/AIDS.

Second Year
Theory (Two papers) - Maximum Marks -100(each)
Practical (one) – Maximum Marks-100

Paper - I
Rasayan and Vajikaran Pariksha Vigyan

Part-A

Rasayan Pariksha Vigyan

1. History taking and Clinical examination
   a) Rog and Rogi Pariksha, Trividha, Chaturvidha, Shadvidha, Ashtavidha, Dashavidha and Dwadashvidha.
   b) Neurological, ENT and Opthalmological examination.

2. Lab Investigations
   a) Routine Investigations - Hb, TLC, DLC, ESR, Biochemistry (Blood Sugar, Blood Urea, Creatinine, Uric acid, Lipid profile) etc.
   b) Hormonal Assay - Thyroid, biomarker related to ageing.
   c) Immunoglobulin studies
   d) Enzyme studies
   e) Radiological and sonological investigations
   f) Specific investigations for ageing.
3. Importance of Samshodhana in Rasayan
   Role of importance of Shodhana Karma in Rasayan, knowledge of different procedures useful in Rasayan
4. Psychosocial Assessment
   a) Personality assessment and development in relation with Rasayan.
   b) Different Scales for assessment of IQ, Memory, EQ
   c) Anxiety and depression scale
   d) MME Scale
   e) Quality of life parameters
   f) Positive psychology assessment
   g) Counselling techniques

Part-B

Vajikaran Pariksha Vigyan

1. History taking and examination
   a) History- general and sexual
   b) Physical examination
   c) General examination
   d) Neurological and vascular
   e) Specific Examination - sexual examination- local examination of testes, penis, vas deferens, spermatic cord
   f) Nocturnal penile tumescence (NPT) Examination
2. Investigations
   a) Routine Investigations - Hb, TLC, DLC, ESR, Biochemistry (Blood Sugar, Blood Urea, Creatinine, Uric acid, Lipid profile) etc.
   b) Hormonal Assay - Thyroid, Testesterone, FSH, LH, Prolactin, etc.
   c) Immunoglobulin studies
   d) Enzyme studies
   e) Genetic mapping, Chromosomal analysis
   f) HIV, VDRL, HBSAg, etc.
   g) Semen analysis (Semenogram)
   h) Radiological and Sonological Investigations - Scrotal doppler, penile doppler, scrotal USG
3. Importance of Samshodhana in Vajikaran and knowledge of individual Karma useful in Vajikaran
4. Myths and Misconcepts about Sex and Vajikaran
   a) Classification of males and females as per Kamashastra
   b) Knowledge of different organs of sensuality and achieving orgasm.

5. Sex Education
   a) Counselling techniques
   b) Marriage sex counselling
   c) Concepts of safer sex- Knowledge of pharmacology of male and female contraceptives.
   d) Reproduction, contraception etc.
   e) Decision making about pregnancy and parenthood
   f) Ayurvedic and Modern concept of genetic defects leading to malformation of Secondary sexual factors.
6. Ethics and legal aspects of sex and reproduction.

Paper – II

Rasayan and Vajikaran Aushadhi Vigyan

Part-A

Rasayan Aushadhi Vigyan

1. Brief Introduction to Rasayan Drugs - Jivaniya, Brihaniya, Balya, Shramahar and Vayasthapana.
2. Pharmacology and Pharmacodynamics of Ayurvedic Rasayan Drugs.
3. Classification of Rasayan Drugs –
   a) Vyadhyutapadaniya Pratibandhak Rasayan drugs
   b) Vyadhibala Virodhaka Rasayan drugs
   c) Medhya Rasayan drugs
   d) Vatatapika Rasayan drugs
   e) Naimittik Rasayan drugs for specific diseases
   f) Svarna Prashana Rasayan
   g) Knowledge of single herbal drugs used as Rasayan
   h) Knowledge of Herbomineral-metalic and acqua marine compounds used as Rasayan
   i) Knowledge of Compound formulation mentioned in Ayurveda
   j) Knowledge of Drugs – Used in Kutipraveshika and Vatatapika Rasayan.
   k) Adravya Rasayan- Application and importance of Achara Rasayan in today's scenario.
4. Mode of action of Rasayan
5. Methodology of deciding the drug, dose, dosage form, anupana, pathya, apathya for Rasayan Karma.
6. Management –
   a) Management of Jara and Akaal Jara
   b) Management of immune deficiency disorders
   c) Management of metabolic and endocrine disorders
   d) Management of life style disorders
   e) Management of degenerative disorders.
   f) Management of pollution and toxicity related disorders
   g) Symptomatic treatment of Kaal Jara
   h) Procedures contraindicated in Jara
   i) Rasayan useful in different branches of Ayurveda

j) Rasayan drugs used in contemporary and other allied medical sciences e.g. Chinese – Ginseng, Ginko Biloba

7. Prevention or delaying of Jara - According to the stages
8. Modern perspectives of Rasayan- Immunomodulator, anti oxidants, tissue supplements, neutropics, disease modifying anti arthritics drugs, prebiotics, probiotics, Nano-Bio technological products etc.
9. Recent advances in Rasayan
10. Research methodologies in Rasayan

Part-B

Vajikaran Aushadhi Vigyan

1. Classification of Vajikaran Drugs –
   a) Vajikar, Vrishya, Chatakvat, Hastivat, Punsatvakar, Apatya Santankar, Shukra Janak, Shukra Pravartak,Shukrasrutikar,Shukravriddhikar, Shukrasrutivriddhikar, Shukrastambhaka, Shukrarechak and Shukrashosaka.
   b) Single herbal drugs used in Vajikaran and their efficacy.
   c) Herbomineral-metallic and acqua marine compounds used in Vajikaran and their efficacy.
   d) Compound formulations mentioned in Ayurveda as Vajikar.
   e) Detailed Study of Vajikaran Yoga -
      i. Drugs used in Male infertility
      ii. Drugs used in Female infertility
2. Management-
   a) Management of sexual dysfunctions with Vajikaran Dravya.
   b) Invasive and noninvasive procedures in Vajikaran
   c) Uttarbasti- Its indication and contraindication, method, drugs used, precaution and complication.
   d) Application of Panchkarma in infertility management
   e) Surgical procedures and implants in Vajikaran
   f) Management of male and female infertility
   g) Assisted reproductive techniques (IVF, IUI, ICSI, GIFT, ZIFT, etc).
   h) Use of Vajikaran drugs in different branches of Ashtanga Ayurveda.
   i) Vajikaran drugs used in contemporary and other allied medical sciences. e.g. Chinese Ginseng, etc.
3. Modern perspectives of Vajikaran.
4. Pumsavan karma - Gender selection, legal aspects of sex and reproduction.
5. Recent Advances and Research Methodologies in Vajikaran.

PRACTICALS

Contents of Practicals

1. Knowledge and practical aspects of Rasayan and Vajikaran.
2. Knowledge of Panchkarma procedures relevant to Rasayan and Vajikaran like Snehan Swedana, Vamana, Vircehana, Basti, Nasya and Samsarjan Krama.
3. Knowledge and interpretation of various Laboratory investigations relevant to Rasayan Vajikaran like Haemoglobin, TLC, DLC, ESR complete blood chemistry, LFT, Lipid profile, Urine examination, Semen examination ,Hormonal assays etc.
4. Knowledge of current trends in Geriatrics and Sexology relevant to Rasayana and Vajikaran.

Pattern of Practical examination

1.	Interpretation of Lab investigations	10 Marks
2.	Knowledge of Panchkarma procedures in Rasayan and Vajikaran	10 Marks
3.	Case record of Rasayan	10 Marks
4.	Case record of Vajikaran	10 Marks
5.	Project Work	20 Marks
6.	Viva-voce	40 Marks
	Total	**100 Marks**

Text Books for Reference

1.	Vajikaran Tantra	:	Dr. J.L.N. Shastri & Dr. K. Nishteshwar
2.	Aphrodisiacs and treatment of Impotence in Alternative system of medicine	:	Dr. P.V.V. Prasad, Mohd. Siddique and Dr. Abdul Wadood
3.	Rajit Roga Shastra (Part I & Part II)	:	Dr. Shiv Kumar Shastri
4.	Santati Nigraha	:	Dr. Shivdayal Gupta
5.	Kamashastra antargat Vajikaran Vigyan	:	Prof. Jyotirmitra
6.	Ayurvediya Rasayan Sar	:	Dr. Shailaja Shrivastava
7.	Rasayan Sar (Part I & Part II)	:	Dr. Shyam Sunder Acharya
8.	Rasayan Khand	:	Dr. Indra Dev Tripathi
9.	Rasayan Tantra	:	Dr. Pakshdhar Jha
10.	Ayurved Chikitsa Vigyan	:	Prof. Banwari Lal Gaur



AYURVEDIC COSMETOLOGY AND SKIN DISEASE

(त्वक सौन्दर्य एवं रोग विज्ञान)

D. Dermatology (Ay.)
First Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) – Maximum Marks-100

Paper - I
Physiopathology of Tvak and Saundarya Vigyan
Part-A

1. Introduction and scope of Tvak Vigyan.
2. Embryological development and anatomy of Tvak and skin.
3. Applied anatomy of Tvak- Ayurveda and Modern aspect.
4. Description of Svedavah Srotas and Kleda and applied patho-physiology of sweat.
5. Applied physiology of Tvak (Skin) in Ayurveda and Modern aspect and Srotas Vivechan in relation to skin.
6. Applied anatomy of Nail.
7. Applied aspects of Tvak as adhisthan of Indriya, Dosha and Dushya.
8. Trividha, Chaturvidha, Panchvidha, Shadvidha, Ashtavidha and Dashavidha Pariksha in diagnosis of Tvak and Yaun Sankramak Roga.
9. Varna, Chhaya, Prabha and their Vikar.
10. Role of Prakriti and Sara in health and Vikar of Tvak, Kesha and Loma.
11. Role of Ahar and Vihar in maintenance of healthy skin.
12. Role of Mana in Prakriti and Vikriti of Tvak
13. Cosmetology: Ayurved and Modern aspect.
    a) Basics of skin care, beauty and biochemistry.
    b) Review of single and compound drugs in Ayurved and Sanskrit literature for Saundarya Prasadhan.
    c) Natural care of skin and preventive measures.
    d) Lepa, Pralepa, Pradeha, Udvartan, Dhoopan, Abhyanga, Swedan, Utsadan, Avasadan, Krishnakarma, Pandukarma, Pratisaran, Romsanjanan, Lomapaharan for Saundarya Prasadhan and Tvak Vikar.
    e) Prevention and management of ageing related Tvak Vikar.
    f) Breast care and Stan Vriddhikar Chikitsa.
    g) Hair care in Ayurved.
    h) Role of Rasayan in promotion of skin health.

Part-B

1. Knowledge of various lesions:
    a) Pitika, Pidaka, Visphot, Utsedh, Mandal, Sanrambh, Pak, Koth, Utkoth, Granthi, Arbud, Vidradhi, Vaivarnya, Vyang, Charmakeel, Mansankur, Arsha, Kikkis, Vali, Vranavastu, Tvakvidaran and Valmik.
    b) Primary lesions – Macule, patch, papule, nodule, tumor, plaque, vesicle, pustule, bullae, cyst, wheal, telangiectasia.

c) Secondary lesions: Scale, crust, erosion, ulcer, scar, atrophy, sclerosis, excoriations, burrow, comedo, milium.

2. Histopathological, microbiological (bacterial and fungal) skin test such as skin biopsy, skin scrapping, wood's light examination, Lepromin test, VDRL, Allergy test, patch testing etc.
3. Inflammation, de-generation, atrophy and hypertrophy in relation to skin.
4. Role of Krimi in various Tvak Vikar.
5. Role of Asatmya, Viruddhahar-Vihar in Tvak Vikar.
6. Knowledge of Tvak related to Arishta Lakshana.
7. Knowledge of immunity and genetics in relation to Tvak Vikar.

Paper -II

Principles of management of Tvak Roga and Kushtha Roga

Part-A

1. Principle of management of Tvak Vikar evam Yaun Sankramak Roga in Ayurveda and Modern.
2. Role of various Shodhana measures and Raktamokshana specially Jalaukavacharana in Tvak Vikar evam Yaun Sankramak Roga.
3. Agnikarma, Ksharakarma, Shastrakarma in Tvak Vikar evam Yaun Sankramak Roga.
4. Kushthahara, Udarda prashamana, Tvachya, Varnya, Kandughna, Rakta prasadak, Rakta shodhak drugs.
5. Pathya, Apathya and Nidan parivarjan in Tvak Vikar evam Yaun Sankramak Roga.
6. Role of Sadvritta, Satvavajaya, Yoga and Rasayan in Tvak Vikar evam Yaun Sankramak Roga.
7. Recent advances in management of Tvak Vikar evam Yaun Sankramak Roga.

Part-B

1. Introduction to Kushtha.
2. Nidan, Purvarupa, Rupa, Upasaya and Samprapti of various Kushtha.
3. Various classifications of Kushtha.
4. Diagnostic methods, modern co-relation, differential diagnosis of each type of Mahakushtha and Kshudrakushtha.
5. Principles of management of each type of Kushtha including Dhatugat Avastha.
6. Detail management of all Mahakushtha and Kshudrakushtha
7. Upadrava of Kushtha and their management.
8. Sadhyata and Asadhyata of Kushtha.
9. Leprosy, its Ayurvedic co-relation and modern management in light of National Leprosy Eradication Programme.

Second Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) –Maximum Marks-100

Paper - I
Kilasa, Kshudra Roga Evam Anya Tvak Roga
Part-A

1. Kilasa / Shvitra - etiopathogenesis, types, diagnosis and management.
2. Ayurvedic co-relation and management of Pigmentary skin disorders – Vitiligo, Leucoderma, Albinism, Pityriasis Versicolar, Melasma and Generalized Hyperpigmentation.
3. Ayurvedic co-relation and management of photosensitivity and photo induced disorders with environmental factors, sun burn, tanning, ultra violet radiation, skin related adverse drug reactions, photo dermatosis, localised heat urticaria, solar urticaria, cold urticaria, acrocyanosis, cold panniculitis, cold erythema, Raynaud's phenomenon.
4. Ayurvedic co-relation and management of cutaneous reaction to allergens and pollutants borne by the air, cutaneous reaction to cold, frost bite, trench foot, immersion foot, chilblains.
5. Ayurvedic co-relation and management of keratinisation and papulosquamous disorders: ichthyosis, corns, follicular keratosis, psoriasis
6. Knowledge of trichology.
7. Ayurvedic co-relation and management of alopecia, baldness, hypertrichosis, hirsuitism and graying of hair.
8. Ayurvedic co-relation and management of sweat glands and sebaceous glands related disorders.

Part-B

1. Introduction to Kshudra Roga and their Modern correlation.
2. Diagnosis and management of all types of Kshudra Roga in relation to Tvak Vikar evam Yaun Sankramak Roga.
3. Diagnosis and management of all types of Prameha Pidika
4. Ayurvedic co-relation and management of Acne, Acneform eruptions and Rosacea
5. Diagnosis and management of Shitapitta, Udarda, Kotha, Utkotha
6. Ayurvedic co-relation and management of Urticaria, Urticarial vasculitis, Cholinergic urticaria, Angioedema, Insect bite.
7. Tvakgata Vata- lakshana and chikitsa.
8. Diagnosis and management of Vishphota.
9. Ayurvedic co-relation and management of Vesiculobullous skin disorders, viz –
   a) Genetic bullous disorders like Epidermolysis bullosa, Epidermolysis bullosa simplex, Junctional epidermolysis bullosa, Hailey disease.
   b) Autoimmune blistering disorders like Pemphigus, Bullous pemphigoid, Bullous SLE.
10. Knowledge of Skin tumors and its Ayurvedic management.

Paper - II
Sankramaka Tvak Roga and Yaun Roga
Part-A

1. Diagnosis and management of Shuka Roga.
2. Diagnosis and management of Guhya Roga.
3. Diagnosis and management of Phirang (Syphillis), Upadansha, Puyameha (Gonorrhea)
4. Ayurvedic co-relation and management of skin disorders in AIDS.
5. Sexually transmitted infection and mucocutaneous manifestation:
   a) Viral infection - Herpes Simplex, Warts, Molluscum Contagiosum.
   b) Bacterial infection
   c) Fungal infection - Candidiasis
6. Ayurvedic co-relation and management of Inflammatory dermatosis,Atopic dermatitis, Seborrhoeic dermatitis, Lichen simplex chronicus, Exogenous eczema, Irritant contact dermatitis, Allergic contact dermatitis, Phytodermatitis, Infective dermatitis.

Part-B

1. Diagnosis and management of all types of Visarpa.
2. Ayurvedic co-relation and management of viral skin infection: Herpes Simplex, Herpes Zoster, Warts and Molluscum Contagiosum.
3. Ayurvedic co-relation and management of fungal skin infection: Pityriasis versicolar, Candidiasis, Madurai foot, Dermatophytosis, Tinea Corporis, T. Cruris, T. Pedis and T. Capitis.
4. Ayurvedic co-relation and management of bacterial skin infections: Furuncle, Carbuncle, Folliculitis, Impetigo, Erysipelas, Cellulitis, Lupus vulgaris, Tubercular and non-tubercular Mycobacterial infection.
5. Ayurvedic co-relation and management of protozoal and parasitic skin infestation: Scabies, Dracunculiasis, Filariasis, Ascariasis, Pediculosis enterobiasis
6. Introduction to Paediatric, Geriatric and Occupational dermatology.

PRACTICALS

Content of Practical

1. Laboratory investigation and histopathology :
   a) KOH preparation
   b) Tzanck Smear
   c) Wood's light examination
   d) Lepromin test
   e) Patch testing
   f) VDRL
   g) Biopsy
   h) Allergy test and Hyposensitisation
   i) Diascopy
2. Routine haematological, biochemical and pathological investigations and other routine lab investigations.

3. History taking of cases of Tvak Vikar evam Yaun Sankramak Roga:
   a) Importance of personal history
   b) Importance of associated complaints
   c) Importance of family history
   d) Importance of previous illness and its medication
   e) History of vaccination
   f) Importance of previous surgical interventions
   g) Importance of present medication
   h) Importance of occupational history: nature of work, time of work and climatic influences in working places.
   i) Importance of food habits
   j) Effects of drug abuse
   k) Importance of personal hygiene
   l) Importance of public hygiene
4. Clinical examination
   a) Types of skin lesions
      i. Primary
      ii. Secondary and special
   b) Pattern of skin lesions
   c) Shape and surface of lesions
   d) Distribution of lesions
   e) Examination of all srotas
5. Clinical tests: Auspitz's sign, Nikolsky's sign, Darier's sign, Dermatographism, etc.
6. Panchkarma
   a) Bahya Parimarjan Chikitsa
   b) Vamana
   c) Virechana
   d) Basti
   e) Nasya Karma
7. Raktamokshana:
   a) Sira Vyadhana
   b) Jalaukavacharana
8. Kshar Karma
9. Advance management and preventive measures in skin diseases

Pattern of Practical Examination

1.	Case Records	10 Marks
2.	Knowledge and Interpretation of Lab Investigations	10 Marks
3.	Upakarma	10 Marks
4.	Project Work	20 Marks
5.	Viva-voce	50 Marks
	Total	**100 Marks**



Text Books for Reference

1.	Charak Samhita of Agnivesa with Chakrapani Tika	
2.	Sushruta Samhita of Sushruta with Dalhan Tika	
3.	Ashtanga Samgraha of Vagbhata with Indu Tika	: Dr. Shivprasad Sharma
4.	Ashtanga Hridaya with Arundatta and Hemadri Tika	: Pt. Harishastri Paradkar
5.	Bhavaprakash of Bhavmishra with Vidyotini Tika	: Pt. Brahma Sankara Mishra
6.	Sharangdhar Samhita with Dipika Tika	: Dr. Brahmanand Tripathi
7.	Bhaisajyaratnawali with Vidyotini Tika	: Vd. Rageshwardatta Shastri
8.	Chakradatta with Vaidyaprabha Hindi Commentary	: Prof. Ramnath Dwivedi
9.	Yogratnakar with Vidyotini Hindi Commentary	: Bhishagaratna Brahmashankar Shastri
10.	Shabda Kalpadruma	: Radhakanta Deva
11.	Ayurvedic Beauty Care	: Melanie Sachs
12.	Ayurvediya Shabdakosha	: Vaidya Venimadhav shastri Joshi
13.	Geriatrics in Ayurveda	: Dr. S. Suresh Babu
14.	AIDS evam Ayurveda	: Dr. Hiralal Shivhare
15.	An Illustrated Hand Book of Skin Diseases and Sexually Transmitted Infection	: Uday Khopkar
16.	Roxburgs Common Skin Diseases	: Ronald Marks
17.	Adams Occupational Skin Diseases	: Adam
18.	Dermatological Diseases A Practical Approach	: Venkatraman Mysore
19.	Clinical Methods in Dermatology and Venereology	: J. S. Pasricha, Binod Khaitan
20.	Illustrated Text Book of Dermatology	: J. S. Pasricha, Ramji Gupta
21.	Text Book of Clinical Dermatology	: Virendra N. Sehgal
22.	Harrisons Principles of Internal Medicine	: Dennis Kasper
23.	API Text Book of Medicine	: Dr. Siddharth N. Shah
24.	Essentials of Dermatology Venereology and Leprosy	: S. P. Chattopadhyay
25.	Clinical Leprosy	: Virendra N. Sehgal
26.	Text Book of Dermatology Venereology and Leprology	: Devinder M. Thappa
27.	Colour Atlas of Dermatology	: L. K. Bhutani
28.	Text Book of Dermatosurgery and Cosmetology	: Satish Sawant
29.	Illustrated Synopsis of Dermatology and STD	: Neena Khanna
30.	Clinical Anatomy for Medical Students	: Richard Snell
31.	Principles of Anatomy and Physiology	: Tortora and Grabowski
32.	Text Book of Medical Physiology	: Guyton and Hall.

KSHAR KARMA

D. Kshar Karma
First Year

Theory (Two papers) - Maximum Marks -100 (each)
Practical (one) – Maximum Marks-100

Paper - I
Basic principles
Part-A

Introduction to Shalya Tantra - definition and importance of Shalya Tantra, qualities of surgeon.

1. Trividha karma- Poorva karma, Pradhan karma and Pashchat karma (preoperative, operative and post operative) procedures related to application of Kshara and Kshara Sutra in ano-rectal disorders.
2. Surgical ethics.
3. Basic surgical concepts and practice of surgery.
4. Anatomy and physiology of ano-rectal region.
   a) Ayurvedic View
   Anatomical concepts of Guda in Ayurveda, development, various measurements, Guda vali, Uttaraguda and Adharaguda, Guda as a Marma. Function of Uttarguda and Adharaguda. Importance of Guda valis and their functions in act of defaecation. Concept of Apana Vayu and its function. Importance of Apana Vayu in act of defaecation, micturation and its involvement in the development of various ano-rectal disorders. Features of vitiated Apana vayu and measures of pacification.
   b) Modern View
   Anatomical structures in ano-rectal region, anatomy of anal canal, rectum, perianal area, perianal skin, fascia, muscles, anal sphincters, supports of rectum and anal canal, various structures / spaces around anal and perianal area and their significance in ano-rectal disorders. Anal gland, anal crypts, anal mucosa, anal valves, land marks of anal canal and rectum. Venous and arterial supply, venous plexus, speciality of vascular supply of rectum and anal canal. Lymphatics and innervations of rectum and anal canal. Pudendal canal (Alcocks canal) its contents and importance. Peritoneal reflections, facial covering of rectum, pelvic diaphragm, male and female perineum. Histological structures of rectum and anal canal. Functions of anal canal, rectum, perianal muscles, anal sphincter, act of defaecation, storage of waste product, structures in relation to anorectal area and their functional impact on anorectal area in relation to anorectal disorders. Continence and incontinence, assessment of anal sphincter tone.

Part-B

1. Knowledge of equipments/surgical instruments used for diagnosis and management of ano-rectal disorders. Instruments useful in the diagnosis and treatment of Fistula-in-ano. Dr.P.J.Deshpande's instruments for the use of Kshara karma.
2. Sterilization – Importance, methods and their application.
3. Diagnostic investigations for ano-rectal disorders, knowledge of Radiograph, Fistulogram, Sonogram, Sonography, CAT-Scan, MRI and other updated equipments.
4. Introduction to Research Methodology and Bio Statistics

Paper-II
Ayurvedic and Modern Drugs Pharmacology
Part-A

1. Detailed description of Kshara –
   a) Definition, types- Pratisaraneeya Kshara and Paneeya Kshara , properties, pharmacological actions of drugs, chemical constituents, method of preparation, its standardization, sterilization and storage.
   b) Indications, contraindications and complications of Kshara karma.
2. Ksharsutra preparation –
   a) Historical aspects, various drugs used for its preparation including their identification, collection, properties, pharmacological actions of drugs, chemical constituents, method of preparation, its standardization, sterilization and storage.
   b) Indications and contraindications and complications of Kshara Sutra in Ano-rectal diseases.
   c) Various other Kshara preparations like – Kshar varti and Kshar pichu.
3. Pharmacodynamics of Kshara -
   Chemical analysis, pH value, probable mode of action like penetration, necrotic and dissolution actions of Kshara.
4. Description of Paneeya Kshara and its indications.

Part-B

1. Detailed study of pharmacology of the following drugs used in the management of ano-rectal disorders.
   (a) Antibiotics (b) Laxatives
   (c) Analgesics and NSAID's (d) Haemostatics
   (e) Anaesthetic agents
2. Ayurvedic drugs used in ano-rectal disorders

Second Year

Theory (Two papers) - Maximum Marks -100(each)

Practical (one) –Maximum Marks-100

Paper - I

Nidan and Chikitsa

Part-A

1. Nidan, Samprapti, Lakshana and Chikitsa of Vrana Shopha, Vrana and Nadi Vrana.
2. Aetiopathogenesis, types, signs and symptoms of inflammation, wound, sinus & pilonidal sinus.
3. Nidan, Samprapti, Lakshana and Chikitsa of Guda vidradhi.
4. Bhagandar Pidika and Bhagandar –

   Bhagandar Pidika – Aetiology, types, clinical presentation, character, differential diagnosis, investigations, curable and incurable varieties, prevention and management of Bhagandar Pidaka.

   Perianal, ischio-rectal, sub mucosal and other abscesses in the ano-rectal area and perineum; their clinical presentation, investigations, differential diagnosis and management.

   Bhagandar- Aetiopathogenesis,types,classifications,clinical presentations, diagnosis,investigations,methods of treatment and prognosis, surgical principles, pre-operative preparations, types of incisions, operative techniques in Ayurveda for the management of Bhagandar. Post operative measures, Complications and their management.

   Medical management - conservative and para surgical procedures like Kshara and Agni karma in the treatment of Bhagandar.

Part-B

Fistula -in-ano:

1. Its definition,aetiology,classifications, clinical presentation and diagnostic modalities
2. Complicated fistulae and their management – Treatment of difficult and complicated fistula-in-ano e.g. blind internal, blind external, supra levator extension, multiple fistula-in-ano, long perineal and gluteal extension. Horse shoe type fistula-in-ano, recurrent fistula-in-ano.
3. Fistulae other than crypto glandular origin - Fistula communicating with other organs likes urethra, vagina, and urinary bladder, traumatic fistula etc.
4. Treatment of fistula-in-ano – Different modalities of fistula-in-ano; fistulectomy, fistulotomy, fistulectomy with primary closure, fistulectomy with skin grafting, etc, Seton treatment of fistula-in-ano; indications and contraindications, merits and demerits.
5. Management of fistula in ano in patients suffering from Diabetes, HIV, Tuberculosis, IHD and in those on steroid therapy.
6. Pre operative measures - Different Pre-operative preparation related to application of Kshara and Ksharsutra in anorectal diseases specially fistula-in-ano.
7. Post operative care - Postoperative care, wound care, urinary problems and follow up patients, etc.
8. Adjuvant therapy - Analgesics and Antibiotics and other Ayurvedic medicines in the management of fistula-in-ano.

Paper - II
Nidan and Chikitsa
Part-A

1. Arshas (Haemorrhoids)
   a) Definition, aetiopathogenesis, prodromal features, types, clinical features, diagnosis,differential diagnosis,complications,prognosis and management according to Ayurveda and Modern.
   b) Management of Arsha by Kshara lepa and Kshara sutra – Indications, method of application, observations and post operative observations.
2. Parikartika (Fissure-in-ano)
   Definition, aetiopathogenesis, prodormal features, types, clinical features, diagnosis, differential diagnosis, complications, prognosis and management according to Ayurveda and Modern.
3. Guda Bhramsha (Prolapse of rectum): Definition, aetiopathogenesis, clinical features and management according to Ayurveda and Modern medicine.

Part-B

1. Management of pain during and after Ksharsutra therapy and measures to minimize the pain.
2. Problems and complications of Kshara Karma and Ksharsutra therapy e.g. pain, haemorrhage, infection, delayed cutting, recurrence, incontinence, strictures etc. and their management.
3. Modified technique of Ksharsutra in treatment of fistula-in-ano by Ksharsutra. Combination of surgery and Ksharsutra therapy.
4. Diagnosis of Malignancies and referral :
   a) Malignancy of prostate
   b) Malignancy of anal canal and rectum
   c) Malignancy of external genitalia, cervix and uterus
   d) Any other condition requiring immediate intervention /referral to an appropriate facility.
5. Update knowledge of Research and recent advances in the field of Kshara karma.

PRACTICALS

Contents of Practical

1. Case history recording and demonstration of Kshara Karma on patients.
2. Guidelines for Practical Training:
   a) History taking and clinical examination of ano-rectal diseases.
   b) Application of Kshara Karma-

Observed	-	100 cases
Assisted	-	50 cases
Operated	-	25 cases

3. Clinical examination of ano-rectal diseases includes rectal examination,digital examina-

tion, abdominal examination and inguinal examination.

4. Special Investigations:
   a) Proctoscopy
   b) Sigmoidoscopy
   c) Techniques of fistulogram
   d) Anal manometry
   e) Any other latest diagnostic radiological investigations.

Pattern of Practical Examination

1.	Case Record	20 Marks
2.	Applicability of Kshara Karma in different diseases particularly in reference to the Fistula-in-Ano, Haemorrhoids etc.	30 Marks
3.	Project Work	20 Marks
4.	Viva-voce	30 Marks
	TOTAL	**100 Marks**

Text Books for Reference

1.	Relevant portions of Sharir Rachana and Kriya from Bhrihatrayee and Laghutrayee.		
2.	Clinical Anatomy for Medical student	:	Snell
3.	Text Book of Medical Physiology	:	Guyton and Hall
4.	Manual of Surgical Instruments and Procedures	:	M.M.Kapur
5.	Kshara Sutra	:	RAV
6.	Essentials of Medical Pharmacology	:	K.D. Tripathi
7.	Primary Anaesthesia	:	Maurice King
8.	Relevant portions from Bhrihatrayee and Laghutrayee		
9.	Surgery of Colon, Rectum and Anus	:	Rob and Smith
10.	Surgery of the Anus, Rectum and Colon	:	Goligher. JC
11.	Demonstration of Physical signs in clinical surgery	:	Hamilton Bailey
12.	Treatment of Fistula-in-ano by a new technique	:	P.J. Deshpande and K.R.Sharma.

13. Standardisation of Kshara Sutra – Ayurvedic medicated thread used in the management of Fistula-in-ano : Anupam Sharma, Manisha Mehata, Handa S.S et al Jr. Proct. Feb. 1993
14. IMCR centre for advanced Pharmacological Research on Traditional Remedies, CDRI Lucknow.
15. Dr. P.J. Deshpande's instruments for the use of Kshara Karma.



ROGA NIDAN VIDHI (DIAGNOSTIC TECHNIQUES)

[Diploma in Clinical Pathology-Ay] D.C.P (Ay.)
First Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) – Maximum Marks-100

Paper - I
Principles of Roga Nidan and General Pathology
Part-A

Roga Nidan

Importance of Roga Nidan in clinical and laboratory practice.

1. Dosha Dushya Vigyan
2. Concepts of Agni and Ama
3. Concept of Vyadhi Kshamatwa
4. Sroto Vigyan
5. Nidan Panchaka
6. Shatkriya Kaal.

Part-B

General Pathology

Basics of Pathology-

1. Cell injury
2. Inflammation and repair.
3. Haemodynamic disorders.
4. Neoplasia.
5. Immunopathology.
6. Environmental disorders
7. Nutritional disorders
8. Hereditary and genetic disorders

Principles of Laboratory medicine-

1. General concepts and administrative issues
2. Optimizing laboratory work flow and performance
3. Principles of instrumentation
4. Clinical laboratory automation
5. Quality Control
6. Laboratory Statistics
7. Anticoagulants
8. Biomedical waste management

Paper – II
Vyadhivigyan, Clinical Pathology and Chemical Pathology
Part-A

Clinical Pathology

Haematology and Blood Banking -

1. Collection of specimen, labelling, documentation and processing
2. Staining and reporting of smears
3. Complete Haemogram.
4. Special staining methods for blood cells.
5. Investigations in haemolytic anemias and haemorrhaegic disorders.
6. Bone Marrow examination
7. Haematopoiesis
8. Erythrocytic Disorders
9. Leukocytic Disorders
10. Transfusion Medicine : Blood bank serology, ABO grouping, Rh typing, special blood groups, blood banking, selection of donors, investigations in transfusion reactions.
11. Coagulation disorders

Part-B

Chemical Pathology

1. Ayurvedanusara Vishesha Pariksha –Mutra-Purisha-Sweda-Rakta-Stanya-Nishtiva-Shukra-Vamita Dravya –Puya Pariksha
2. Examination of urine, body fluids and stool.
3. Collection of blood, anti coagulants, protein precipitants.
4. Colorimetry, chromatography and electrophoresis.
5. Estimation of Blood sugar , Urea ,Creatinine,Proteins,Bilirubin,Lipid profile, LFT, Uric acid, Electrolytes,Calcium and Enzymes, T3, T4, TSH, HCG, etc.
6. Use of autoanalyzer techniques.

Second Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) –Maximum Marks-100

Paper-I
Rogi Roga Pariksha and Clinical Methods
Part-A

Rogi Roga Pariksha

1. Knowledge and clinical application of various examination tools mentioned in Ayurveda- Trividha pariksha, Chathurvidha Pariksha, Shadvidha Pariksha, Ashtavidha pariksha, Dasavidha Pariksha, Dwadasvidha Pariksha etc.

Part-B

Microbiology, Immunopathology, Histopathology Methods Clinical Microbiology and Serology

1. Collection, handling, documentation and selection of material for important procedures.
2. Use of various microbiological stains.
3. Use of various culture media and identification of bacterias by specific procedures.
4. Antibiotic sensitivity tests.
5. Sterilization and disinfection.
6. Identification of fungi in specimen and culture.
7. Diagnostic procedures in important viral infections.
8. Serological techniques, Widal, Weil Felix, VDRL, HIV, HBV, CRP, RF, ASO and Pregnancy tests.

Paper – II
Immuno-Pathology and Histo-Pathology
Part-A

Immuno-Pathology

1. Overview of the immune system and immunologic disorders.
2. Immunoassay and immunochemistry
3. Laboratory evaluation of the cellular immune system
4. Laboratory evaluation of immunoglobulin function and humoral immunity
5. Mediators of inflammation: complement systems, cytokines and adhesion molecules
6. Clinical and laboratory evaluation of immunodeficiency disorders
7. Clinical and laboratory evaluation of autoimmune diseases
8. Clinical and laboratory evaluation of hypersensitivity reactions

Part-B

Histo-Pathology

1. Collection of specimen, labelling, documentation, fixation.
2. Grossing techniques and tissue processing.
3. Cutting and staining of sections, use of special stains and immunocytochemistry, frozen sections
4. Interpretation and reporting.
5. Museum techniques.
6. Cytological techniques including FNAC – preparation, staining and reporting.

PRACTICALS

Contents of Practical

1. Laboratory Postings in various sections of Laboratory with Laboratory record book detailing, Collection, Processing and recording of the readings, Handling of Various instruments.
2. All investigative procedures, finalisation and opinion on the report.

Pattern of Practical Examination

1.	Laboratory Record book	10Marks
2.	Laboratory Investigations	40 Marks
3.	Spotting	10 Marks
4.	Project Work	20 Marks
5.	Viva-voce	20 Marks
	Total	**100 Marks**

Text Books for Reference

1.	Vyadhi Vigyan	: Yadavji
2.	Madhava Nidan (with Madhukosha Vyakhya)	
3.	Kaya Chikitsa (Part 1)	: Ramraksha Pathak
4.	Charak Samhita-Nidan-Vimana-Indriya Sthana	
5.	Charak, Sushrut, Vagbhata-Related reference	
6.	Rogi Roga Pariksha Paddhati	: Dr.Govind Prasad Upadhyay
7.	Ayurvediya Nadi Pariksha Vigyan	: Dr.Govind Prasad Upadhyay
8.	Vikruti Vigyan	: Vd.Vidhyadar Shukla
9.	Clinical Pathology	: Shivnath Khanna
10.	Clinical methods in Ayurveda	: Dr. K.R.Srikanta Murthy
11.	Ayurvediya Vikriti Vigyan and Roga Vigyan (Vol I & II)	: Dr.P.S.Byadgi
12.	Chest X-Ray made easy	: Elsevier, Churchill Livingstone
13.	Interpretation of diagnostic tests	: Jacques Wallach M.D
14.	Medical laboratory technology – Methods and interpretation	: Dr. Sood
15.	Interpreting ECG	: P.J Mehta
16.	Essential laboratory medicine	: V.H.Talib M.D
17.	Clinical radiology for medical students	: G.M. Roberts, J.P.Hughes, M.D.Hariharan
18.	Clinical pathology	
19.	Harper's illustrated biochemistry	: Robert.K.Murray

20. Text book of Microbiology
21. Text book of Pathology : Robins
22. Text book of Pathology : Harshmohan
23. Pathologic basis of disease : Robbins
24. Pathology : Anderson
25. Oxford text book of Pathology
26. General Pathology : Walter & Israel
27. Systemic Pathology : Symmers
28. Surgical Pathology : Ackerman
29. Surgical Pathology and Cytology : Silverberg
30. Soft Tissue Tumours : Enzinger
31. Histopathology of the Skin : Lever
32. Gynaecologic and Obstetric Pathology : Novak
33. Diagnostic Cytology : Koss
34. Fine Needle Aspiration Cytology : Orell
35. Clinical Haematology : Wintrobe
36. Tumours of bone : Mirra
37. Haematology : De Gruchy
38. Practical Haematology : Dacie
39. Histopathology techniques : Bancroft/Culling
40. Clinical diagnosis and management by lab methods : Todd Sanford
41. Medical Microbiology : Cruickshank
42. Short textbook of Chemical Pathology : Baron
43. Essential Immunology : Roitt
44. Autopsy Pathology : Rezek Millard
45. Transfusion methods : Mollison

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AYURVEDIC SANGYAHARAN
Diploma in Anaesthesiology -Ay. [D.A. (Ay.)]
First Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) – Maximum Marks-100

Paper - I

Sangyaharan Siddhant - Basic Sciences related to Sangyaharan (Anaesthesia)

Part-A

1. History and development of Sangyaharan and Anaesthesiology.
2. Nirukti and definition of Sangyaharan.
3. Shishyopanayan (Induction).
4. Vishikhanupravesh (Internship).
5. Agropaharaniya (Preanaesthetic measures)
6. Knowledge of Yantra-Shastra
7. Dosha-Dhatu-Mala and Prakriti in Sangyaharan.
8. Shat Kriya Kaal.
9. Roga-Rogi pariksha (Examination of patients)
10. Marma and Snayu
11. Knowledge of Unmad, Mada, Murchha, Stabdhata and Sanyas
12. Poorva Karma - Snehan, Swedan, Vaman, Virechan and Basti.
13. Sanjeevan Vidhi.
14. The relevant parts of Ayurvedic classics especially Sushrut, Charak and Ashtang Hridaya

Part-B

1. Knowledge and practical application of essential investigations related to anaesthesia practice - Blood, urine, stool, X-ray, ECG, Sonography, CT Scan, MRI, etc.
2. Applied anatomy and physiology of respiratory, cardiovascular, nervous system, hepato renal system, musculo skeletal and endocrine system.
3. Fluid and electrolyte balance.
4. Blood and component therapy.
5. Principles of gaseous exchange
6. Principles of preanaesthetic assessment and premedication in anaesthesia.
7. Shock and its management.
8. Knowledge of anaesthesia apparatus and equipments.
9. Breathing systems and monitoring devices.
10. Ethics and values in Sangyaharan practice- consequences and importance.
11. Medicolegal aspect in the practice of Anaesthesia.

Paper – II

Sangyaharanopayogi Bhaishajya Vigyanam (Pharmacology related to Anaesthesia with Ayurvedic and Modern concepts including recent advances)

Part-A

1. Pharmacology and clinical application of Medhya Dravya - Brahmi, Vacha, Ashvagandha, Shankhpushpi, Jatamansi, Guduchi, Madhuyasthi, Jyotishmati, etc.
2. Vedanahara Dravya-Rasna, Eranda, Nirgundi, Bhringaraja, Parijata, Shigru, Kadamba, Padmaka, Guggulu, Bhanga, Ahiphena and Godanti, etc.
3. Nidrajanana Dravya.
4. Chhardihara dravya.
5. Hridayottejaka dravya.
6. Kasahara dravya.
7. Sanjeevana dravya.

Part-B

1. Pharmacology of local anaesthetics, general anaesthetics, muscle relaxants and reversal drugs.
2. Pharmacology of drugs used in premedication
3. Pharmacology of drugs acting on autonomic nervous system, central nervous system, cardio vascular system, respiratory system and endrocrine system.
4. Pharmacology of drugs used as antidepressants, cardiac stimulants and respiratory stimulants.
5. Pharmacology of drugs used in Emergency.
6. Analgesics – Narcotics and non-narcotics.

Second Year

Theory (Two papers) - Maximum Marks -100(each)
Practical (one) – Maximum Marks-100

Paper - I
Sangyaharan Vidhi (Techniques of Anaesthesia)
Part-A

1. Types of Anaesthesia - Local, Regional and General Anaesthesia.
2. Techniques used in Anaesthesia.
3. The instruments and equipments useful in these techniques.
4. Special technique of anaesthesia in Paediatrics, Orthopedics, Gynaecology and Obstetrics, Cardiothoracic, Neurosurgery, Plastic surgery, Eye and E.N.T. Surgery.
5. Accident in Anaesthesia.

Part-B

Management of Anaesthesia (technique) in the following conditions:
Diabetes, Hypertension, Jaundice, Anaemia, Respiratory diseases, Thyroid diseases, Infections, Burns, Renal failure, Musculoskeletal disorders, Pulmonary Tuberculosis, Geriatrics, Laparoscopic Surgeries- Cholecystectomy, Herniotomy and Appendectomy etc.

Paper – II
Vedanaharan Evam Upshaman Chikitsa (Pain and Palliative Care)
Part-A

1. Concept of pain in Ayurved, pain pathways, pain management by drugs and other methods. e.g. Accupressure, Acupuncture, Aroma Therapy, Magnet Therapy, Panchkarma, Jalaukavacharan, Agni Karma and Siravyadha, their principles, materials and methods with indications and contraindications.
2. Upshaman Chikitsa (Palliative care) – Methods and importance.

Part-B

Saghan Chikitsa (Intensive care) –
1. Establishment and management of I.C.U. / C.C.U. / H.D.U. / NICU/ MICU/ Critical care unit.
2. Critical Care medicine.
3. Monitoring and resuscitation CPR (Cardiopulmonary Resuscitation)
4. Post anaesthetic care
5. Pain clinic setup.
6. Recent advances in the field of Pain management, Palliative care, Sangyaharan and Anaesthesiology.

PRACTICALS

Content of the Practical

Administration and Management of all type of anaesthesia techniques in different conditions and diseases as per syllabus under guidance and supervision of senior anaesthesiologist.
Practical knowledge of setting up and working of intensive care unit.

Pattern of Practical Examination

1.	Project work	20 marks
2.	Presentation of different type of anaesthesia	30 marks
3.	Spotting	10 marks
4.	Viva-voce	40 marks
	Total	**100 marks**

Text Books for Reference

1. Sushrut Samhita with Dalhana Commentary
2. Charak Samhita
3. Ashtanga Hridaya
4. Practice of Anaesthesia : Churchil's Davidson
5. Anaesthesia : Renald D. Miller
6. Synopsis of Anaesthesia : Alfred Lee
7. Anaesthesia : Colins
8. Other upto date Reference Books and Journals available
9. Sangyaharan Prakash : Dr. D.N. Pande
10. Agnikarma – Technological Innovation : Dr. P.D. Gupta
11. Practice of Anaesthesia and Resuscitation : Dr. P.K. Gupta
12. Essentials of Anaesthesiology : Prof. A.K. Paul
13. Clinical Anaesthesia : Prof. A.K. Paul
14. Anushastra Karma : Dr. D.N. Pande



CHHAYA EVAM VIKIRAN VIGYAN

[Diploma in Radiodiagnosis (Ay.)] D.M.R.D. (Ay.)

First Year

Theory (Two papers) - Maximum Marks -100(each)

Practical (one) – Maximum Marks-100

Paper - I

Fundamentals of Vikiran evam Chhaya Vigyan (Radiodiagnosis and Imaging)

Part-A

1. History and development of Vikiran evam Chhaya Vigyan.
2. Shishyopanayan - as described by Sushrut in context of Vikiran evam Chhaya Vigyan.
3. Discipline (duties and responsibilities) in Vikiran evam Chhaya section. (Radiodiagnosis and Imaging Section).
4. Fundamental principles of Ayurveda and their applied aspects, specially Panch Mahabhuta, Dosh, Dhatu, Mala, Panch Nidan, Prakriti, Shatkriyakaal, Praman, Chhaya-Pratichchhaya , Prabha, Pranashta Shalya Vigyan, Rogi Pariksha (Trividha, Shadvidha especially Darshan Pariksha).

Part-B

1. Infrastructure of an ideal Vikiran evam Chhaya Section.
2. Fundamental principles of Vikiran evam Chhaya Vigyan
3. Ethics in Vikiran evam Chhaya Vigyan.
4. Introduction to basic radio imaging techniques.
5. Environmental issues related to Vikiran evam Chhaya Vigyan, disposing or recycling of radiological materials.
6. Ionizing and non ionizing energies- relevant hazards, prevention and precautions, their management by Ayurvedic and Modern medicine.
7. Emergencies in Vikiran evam Chhaya (Radiodiagnosis and Imaging) section and their management.

Paper – II

Applied Anatomy, Physiology, Pathology and Procedures in Vikiran evam Chhaya Vigyan (Radiodiagnosis and Imaging)

Part-A

Applied Anatomy, Physiology and Pathology in Vikiran evam Chhaya Vigyan (Radiodiagnosis and Imaging):

1. Knowledge of Ayurvedic and Modern applied radiological anatomy (including sectional), Physiology and Pathology of the human body.

2. Sira (Vessels), Gaurya Sira (Lymphatic channels), Mansa (Muscles), Snayu (Ligaments), Kandara (Tendons), Sandhi(Joints), Nadi (Nerve), Asthi(Bones), Strotas, Marma, Antahsravi granthi (Endocrine glands) etc.
3. Urdhwajatrugata(Supraclavicular) parts- Kapaal (Skull), Karna (Ears), Chakshu (Eyes), Nasa (Nose), Paranasal sinuses, Lala granthi (Salivary glands), Face, Greeva (Neck), Sushumna (Spinal cord) and Kaseruka (Vertebrae), Mukha (Mouth), Danta (Teeth), Mastulunga (Brain), Lasika granthi (Lymph glands), etc.
4. Koshtha (Trunk) parts- Sushumna (Spinal cord) and Kaseruka (Vertebrae).
   a. Vaksha (Thoracic) parts- Phuphus (Lungs), Hridaya (Heart) and Sira (Vessels), Shwashnalika (Trachea, Bronchi), Annamarg (Oesophagus), Lymph nodes, Stan (Breast), Hridayabandhan (Diaphragm), etc.
   b. Udar (Abdominal) parts- Audaryakala (Peritoneum) Aamashaya (Stomach), Kshudrantra (Small intestine), Brihadantra (Large intestine), Guda (Rectum and Anal canal), Aantrapuchha (Appendix), Yakrit (Liver), Tilam (Gall bladder), Billiary channels, Pleeha (Spleen), Agnyashaya (Pancreas), Vrikka (Kidney), Gavini (Ureter), Basti (Urinary bladder), Shishna (Penis), Paurushgranthi (Prostate), Vrishan (Testes), Shukrashaya (Seminal vesicles), Dimbashaya (Ovaries), Perineum,Garbhashaya (Uterus), Yoni, Dimbavahini (Fallopian tubes), Lasika granthi (Lymph nodes), etc.
5. Shakha- parts of upper and lower extremities.

Part-B

Procedures in Vikiran evam Chhaya Vigyan (Radiodiagnosis and Imaging)

1. Equipments used in Chhaya evam Vikiran Vigyan.
2. Trividha Karma- Poorva, Pradhan and Paschaat Karma in Vikiran evam Chhaya Vigyan.
3. Dark room techniques
4. Various routine and special, non-contrast and contrast radiography, digital radiography, radiographic positions and views.
5. Various ultra sonography procedures.
6. CT, MRI, Radionuclide scanning, PET and other recent advanced procedures in radiodiagnosis and imaging, mammography, bone densitometry, interventional radiology.

Second Year

Theory (Two papers) - Maximum Marks -100(each)

Practical (one) – Maximum Marks-100

Paper - I

Physics and Biology related to Vikiran evam Chhaya Vigyan (Radiodiagnosis and Imaging)

Part-A

1. Physics of radiography, their application, Digital radiography, Fluoroscopy.
2. Physics of ultrasonography, its applied aspect related to various USG, Doppler procedures.
3. Study of contrast materials used in Radiology.

Part-B

1. Physics of CT scan, its applied aspect, efficiency and limitations.
2. Physics of MRI, its applied aspect, efficiency and limitations.
3. Physics and its applied aspect related to other imaging procedures, e.g. PET, Radio Nuclides imaging, etc.

Paper - II
Applied Vikiran Evam Chhaya Vigyan (Radiodiagnosis and Imaging)
Part-A

1. Study of Ayurvedic classics and Modern medical Science texts related to Vikiran evam Chhaya Vigyan.
2. Applied aspects of Vikiran evam Chhaya Vigyan and interpretation of various diseases related to system, organ and metabolism as per syllabus through X-Rays.

Part-B

1. Applied aspects of Vikiran evam Chhaya Vigyan and interpretation of various diseases related to system, organ and metabolism as per syllabus through Ultrasonography, CT scan, MRI scan and other advanced Radiological techniques.
2. Application of Vikiran evam Chhaya Vigyan in context to Ayurvedic fundamentals, diagnosis, management and research.

PRACTICALS

Contents of Practical

1. Routine and Special, non-contrast and contrast radiography, interpretation and reporting.
2. Various diagnostic Ultrasonography: Routine, various Endo-USG, Garbha vinishchaya, Masanumasik Garbha vriddhi, Garbha swasthya and vyadhi, Vikrita garbha, Apara, Nabhinadi darshan, Apara / Garbha Apatan, Yonivyapat, Vandhyatva, Garbhashayabhransha, Doppler, USG guided techniques, Interpretation and reporting etc.
3. Mammography, Bone Densitometry- interpretation and reporting.
4. Interventional Radiology – interpretation and reporting.

Pattern of Practical Examination

1.	Case Record	20 Marks
2.	Spotting/ Investigative Spot Diagnosis	30 Marks
3.	Project Work	20 Marks
4.	Viva-voce	30 Marks
	Total	**100 marks**



Text Books for Reference

1.	Sushrut Samhita		
2.	Charak Samhita		
3.	Ashtanga Hridaya / Samgraha		
4.	Introduction to Kayachikitsa	:	C. Dwarkanath
5.	Text Book of Radiographic Positioning and Related Anatomy	:	Kenneth, L Bontrager, John P Lampignano
6.	Procedures in diagnostic Radiology	:	T. Doyle, W. Have, K. Thomson
7.	Radiographic positioning	:	Clark
8.	Radiobiology for the Radiologist	:	Hall
9.	Christensen's Physics of Diagnostic Radiology	:	Curry T S , Dowdey J E, Murry R C
10.	Farr's Physics for Medical Imaging	:	Penelope Allisy, Roberts, Jerry Williams
11.	Fundamental of Diagnostic Radiology	:	Brant
12.	Diagnostic Imaging	:	Federle
13.	Diagnostic Imaging	:	Peter Armstrong, Martin Wastie, Ansrea Rockall
14.	Text Book in Radiology and Imaging	:	D. Sutton.
15.	Introduction to Vascular Ultrasonography	:	Zwiebel , Pellerito
16.	Text book in Ultrasonography	:	Roumack
17.	Manual of Medical Diagnostic Ultrasonography	:	W.H.O. Scientific group
18.	Computed Tomography and MRI of the whole body	:	Hagga.
19.	Surface and Radiological Anatomy	:	A. Halim
20.	X-Ray equipment for student Radiographers	:	D N and M O Chesney
21.	Clinical Sonography, A Practical Guide	:	Roger C. Sanders, Tom Winter.

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CENTRAL COUNCIL OF INDIAN MEDICINE
NEW DELHI
List of Experts who participated to review the PG Diploma Syllabus

PHARMACEUTICS		22.	**Vd. Bhajandas Swami** Jaipur
1.	**Dr. M.M. Jumle** Convener	23.	**Dr. Satyanarayan Bhat** Bangalore
2.	**Dr. Pradeepkumar Prajapati** Jamnagar	24.	**Prof. Rambabu Dwivedi** IPGTR, Jamnagar
3.	**Dr. L.K. Dwivedi** NIA, Jaipur	BALROGA	
4.	**Dr. S.S. Savarikar** Mumbai	25.	**Prof. Shailaja Rao** SDM College, Hassan
5.	**Dr. C.B. Jha** BHU Varanasi	26.	**Dr. B. M. Singh** BHU, Varanasi
6.	**Dr. Anand Chaudhary** BHU Varanasi	27.	**Prof. Abhimanyu Kumar** NIA, Jaipur
7.	**Dr. Ramachandra Reddy** BHU Varanasi	28.	**Prof. S K Ramachandran** Govt. Ayu. Coll., Thiruvanathapuram
8.	**Dr. Ramkrishna** Susruta Ayu. Coll., Bangalore	29.	**Dr. Moti Rai** NIA, Jaipur
9.	**Dr. Rangesh Parmesh** Himalaya Drugs Co. , Bangalore	30.	**Dr. BK Jaya Singh** PURI
10.	**Dr. Shajahan M.A.** Trivandrum	31.	**Dr. Omkar Kulkarni** Ayurved Mahavidyalaya, Sion
11.	**Dr. Neeraj Kumar** BHU, VARANASI	32.	**Dr. Dinesh K S** V.P.S.V. Ayutrveda College, Kerala
DIETETICS		33.	**Dr. Kanak Prasad Vyas** Director, Dept. of Ayurved, Rajasthan
12.	**Prof. B L Gaur** Ex. Vice Chancellor, Raj. Ay. Uni. Jodhpur	34.	**Prof. S D Sharma** Shri Baba Mast Nath Ay. Coll., Rohtak
13.	**Dr. D P Gadgil** Pune	35.	**Vaidya Jagjeet Singh** Mohali , Punjab
14.	**H M Chandola** GAU Jamnagar	36.	**Prof. R D Sharma** Vadodara, Gujarat
15.	**Vd. Srirang Galagali** Pune	37.	**Dr. R B Misra** Udaypur, Rajasthan
16.	**Prof. R H Singh** BHU-Varanasi	38.	**Dr. G N Tiwari** Nagpur
17.	**Prof. A K Manoj Kumar** VPS Varier Kotakkala	39.	**Prem Prakash Vyas** College of Ayurveda, Rajasthan
18.	**Dr. A. Raghu** Asst. Advisor AYUSH, Delhi	40.	**Prof. M H Paranjape** Ashtang Ayurved College, Pune
19.	**Dr. Kamlesh Sharma** NIA Jaipur	MANSIKA SWASTHYA VIGYAN	
20.	**Prof. O P Upadhyay** NIA Jaipur	41.	**Dr. Banwari Lal Gaur** Ex. Vice Chancellor, Raj. Ay. Uni. Jodhpur
21.	**Dr. Surendra Katoch** Delhi	42.	**Prof. B Narayan Prakash** SDM College, Hassan

43.	**Prof. R.H. Singh** BHU, VARANASI	66.	**Prof. Sarbeswarkar** Sri Sri College of Ayurved, Bangalore
44.	**Prof. H M Chandola** IPGTR, Jamnagar	67.	**Dr. Manjusha Rajagopal S** IPGTR, Jamnagar
45.	**Dr. L. Mahadevan Iyer** Tamilnadu	68.	**Dr Pranav Bhagvat** Gomantak Ayurved, Goa
46.	**Dr.K. Sundaran K** Govt Ayu. Mental Hospital, Kerala	69.	**Prof. Kulwant Singh** Jammu Institue of Ayurveda, Jammu
47.	**Dr. C.R. Agnives** Mannath Ayurveda, Kerala	70.	**Dr. Paras Shah** Pune
48.	**Dr.Prakas Mangalasseri** V.P.S.V Ayurveda College, Kerala	71.	**Dr. S M Sathe** Pune
49.	**Prof. Ajay Kr. Sharma** NIA, Jaipur	72.	**Prof. Kartar Singh Dhiman** IPGRR, Jamnagar
50.	**Prof. B G Gopinath** Sri Sri College of Ayurved, Bangalore	73.	**Dr. G S Lavekar** Director, CCRAS, New Delhi
51.	**Dr. Shrinivas Acharya** Shri DM College, Udupi	74.	**Dr. S.K. Sharma** Advisor, Dept. of AYUSH, New Delhi
52.	**Dr. M.R. Vasudevan Namboodri** Thiruvanthapuram, Kerala	75.	**Prof. K V S Prabhakaran** Additional Director- Andhra Pradesh
53.	**Dr. Baldev Kumar** NIA, Jaipur	PRASUTI AND STRIROGA	
54.	**Prof. U N Prasad** Shri DM College, Udupi	76.	**Prof. Manjiri Dwivedi** BHU, Varanasi
55.	**Prof. Rambabu Ramadhar Dwivedi** IPGTR, Jamnagar	77.	**Dr. Sushila Sharma** NIA, Jaipur
56.	**Prof. Eswara Sarma M P** V.P.S.V Ayurveda College, Kerala	78.	**Dr. Chandan Mal Jain** NIA, Jaipur
57.	**Prof. Shivagautam** S M S Medical College, Jaipur	79.	**Dr. L. Sucharita** Bangalore
58.	**Vaidya Tarachanda** Delhi-85	80.	**Prof. M. Ramesh** Goverment Ayurved College, Bangalore
59.	**Prof. Hariprasad Sharma** Smt. KG Mittal Ay. Coll., Mumbai	81.	**Dr. Sujata Kadam** Tilak Ayurved, Pune
60.	**Dr. Madhav Diggavi** Taranath Govt. Ayurved, Karnataka	82.	**Dr. Anjali Jadhav** College of Ayurveda, Akurdi
NETRA ROGA VIGYAN		83.	**Prof. Usha Deshmukh** Govt. Ayurved College, Nanded
61.	**Prof. B A Venkatesh** Government Ayurved, Coll., Bangalore	84.	**Prof. Meera Paranjape** Ashtang Ayurved College, Pune
62.	**Dr. P. P Namboodri** Ernakulam, Kerala	85.	**Prof. Mamata K V** Shri DM College, Udupi
63.	**Dr. Shrikanth** Assisstant Director CCRAS, New Delhi	86.	**Prof. C H S Sastri** SDM College, Hassan
64.	**Prof. Dilip B Bhusari** Ashtang Ayurved College, Pune	87.	**Prof. Ved Prakash Sharma** Jaipur
65.	**Dr. B Mukhopadhyaya** BHU, VARANASI	88.	**Prof. Indu U Mistry** Jamnagar

89.	**Dr. (Mrs.) Pooja Bhardwaj** DEHRADUN	111.	**Dr. Radheshyam Sharma** NIA, Jaipur
90.	**Dr. Bimla Chaudhary** PANCHKULA, Haryana	112.	**Dr. M.S. Baghel** PGTR, Jamnagar
	DRAVYAGUNA	113.	**Prof. Sridhar** Govt. Ayurved College, Bangalore
91.	**Prof. M C Sharma** NIA, Jaipur	114.	**Dr. H.S. Kasture** Ahmedabad, Gujrat
92.	**Prof. Tanuja Manoj Nesri** Tilak Ayurved, Pune	115.	**Dr. P. Yadayya** Shri RT, Ayu. Coll., AKOLA
93.	**Prof. K.S. Jayashree** Bangalore	116.	**Dr. R.H. Singh** BHU, Varanasi
94.	**Dr. Ravinarayan Acharya** IPGTR, Jamnagar	117.	**Dr. N.P. Singh** BHU, Varanasi
95.	**Prof. V.K. Joshi** BHU, VARANASI	118.	**Dr. Shrikanth** SDM Ayurved College, Udupi
96.	**Prof. C R S Pillai** Pankaj Kasthuri Ay. Coll. Kerala		SWASTHAVRITTA AND YOGA
97.	**Dr. Shajahan M.A.** Thiruvananthapuram, Kerala	119.	**Vaidya Shah Kisan Vithaldas** Gultekadi, PUNE
98.	**Prof. D S Lucas** Bangalore	120.	**Prof. Rambabu Ramadhar Dwivedi** PGTR, JAMNAGAR
99.	**Dr. Meeta Kotecha** NIA, Jaipur	121.	**Dr. B R Doddamani** Shri DM College, Udupi
100.	**Prof. R A Gupta** JD Ayurvedic Coll., Aligarh	122.	**Prof. K. Jyotilal** Mannam Ayurvedic, Pandalam
101.	**Prof. P P Sharma** PGTR, Jamnagar	123.	**Dr. Sudhakar Reddy** JSS Ayurved Medical, Mysore
102.	**Prof. Malatiben Chauhan** PGTR, Jamnagar	124.	**Prof. Anjaneya Murthy** Govt. Ayurved College, Mysore
103.	**Prof. Banwarilal Misra** Jaipur	125.	**Prof. Sagitha K.** Sri Sri College of Ayurveda, Bagalore
104.	**Prof. Chunekar** Varanasi	126.	**Prof. Nagaratna** Bangalore
105.	**Dr. M R Uniyal** Advisor Medicinal & Aromatic Plants, Dehradun	127.	**Dr. K.V. Dilipkumar** V.P.S.V. Ayutrveda College, Kerala
106.	**Prof. R A Gupta** JD Ayurvedic Coll., Aligarh	128.	**Dr. Kamlesh Kumar Sharma** NIA, Jaipur
107.	**Prof Gyanendra Pande** PGTR, Jamnagar	129.	**Vaidya Devendrakumar Triguna** New Delhi
	PANCHAKARMA	130.	**Dr. Narain Singh Chudawat** NIA, Jaipur
108.	**Dr. M.R. Vasudevan Namboodri** Convener, Kerala	131.	**Vaidya S. K. Misra** Delhi
109.	**Dr. I. Mahadev** Kannyakumari	132.	**Dr. Niranjan Singh Tyagi** GHAZIABAD
110.	**Dr. L. Mahadevan Iyer** Sri Sarada Ayurved Hospital, Kerala	133.	**Prof. Dr. B T Chidananda Murthy** Director, CCRYN, Delhi

134.	**Dr. B K Singh** Bharati Veedyapeeth, Pune	158.	**Dr. C. V. Jayadevau** VPS Varier Kotakkal
135.	**Prof. B. V. Sathe** Pune	159.	**Prof. Ajay Kr. Sharma** NIA Jaipur
136.	**Dr. Baldev Kumar** NIA Jaipur	160.	**Dr. S.K. Tiwari** BHU Varanasi
	RASAYAN AND VAJIKARAN	161.	**Prof. S.C. Varshney** BHU Varanasi
137.	**Dr. Banwari Lal Gaur** JODHPUR	162.	**Prof. Y G Joshi** Pune
138.	**Prof. Gurudeep Singh** SDM College, Hassan	163.	**Dr. Srinivas Acharya** SDM Ayurved College, Udupi
139.	**Prof. Ajay Kr. Sharma** National Institute of Ayurved, Jaipur	164.	**Dr. H.S. Kasture** Ahamdabad
140.	**Dr. B. G. Gopinath** Sri Sri College of Ayurved, Bangalore	165.	**Dr. M.S. Baghel** GAU Jamnagar
141.	**Dr. Niranjan Rao** Shri DM College, Udupi	166.	**Dr. Nesari** Deputy Advisor AYUSH Delhi
142.	**Dr. G. Vinod Kumar** Govt. Ayurved College, Thiruvanathapuram	167.	**Dr. S N Ojha** D.Y. Patil Ayurved College, Pune
143.	**Prof. R.H. Singh** Banaras Hindu University, VARANASI		**KSHAR-KARMA**
144.	**Prof. B L Mehra** Rajiv Gandhi, Paprola	168.	**Prof. Kulwant Singh** Jammu, Convener
145.	**Dr. S M Angadi** Bangalore	169.	**Dr. Hemant Kushwaha** NIA, Jaipur
146.	**Dr. R P Misra** Ay. Cong. Punjabi Bagh, New Delhi	170.	**Dr. M. Sahu** BHU, Varanasi
147.	**Dr. Medhavi Lal Sharma** Government Ayurvedic College, Udayapur	171.	**Dr. S.K. Sharma** Advisor Ayush
148.	**Vaidya Devendrakumar Triguna** New Delhi	172.	**Dr. S. Bannigol** Ayurved Mahavidyalaya, Hubli
149.	**Vaidya S. K. Misra** Delhi	173.	**Dr. Chaturbuj Bhuyan** IPGTR, Jamnagar
150.	**Dr. A P Haridasan** Kerala	174.	**Dr. Prasanna Rao** Principal, SDM Hassan
151.	**Dr. Sivanandam** HYDERABAD	175.	**Prof. S.V. Shailaja** Kalabhairaveshwar College, Bangalore
152.	**Dr. Niranjan Singh Tyagi** GHAZIABAD	176.	**Dr. Thomas** GAC, Trivendrum
153.	**Dr. Madhav Diggavi** Taranath Govt. Ayurved, Karnataka	177.	**Dr. Ksheersagar** GAMC, Mysore
154.	**Dr. O P Sharma** Delhi	178.	**Dr. Devadatt Bhadlikar** Principal, Dr. D. Y. Patil Mumbai
155.	**DR. K R Kohli** Director, ISM Maharashtra		**ROG NIDAN VIDHI**
156.	**Dr. A K Manoj Kumar** VPSV, Kottakkal	179.	**Dr. A.C. Kar** BHU, Varanasi
	AYURVEDIC COSMETOLOGY AND SKIN	180.	**Dr. Pawan Goditwar** NIA, Jaipur
157.	**Dr. Jayaram Yadav** Convener Varanasi	181.	**Dr. M.S. Baghel** IPGTR, Jamnagar

182.	**Dr. Gopkumar** Trivendrum	196.	**Dr. Murlidhar Sharma** SDM Ayurved College, Udupi
183.	**Dr. B.V. Prasanna** SDM Ayurved College, Udupi	197.	**Dr. S.S. Mishara** BHU Varanasi
184.	**Dr. Parameshwarappa Byadgi** BHU, Varanasi	198.	**Dr. Arun Dwivedi** BHU, Varanasi
185.	**Dr. Shrikrishna Khandel** NIA, Jaipur	FINAL WORK OUT BY THE FOLLOWING EXPERTS	
AYURVEDIC SANGYAHARAN		199.	**Dr. Vaishali Mali** Ayurved Expert in CCIM Office, New Delhi
186.	**Dr. Anil Dutta** Rajiv Gandhi Ayu. Coll., Paprola	200.	**Dr. Richa Sharma** Ayurved Expert in CCIM Office, New Delhi
187.	**Dr. K.K. Panda** BHU, Varanasi	201.	**Dr. Kamini Kaushal** Ayurved Expert in CCIM Office, New Delhi
188.	**Dr. D.P. Puranik** Tilak Ayurved College, Pune	202.	**Dr. Seema Ahlawat** Ayurved Expert in CCIM Office, New Delhi
189.	**Dr. Chayakant Das** Govt. Ayurved College, Burhanpur	203.	**Dr. Aarti Mal** Ayurved Expert in CCIM Office, New Delhi
190.	**Dr. D.N. Pandey** BHU, Varanasi	204.	**Dr. Shweta Zade** Ayurved Expert in CCIM Office, New Delhi
191.	**Dr. Subrahmanyam Bhat** SDM Ayurved College, Udupi	205.	**Dr. Pradnya Sinalkar** Ayurved Expert in CCIM Office, New Delhi
192.	**Dr. Prasanna Rao** SDM, Hassan	206.	**Dr. Namrata Kulshrestha** Ayurved Expert in CCIM Office, New Delhi
CHHAYA EVAM VIKIRAN VIGYAN		207.	**Dr. Pooja Kohli** Ayurved Expert in CCIM Office, New Delhi
193.	**Dr. V.A. Dole** Tilak Ayurved College, Pune	208.	**Dr. Anant Samant** Ayurved Expert in CCIM Office, New Delhi
194.	**Dr. B.V. Sharma** R.M.L. Hospital, Delhi	209.	**Dr. Yashpal Chaudhary** Ayurved Expert in CCIM Office, New Delhi
195.	**Dr. Anil Kumar Sharma** Rajiv Gandhi Ay. Coll., Paprola		

2K.C

CENTRAL COUNCIL OF INDIAN MEDICINE
NEW DELHI

SYLLABUS OF AYURVEDACHARYA (BAMS) COURSE

INDEX

1ST PROFESSIONAL

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2·K·6

1.1 PADARTHA VIGYAN EVUM AYURVEDA ITIHAS
(Philosophy and History of Ayurveda)

Theory- Two papers– 200 marks (100 each paper)
Total teaching hours: 150 hours

PAPER-I **Padartha Vigyanam** **100marks**

PART A **50 marks**

1.Ayurveda Nirupana

1.1 Lakshana of Ayu, composition of Ayu.
1.2 Lakshana of Ayurveda.
1.3 Lakshana and classification of Siddhanta.
1.4 Introduction to basic principles of Ayurveda and their significance.

2. Ayurveda Darshana Nirupana

2.1 Philosophical background of fundamentals of Ayurveda.
2.2 Etymological derivation of the word "Darshana". Classification and general introduction to schools of Indian Philosophy with an emphasis on: Nyaya, Vaisheshika, Sankhya and Yoga.
2.3 Ayurveda as unique and independent school of thought (philosophical individuality of Ayurveda).
2.4 Padartha: Lakshana, enumeration and classification, Bhava and Abhava padartha, Padartha according to Charaka (Karana-Padartha).

3. Dravya Vigyaniyam

3.1 **Dravya**: Lakshana, classification and enumeration.
3.2 **Panchabhuta**: Various theories regarding the creation (theories of Taittiriyopanishad, Nyaya-Vaisheshika, Sankhya-Yoga, Sankaracharya, Charaka and Susruta), Lakshana and qualities of each Bhoota.
3.3 **Kaala**: Etymological derivation, Lakshana and division / units, significance in Ayurveda.
3.4 **Dik**: Lakshana and division, significance in Ayurveda.
3.5 **Atma**:Lakshana, classification, seat, Gunas, Linga according to Charaka, the method / process of knowledge formation (*atmanah jnasya pravrittih*).
3.6 **Purusha:** as mentioned in Ayurveda - Ativahikapurusha/ Sukshmasharira/ Rashipurusha/ Chikitsapurusha/ Karmapurusha/ Shaddhatvatmakapurusha.
3.7 **Manas**: Lakshana, synonyms, qualities, objects, functions, dual nature of mind (*ubhayaatmakatvam*), as a substratum of diseases, penta-elemental nature (*panchabhutatmakatvam*).
3.8 Role of Panchamahabhuta and Triguna in Dehaprakriti and Manasaprakriti respectively.
3.9 Tamas as the tenth Dravya.
3.10 Practical study/application in Ayurveda.

2·K·C

PART B **50 marks**

4. Gunavigyaniyam

4.1 Etymological derivation, classification and enumeration according to Nyaya-Vaisheshika and Charaka, Artha, Gurvadiguna, Paradiguna, Adhyatmaguna.
4.2 Lakshana and classification of all the 41 gunas.
4.3 Practical / clinical application in Ayurveda.

5. Karma Vigyaniyam

5.1 Lakshana, classification in Nyaya.
5.2 Description according to Ayurveda.
5.3 Practical study/ application in Ayurveda.

6. Samanya Vigyaniyam

6.1 Lakshana, classification.
6.2 Practical study/ application with reference to Dravya, Guna and Karma.

7. Vishesha Vigyaniyam

7.1 Lakshana, classification.
7.2 Practical study/ application with reference to Dravya, Guna and Karma.
7.3 Significance of the statement "*Pravrittirubhayasya tu*".

8. Samavaya Vigyaniyam

8.1 Lakshana
8.2 Practical study /clinical application in Ayurveda.

9. Abhava Vigyaniyam

9.1 Lakshana, classification
9.2 Clinical significances in Ayurveda.

PAPER II **Padartha Vigyan and Ayurveda Itihas** **100 marks**

PART A - Pramana/ Pariksha- Vigyaniyam **75 marks**

1. Pariksha

1.1. Definition, significance, necessity and use of *Pariksha.*
1.2. Definition of *Prama, Prameya, Pramata, Pramana.*
1.3. Significance and importance of *Pramana,* Enumeration of *Pramana* according to different schools of philosophy.
1.4. Four types of methods for examination in *Ayurveda* (Chaturvidha-Parikshavidhi), *Pramana* in Ayurveda.
1.5. Subsudation of different *Pramanas* under three *Pramanas.*
1.6. Practical application of methods of examination (Parikshavidhi) in treatment (Chikitsa).

2. Aptopdesha Pariksha/ Pramana

2.1. Lakshana of Aptopadesha, Lakshana of Apta.
2.2. Lakshana of Shabda, and its types.
2.3. Shabdavritti-Abhidha, Lakshana, Vyanjana and Tatparyakhya. Shaktigrahahetu.
2.4. Vaakya: Characteristics, Vaakyarthagyanahetu- Aakanksha, Yogyata, Sannidhi.

2·K·C

3. Pratyaksha Pariksha/ Pramana

3.1. Lakshana of Pratyaksha, types of Pratyaksha- Nirvikalpaka- Savikalpaka with description, description of Laukika and Alaukika types and their further classification.

3.2. Indriya-prapyakaritvam, six types of Sannikarsha.

3.3. Indriyanam lakshanam, classification and enumeration of Indriya. Description of Panchapanchaka, Penta-elemental nature of Indriya by Panchamahabhuta (*Panchabhautikatwa* of Indriya) and similarity in sources (*Tulyayonitva*) of Indriya.

3.4. Trayodasha Karana, dominance of Antahkaran.

3.5. Hindrances in direct perception (*pratyaksha-anupalabdhikaaran*), enhancement of direct perception (Pratyaksha) by various instruments/ equipments, necessity of other Pramanas in addition to Pratyaksha.

3.6. Practical study/ application of Pratyaksha in physiological, diagnostic, therapeutics and research grounds.

4. Anumanapariksha/Pramana

4.1. Lakshana of Anumana. Introduction of Anumiti, Paramarsha, Vyapti, Hetu, Sadhya, Paksha, Drishtanta. Types of Anumana mentioned by Charaka and Nyayadarshana.

4.2. Characteristic and types of Vyapti.

4.3. Lakshana and types of Hetu, description of Ahetu and Hetwabhasa.

4.4. Characteristic and significance of Tarka.

4.5. Practical study/ application of Anumanapramana in physiological, diagnostic, therapeutics and research.

5. Yuktipariksha/ Pramana

5.1. Lakshana and discussion.

5.2. Importance in Ayurveda.

5.3. Practical study and utility in therapeutics and research.

6. Upamana Pramana

6.1 Lakshana.

6.2 Application in therapeutics and research.

7. Karya- Karana Siddhanta (Cause and Effect Theory)

7.1. Lakshana of Karya and Karana. Types of Karana.

7.2. Significance of Karya and Karana in Ayurveda.

7.3. Different opinions regarding the manifestation of Karya from Karana: Satkaryavada, Asatkaryavada, Parinamavada, Arambhavada, Paramanuvada, Vivartavada, Kshanabhangurvada, Swabhavavada, Pilupaka, Pitharpaka, Anekantavada, Swabhavoparamavada.

PART B - Ayurved Itihas **25 marks**

1. Etymological derivation (Vyutpatti), syntactical derivation (Niruktti) and definition of the word Itihas, necessity of knowledge of history, its significance and utility, means and method of history, historical person (Vyakti), subject (Vishaya), time period (Kaal), happening (Ghatana) and their impact on Ayurveda.

2. Introduction to the authors of classical texts during Samhitakaal and their contribution: Atreya, Dhanwantari, Kashyapa, Agnivesha, Sushruta, Bhela, Harita, Charaka,

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Dridhabala, Vagbhata, Nagarjuna, Jivaka.

3. Introduction to the commentators of classical Samhitas – Bhattarahariccchandra, Jejjata, Chakrapani, Dalhana, Nishchalakara, Vijayarakshita, Gayadas, Arunadutta, Hemadri, Gangadhara, Yogindranath Sen, Haranachandra, Indu.

4. Introduction to the authors of compendiums (Granthasamgrahakaala) – Bhavmishra, Sharngadhara, Vrinda, Madhavakara, Shodhala, Govinda Das (Author of Bhaishajyaratnawali), Basavraja.

5. Introduction to the authors of Modern era –Gana Nath Sen, Yamini Bhushan Rai, Shankar Dajishastri Pade, Swami Lakshmiram, Yadavji Tikramji, Dr. P. M. Mehta, Ghanekar, Damodar Sharma Gaur, Priyavrat Sharma.

6. Globalization of Ayurveda – Expansion of Ayurveda in Misra (Egypt), Sri Lanka, Nepal other nations.

7.
   a) Developmental activities in Ayurveda in the post-independence period, development in educational trends.
   b) Establishment of different committees, their recommendations.
   c) Introduction to and activities of the following Organizations :- Department of AYUSH, Central Council of Indian Medicine, Central Council for Research in Ayurvedic Sciences, Ayurvedic Pharmacopeia commission, National Medicinal Plants Board, Traditional Knowledge Digital Library (TKDL)
   d) Introduction to the following National Institutions :
      - National Institute of Ayurved, Jaipur.
      - IPGT&RA, Gujrat Ayurved University, Jamnagar.
      - Faculty of Ayurved, BHU, Varanasi.
      - Rashtriya Ayurveda Vidyapeetha, New Delhi.
   e) Drug and Cosmetic Act.

8. Introduction to national & international popular journals of Ayurveda.

9. Introduction to activities of WHO in the promotion of Ayurved.

Reference Books:-

A). Padartha Vigyan:-

1.	Padarthavigyan	Acharya Ramraksha Pathak
2.	Ayurvediya Padartha Vigyana	Vaidya Ranjit Rai Desai
3.	Ayurved Darshana	Acharya Rajkumar Jain
4.	Padartha Vigyana	Kashikar
5.	Padartha Vigyana	Balwant Shastri
6.	Sankhyatantwa Kaumadi	GajananS hastri
7.	Psycho Pathology in Indian Medicine	Dr. S.P. Gupta
8.	Charak Evum Sushrut ke Darshanik Vishay ka Adhyayan	Prof. Jyotirmitra Acharya
9.	Ayurvediya Padartha Vigyana	Dr. Ayodhya Prasad Achal
10.	Padartha Vigyana	Dr. Vidyadhar Shukla
11.	Padartha Vigyana	Dr. Ravidutta Tripathi
12.	Ayurvediya Padartha Vigyana	Vaidya Ramkrishna Sharma Dhand
13.	Ayurvediya Padartha Vigyan Parichaya	Vaidya Banwarilal Gaur
14.	Ayurvediya Padartha Darshan	Pandit Shivhare

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15.	Scientific Exposition of Ayurveda	Dr. Sudhir Kumar
16.	Relevant portions of Charakasamhita, Sushrutasamhita.	

B) History of Ayurveda:-

1. Upodghata of Kashyapasamhita Paragraph of acceptance of Indian medicine	Rajguru Hem Raj Sharma
2. Upodghata of Rasa Yogasagar	Vaidy Hariprapanna Sharma
3. Ayurveda Ka Itihas	KaviraSuram Chand
4. Ayurveda Sutra	Rajvaidya Ram Prasad Sharma
5. History of Indian Medicine (1-3 part)	Dr. GirindrNath Mukhopadhyaya
6. A Short history of Aryan Medical Science	Bhagwat Singh
7. History of Indian Medicine	J. Jolly
8. Hindu Medicine	Zimer
9. Classical Doctrine of Indian Medicine	Filiyosa
10. Indian Medicine in the classical age	AcharyaPriyavrata Sharma
11. Indian Medicine (Osteology)	Dr. Harnley
12. Ancient Indian Medicine	Dr. P. Kutumbia
13. Madhava Nidan and its Chief Commentaries (Chapters highlighting history)	Dr. G.J. Mulenbelt
14. Ayurveda Ka BrihatItihasa	Vaidya Atridev Vidyalankara
15. Ayurveda Ka VaigyanikaItihasa	Acharya Priyavrata Sharma
16. Ayurveda Ka PramanikaItihasa	Prof. Bhagwat Ram Gupta
17. History of Medicine in India	Acharya Priyavrata Sharma
18. Vedomein Ayurveda	Vaidya Ram GopalS hastri
19. Vedomein Ayurveda	Dr. Kapil Dev Dwivedi
20. Science and Philosophy of Indian Medicine	Dr. K.N. Udupa
21. History of Indian Medicine from Pre-Mauryan to Kushana Period	Dr. Jyotirmitra
22. An Appraisal of Ayurvedic Material in Buddhist literature	Dr. Jyotirmitra
23. Mahayana Granthon mein nihita Ayurvediya Samagri	Dr. RavindraNathTripathi
24. Jain Ayurveda Sahitya Ka Itihasa	Dr. Rajendra Prakash Bhatnagar
25. Ayurveda- Prabhashaka Jainacharya	Acharya Raj Kumar Jain
26. CharakaChintana	Acharya Priyavrata Sharma
27. Vagbhata Vivechana	Acharya Priyavrata Sharma
28. Atharvaveda and Ayurveda	Dr. Karambelkara
29. Ayurvedic Medicine Past and Present	Pt. Shiv Sharma
30. Ancient Scientist	Dr. O.P. Jaggi
31. Luminaries of Indian Medicine	Dr. K.R. Shrikanta Murthy
32. Ayurveda Ke Itihasa Ka Parichaya	Dr. RaviduttaTripathi
33. Ayurveda Ke Pranacharya	Ratnakara Shastri
34. Ayurveda Itihasa Parichaya	Prof. Banwari Lal Gaur

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1.2 संस्कृतम्

THEORY - ONE PAPER - 100 marks

TEACHING HOURS - 90 hours

PART-A **50 marks**

संस्कृतव्याकरणाध्ययनम्

1. संज्ञाप्रकरणम्
2. विभक्त्यर्थाः
3. सन्धिप्रकरणम् (सन्धिविच्छेदः, सन्धिकरणम्)
4. षड्लिंगप्रकरणम् (षब्दरूपाण्येव)
5. धातुप्रकरणम् (धातुरूपाण्येव)

   (भ्वादिगणीय धातूनां प०च लट्लोट्लङ्लिंट्विधिलिङ्लकारेषु रूपाणि)
6. वाच्यप्रयोगाः (कर्तरि कर्मणि भाववाच्यप्रयोगाः)
7. समासप्रकरणम्
8. प्रत्ययाः

   (णिच्, क्त, क्तवतु, शतृ, शानच्, तुमुन्, तव्यत्, तृच्, क्त्वा, ल्यप्, ल्युट्, अनीयर्, मतुप्, इनि, तन्, इतच्, अण्, इञ्, इक्, त्व, ता, षन्, इम्, निच्, तः, त्र, दा, धा, तरप्, तमप्, टाप्, ङाप्)
9. अनुवादः

A) From English / Hindi / regional language to Sanskrit
B) From Sanskrit to English / Hindi / regional language
C) Identification and correction of grammatical errors in the given sentences

The sentences for translation should be selected from the under mentioned reference books-

1) Laghusiddhanta Kaumudi- Acharya Varadaraja (Commentary by Shri Dhananand Shastry)
2) Brihattrayee- (Charaka Samhita, Sushruta Samhita, Ashtanga Hridayam)
3) Anuvada Chandrika-Chakradhara Hansa Nautiyal
4) Sanskruta Ayurved Sudha- Dr. Banwari Lal Gaur
5) Rachananuvada Kaumudi- Dr. Kapildev Dwivedi
6) Bhasha Sopanam- Published by Rashtreeya Samskruta Samsthanam, New Delhi

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PART- B **50 marks**

भाषाध्ययनम्

1- आयुर्वेदार्षग्रन्थाध्ययन×ाÿमः—Stepwise method of study of Ayurveda Arsha Granthas (Sushruta Samhita, Shareera Sthanam, Chapter-4) — 25 marks

2- वैद्यकीय—सुभाषितसाहित्यम् (अध्यायाः 1—10) — 15 marks

3- प०चतन्त्रम्—अपरीक्षितकारकम् (क्षपणक कथातः मूर्खपण्डितकथापर्यन्तम् प०चकथाः) — 10 marks

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REFERENCE BOOKS-

1.) Sushruta Samhita, Shareera Sthanam, Chapter-4
2.) Prabhashanam Work Book, Su.sam.chap.4
Published by-AYURVEDA ACADEMY® BANGALORE;
Email-ayuacademy@gmail.com
3.) Vaidyakeeya Subhashita Sahityam - Dr. Bhaskara Govinda Ghanekar
4.) Panchatantra-(Apareekshitakarakam) -Pt. Vishnu Sharma

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1.3 KRIYA SHARIR
(PHYSIOLOGY)

Theory-Two Papers-200 Marks (100 marks each)
Teaching hours-180 hours

PAPER- I **100 marks**

PART- A **50 marks**

1. Conceptual study of fundamental principles of Ayurvediya Kriya Sharir e.g - Panchamahabhuta, Tridosha, Triguna, Loka-Purusha Samya, Samanya-Vishesha. Description of basics of Srotas.
2. Definition and synonyms of the term Sharir, definition and synonyms of term Kriya, description of Sharir Dosha and Manasa Dosha. Mutual relationship between Triguna-Tridosha & Panchmahabhuta. Difference between Shaarir and Sharir. Description of the components of Purusha and classification of Purusha, role of Shatdhatupurusha in Kriya Sharira and Chikitsa.
3. Dosha- General description of Tridosha. Inter relationship between Ritu-Dosha-Rasa-Guna. Biological rhythms of Tridosha on the basis of day-night-age-season and food intake. Role of Dosha in the formation of Prakriti of an individual and in maintaining of health. Prakrita and Vaikrita Dosha.
4. Vata Dosha: Vyutpatti (derivation), Nirukti (etymology) of the term Vata, general locations, general properties and general functions of Vata, five types of Vata (Prana, Udana, Samana, Vyana, Apana) with their specific locations, specific properties, and specific functions.
   Respiratory Physiology in Ayurveda, Physiology of speech in Ayurveda.
5. Pitta Dosha: Vyutpatti, Nirukti of the term Pitta, general locations, general properties and general functions of Pitta, five types of Pitta (Pachaka, Ranjaka, Alochaka, Bhrajaka, Sadhaka) with their specific locations, specific properties, and specific functions. Similarities and differences between Agni and Pitta.
6. Kapha Dosha: Vyutpatti, Nirukti of the term Kapha, general locations, general properties and general functions of Kapha, five types of Kapha (Bodhaka, Avalambaka, Kledaka, Tarpaka, Śleshaka) with their specific locations, specific properties, and specific functions.
7. Etiological factors responsible for Dosha Vriddhi, Dosha Kshaya and their manifestations.
8. Concept of Kriyakala.
9. Prakriti:
   a) Deha- Prakriti: Vyutpatti, Nirukti, various definitions and synonyms for the term 'Prakriti'. Intra-uterine and extra-uterine factors influencing Deha-Prakriti, classification and characteristic features of each kind of Deha-Prakriti.

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b) Manasa- Prakriti: Introduction and types of Manasa- Prakriti.

10. Ahara: Definition, classification and significance of Ahara, Ahara-vidhi-vidhana, Ashta Aharavidhi Viseshayatana, Ahara Parinamkar Bhava.
11. Aharapaka (Process of digestion): Description of Annavaha Srotas and their Mula. Role of Grahani & Pittadhara Kala.
12. Description of Avasthapaka (Madhura, Amla and Katu). Description of Nishthapaka (Vipaka) and its classification. Separation of Sara and Kitta. Absorption of Sara. Genesis of Vata-Pitta-Kapha during Aharapaka process. Definition of the term Koshtha. Classification of Koshtha and the characteristics of each type of Koshtha.
13. Agni – Definition and importance, synonyms, classification, location, properties and functions of Agni and functions of Jatharagni, Bhutagni, and Dhatvagni.

PART- B **50 marks**

Modern Physiology

a) Definition and mechanisms of maintenance of homeostasis. Cell physiology. Membrane physiology. Transportation of various substances across cell membrane.

b) Resting membrane potential and action potential.

c) Physiology of respiratory system: functional anatomy of respiratory system. Definition of ventilation, mechanism of respiration, exchange and transport of gases, neural and chemical control of respiration, artificial respiration, asphyxia, hypoxia. Introduction to Pulmonary Function Tests.

d) Physiology of Nervous System: General introduction to nervous system, neurons, mechanism of propagation of nerve impulse, physiology of CNS, PNS, ANS; physiology of sensory and motor nervous system, Functions of different parts of brain and physiology of special senses, intelligence, memory, learning and motivation. Physiology of sleep and dreams, EEG. Physiology of speech and articulation. Physiology of temperature regulation.

e) Functional anatomy of gastro-intestinal tract, mechanism of secretion and composition of different digestive juices. Functions of salivary glands, stomach, liver, pancreas, small intestine and large intestine in the process of digestion and absorption. Movements of the gut (deglutition, peristalsis, defecation) and their control. Enteric nervous system.

f) Acid-base balance, water and electrolyte balance. Study of basic components of food. Digestion and metabolism of proteins, fats and carbohydrates.
Vitamins & Minerals- sources, daily requirement, functions, manifestations of hypo and hypervitaminosis.

PAPER- II **100 marks**

PART- A **50 marks**

1. **Dhatu:**
Etymology, derivation, definition, general introduction of term Dhatu, different theories related to Dhatuposhana (Dhatuposhana Nyaya)

2. **Rasa Dhatu:**

Etymology, derivation, location, properties, functions and Praman of Rasa-dhatu. Physiology of Rasavaha Srotas, Formation of Rasa Dhatu from Aahara Rasa, circulation of Rasa (Rasa-Samvahana), role of Vyana Vayu and Samana Vayu in Rasa Samvahana. Description of functioning of Hridaya. Ashtavidha Sara (8 types of Sara), characteristics of Tvakasara Purusha, conceptual study of mutual interdependence (Aashraya-Aashrayi Bhaava) and its relation to Rasa and Kapha. Manifestations of kshaya and Vriddhi of Rasa.

3. Rakta Dhatu:

Etymology, derivation, synonyms, location, properties, functions and Praman of Rakta Dhatu. Panchabhautikatva of Rakta Dhatu, physiology of Raktavaha Srotas, formation of Raktadhatu, Ranjana of Rasa by Ranjaka Pitta, features of Shuddha Rakta, specific functions of Rakta, characteristics of Raktasara Purusha, manifestations of Kshaya and Vriddhi of Raktadhatu, mutual interdependence of Rakta and Pitta.

4. Mamsa Dhatu :

Etymology, derivation, synonyms, location, properties and functions of Mamsa Dhatu, physiology of Mamsavaha Srotasa, formation of Mamsa Dhatu, characteristics of Mamsasara Purusha, manifestations of Kshaya and Vriddhi of Mamsa Dhatu .Concept of Peshi.

5. Meda Dhatu :

Etymology, derivation, location, properties, functions and Praman of Meda Dhatu, physiology of Medovaha Srotas, formation of Medo Dhatu, characteristics of Medasara Purusha and manifestations of Kshaya and Vriddhi of Meda.

6. Asthi Dhatu:

Etymology, derivation, synonyms, location, properties, functions of Asthi Dhatu. Number of Asthi. Physiology of Asthivaha Srotas and formation of Asthi Dhatu, characteristics of Asthisara Purusha, mutual interdependence of Vata and Asthi Dhatu, manifestations of Kshaya and Vriddhi of Asthi Dhatu.

7. Majja Dhatu :

Etymology, derivation, types, location, properties, functions and Praman of Majjaa Dhatu, physiology of Majjavaha Srotas, formation of Majja Dhatu, characteristics of Majja Sara Purusha, relation of Kapha, Pitta, Rakta and Majja, manifestations of Kshaya and Vriddhi of Majja Dhatu.

8. Shukra Dhatu:

Etymology, derivation, location, properties, functions and Praman of Shukra Dhatu, physiology of Shukraravaha Srotas and formation of Shukra Dhatu. Features of Shuddha Shukra, characteristics of Shukra-Sara Purusha, manifestations of Kshaya and Vriddhi of Shukra Dhatu.

9. Concept of **Ashraya-Ashrayi** bhava i.e. inter-relationship among Dosha, Dhatu Mala and Srotas.

10. Ojas: Etymological derivation, definition, formation, location, properties, Praman, classification and functions of Ojas. Description of Vyadhikshamatva.

Bala Vriddhikara Bhava. Classification of Bala. Etiological factors and manifestations of Ojavisramsa, Vyapat and Kshaya.

11. **Upadhatu**: General introduction, etymological derivation and definition of the term Upadhatu. Formation, nourishment, properties, location and functions of each Upadhatu.
    a) Stanya: Characteristic features and methods of assessing Shuddha and Dushita Stanya, manifestations of Vriddhi and Kshaya of Stanya.
    b) Artava: Characteristic features of Shuddha and Dushita Artava. Differences between Raja and Artava, physiology of Artavavaha Srotas.
    c) Tvak: classification, thickness of each layer and functions.

12. **Mala:** Etymological derivation and definition of the term Mala. Aharamala: Enumeration and description of the process of formation of Aharamala.
    a) Purisha: Etymological derivation, definition, formation, properties, quantity and functions of Purisha. Physiology of Purishavaha Srotas, manifestations of Vriddhi and Kshhaya of Purisha.
    b) Mutra: Etymological derivation, definition, formation, properties, quantity and functions of Mutra. Physiology of Mutravaha Srotas, physiology of urine formation in Ayurveda, manifestations of Vriddhi and Kshhaya of Mutra.
    c) Sveda: Etymological derivation, definition, formation and functions of Sveda. Manifestations of Vriddhi and Kshaya of Sveda. Discription of Svedvaha Strotas
    d) Dhatumala: Brief description of each type of Dhatumala.

13. **Panchagyanendriya:** Physiological description of Panchagyaanendriya and physiology of perception of Shabda, Sparsha, Rupa, Rasa and Gandha. Physiological description of Karmendriya.
14. **Manas:** Etymological derivation, definition, synonyms, location, properties, functions and objects of Manas. Physiology of Manovaha Srotas.
15. **Atma:** Etymological derivation, definition, properties of Atma. Difference between Paramatma and Jivatma; Characteristic features of existence of Atma in living body.
16. **Nidra:** Nidrotpatti, types of Nidra, physiological and clinical significance of Nidra; Svapnotpatti and types of Svapna.

PART –B **50 marks**

Modern Physiology

1. Haemopoetic system – composition, functions of blood and blood cells, Haemopoiesis (stages and development of RBCs, and WBCs and platelets), composition and functions of bone marrow, structure, types and functions of haemoglobin, mechanism of blood clotting, anticoagulants, physiological basis of blood groups, plasma proteins, introduction to anaemia and jaundice.
2. Immunity, classification of immunity: Innate, acquired and artificial. Different mechanisms involved in immunity: Humoral (B-cell mediated) and T-Cell mediated immunity. Hypersensitivity.

3. Muscle physiology – comparison of physiology of skeletal muscles, cardiac muscles and smooth muscles. Physiology of muscle contraction.
4. Physiology of cardio-vascular system: Functional anatomy of cardiovascular system. Cardiac cycle. Heart sounds. Regulation of cardiac output and venous return. Physiological basis of ECG. Heart-rate and its regulation. Arterial pulse. Systemic arterial blood pressure and its control.
5. Adipose tissue, lipoproteins like VLDL, LDL and HDL triglycerides.
6. Functions of skin, sweat glands and sebaceous glands.
7. Physiology of male and female reproductive systems. Description of ovulation, spermatogenesis, oogenesis, menstrual cycle.
8. Physiology of Excretion – functional anatomy of urinary tract, functions of kidney. Mechanism of formation of urine, control of micturition. Formation of faeces and mechanism of defecation.
9. Endocrine glands – General introduction to endocrine system, classification and characteristics of hormones, physiology of all endocrine glands, their functions and their effects.

PRACTICAL **100 marks**
Teaching hours-180

Ayurvedic practical

1. Assessment of Prakriti
2. Assessment of Dosha (Features of Vriddhi- Kshaya)
3. Assessment of Dhatu (Features of Vriddhi- Kshaya)
4. Assessment of Agni
5. Assessment of Koshtha
6. Assessment of Sara
7. Nadi pariksha

Modern physiology practical

1. Introduction to laboratory instruments- Simple & Compound Microscope, Scalp vein set, bulbs for blood collection, Sahli's Haemometer, Haemocytometer, pipettes, Urinometer, Albuminometer, Stethoscope, B.P. Apparatus, Harpenden's caliper, Clinical Hammer, Tuning Fork, Stop Watch, Thermometer, Centrifuge machine, ECG Machine
2. Collection of blood sample – prick, vene-puncture method, use of anticoagulants
3. Preparation of blood smear and staining
4. Estimation of Hemoglobin
5. Microscopic examination of blood
   a. Total RBC count
   b. Total WBC count
   c. Differential leucocyte count
6. Packed cell volume (PCV) demonstration
7. ESR demonstration
8. Bleeding time, Clotting time
9. Blood grouping and Rh typing
10. Examination of Cardio-Vascular system
    a. Pulse examination
    b. Arterial blood pressure measurement
    c. Examination of heart sounds
    d. ECG demonstration

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11. Examination of Respiratory system
    a. Respiratory rate
    b. Breath sounds
    c. Spirometry
12. Examination of Nervous System- Sensory & Motor.
13. Urine examination –Physical examination, chemical examination. Test for normal constituents of urine. Detection of specific gravity and reaction of urine.

Distribution of Practical marks

1.	Laboratory Practical	- 20
2.	Human Experiment	- 15
3.	Spotting	- 15
4.	Prakriti Saradi pariksha	- 20
5.	Practical Record	- 10
6.	Viva- voce	- 20

REFERENCE BOOKS:-

- Ayurvediya Kriyasharir - Ranjit Rai Desai
- Kayachikitsa Parichaya - C. Dwarkanath
- Prakrit Agni Vigyan - C. Dwarkanath
- Sharir Kriya Vigyan - Shiv Charan Dhyani
- Abhinava Sharir Kriya Vigyana - Acharya Priyavrata Sharma
- Dosha Dhatu Mala Vigyana - Shankar Gangadhar Vaidya
- Prakrita Dosha Vigyana - Acharya Niranjana Dev
- Tridosha Vigyana - Shri Upendranath Das
- Sharira Tatva Darshana - Hirlekar Shastri
- Prakrita Agni Vigyana - Niranjana Dev
- Deha Dhatvagni Vigyana - Vd. Pt. Haridatt Shastri
- Sharir Kriya Vigyana (Part 1-2) - Acharya Purnchandra Jain
- Sharir Kriya Vigyana - Shri Moreshwar Dutt. Vd.
- Sharira Kriya Vijnana (Part 1 and 2) – Nandini Dhargalkar
- Dosha Dhatu Mala Vigyana - Basant Kumar Shrimal
- Abhinava Sharir Kriya Vigyana - Dr. Shiv Kumar Gaur
- Pragyogik Kriya Sharir - Acharya P.C. Jain
- Kaya Chikitsa Parichaya - Dr. C. Dwarkanath
- Concept of Agni - Vd. Bhagwan Das
- Purush Vichaya - Acharya V.J. Thakar
- Kriya Sharir - Prof. Yogesh Chandra Mishra
- Sharir Kriya Vigyana - Prof. Jayaram Yadav &Dr. Sunil Verma.
- Basic Principles of Kriya-Sharir (A treatise on Ayurvedic Physiology) by Dr. Srikant Kumar Panda
- Sharir Kriya – Part I & Part II – Dr. Ranade, Dr. Deshpande & Dr. Chobhe
- Human Physiology in Ayurveda - Dr Kishor Patwardhan
- Sharirkriya Vignyan Practical Hand Book– Dr.Ranade, Dr.Chobhe, Dr. Deshpande
- Sharir Kriya Part 1 – Dr.R.R.Deshapande, Dr.Wavhal
- Sharir Kriya Part 2 – Dr. R.R.Deshapande, Dr.Wavhal
- Ayurveda Kriya Sharira- Yogesh Chandra Mishra
- Textbook of Physiology - Gyton & Hall
- A Textbook of Human Physiology – A.K.Jain
- Essentials of Medical Physiology - Sembulingam, K.

- Concise Medical Physiology - Chaudhari, Sujit K.
- Principals of Anatomy & Physiology - Tortora & Grabowski
- Textbook of Medical Physiology- Indu Khurana

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1.4 RACHNA SHARIR
(ANATOMY)

Theory- Two Papers-200 Marks–(100 marks each)
Teaching Hours-180 hours

PAPER-I **100 marks**

PART-A **50 marks**

1. Shariropkramaniya Shaarira
Sharira and shaarira vyakhya (definitions of sharira and shaarira), shadangatvam (six regions of the body), anga pratyanga vibhaga (sub divisions). Mrita sharir samshodhan. Shaarira shastra vibhaga, shaarira gyan prayojana . Constitution of purusha according to dhatubheda, panchabhautikatvam, trigunatmakatvam, tridoshamayatvam, karma purusha, and doshadhatumala-mulakatvam.

2. Paribhasha Shaarira
Kurcha, kandara, jala, asthisanghat, seemanta, seevani, rajju, snayu and lasika.

3. Garbha Shaarira
Garbha definitions, explanation of shukra, artava, garbhadhana. Role of tridosha and panchmahabhuta in the fetal development. Beeja, beejabhaga and beejabhagavayava, linga vinischaya, masanumasika garbha vriddhi-krama, garbhottpadakbhava, garbhavriddhikara bhava, garbha poshana, apara nirmana , nabhinadi nirmana. Aanga pratyanga utpatti.

4. Pramana Shaarira: Anguli pramana.

5. Asthi Shaarira
Asthi vyakhya, number, types, asthi swaroopa, vasa, meda and majja.

6. Sandhi Shaarira
Sandhi vyakhya, numbers, types of asthi sandhi.

7. Sira, Dhamani, Srotas Shaarira
a) Definition, types and number of sira and dhamani.
b) Description of Hridaya.
c) Sroto shaarira: Definition, types of srotas and srotomula.

8. Peshi Shaarira
a) Peshi vyakhya, structure, types, number and importance.
b) Description of Peshi.

9. Koshtha Evam Ashaya Shaarira
a) Definition of kostha and number of koshthanga.
b) Types and description of ashaya.

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10. Kalaa Shaarira
Kalaa: definition and types.

11. Uttamangiya Shaarira
Shatchakra, ida, pingala and sushumna nadi - brief description.

12. Marma Shaarira
Marma: definition, number, location, classification, clinical importance with viddha lakshana. Explanation of trimarmas. Detail description of marmas.

13. Indriya Shaarira
Definition of indriya, indriya artha and indriya adhisthan, their number and importance. Description of gyanendria, karmendriya and ubhayendriya (manas).

PART-B **50 marks**

1. Definition and branches of anatomy. Preservation methods of the cadaver.

2. Anatomical Terminologies
Anatomical position, Planes, and explanation of anatomical terms related to skin, fasciae, bones, joints and their movements, muscles, ligaments, tendons, blood vessels, nerves,.

3. Embryology
Definitions and branches of embryology. Embryo and fetus. Sperm and ovum, fertilization. Cleavage. Germ layers formation and their derivatives. Laws of heredity, Sex determination and differentiation, Month-wise development of embryo. Foetal circulation, placenta formation, Umbilical cord formation.

4. Osteology
Bone: Definition, ossification, structure and types. Description of bones with clinical anatomy.

5. Arthrology
Joints: Definition, structure types and movements. Description of joints of extremities, vertebral joints and temporomandibular joint with their clinical anatomy.

6. Cardiovascular system

a. Definition, types and structure of arteries and veins.
b. Description of heart and blood vessels with their course and branches.
c. Pericardium with applied aspect.

7. Lymphatic system
Definition, types and structure of lymph vessels, lymph glands with their clinical aspect.

8. Myology
a) Structure and types of muscles.
b) Description of muscles; their origin, insertion, actions, nerve supply and clinical anatomy.

Paper II **100 marks**

Part A **50 marks**

1. Respiratory System

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a. Bronchial tree and lungs with their clinical aspects.
b. Respiratory tract: nasal cavity, pharynx, larynx, trachea, bronchial tree.
c. Pleura with its clinical aspects.
d. Diaphragm.

2. Digestive system

a. Organs of digestive tract (alimentary tract) with their clinical aspects.
b. Digestive glands: liver, spleen and pancreas.
c. Description of peritoneum with its clinical aspects.

3. Urinary System

Urinary tract: kidney, ureter, urinary bladder and urethra with their clinical aspects.

4. Reproductive system

a. Male Reproductive system: reproductive organs, tract and glands (prostate and seminal vesicles) with their clinical aspects.
b. Female reproductive system: reproductive organs, tract and glands with their clinical aspects.

5. Endocrinology

Definition, classification & description of endocrine glands (pituitary, thyroid, parathyroid, thymus and suprarenal glands) with clinical aspects.

PART B **50 marks**

6. Nervous System

Nervous system: definition, classification and its importance. Description of brain and spinal cord.
Description of peripheral nervous system: cranial and spinal nerves, nerve plexuses, and autonomic nervous system, formation and circulation of cerebrospinal fluid and blood supply of brain and spinal cord.

7. Sensory organs

Description of structures of eye, ear, nose, tongue and skin with their clinical aspects.

8. Surface and radiological anatomy

a. Study of radio-imaging of limbs, abdomen, pelvis and vertebral column with its clinical application.
b. Surface anatomy of thoracic and abdominal viscera.

PRACTICAL **100 marks**
Teaching hours: 180

Content of practical

1. Practical study of bones
2. Practical study of organs
3. Practical study of surface and radiological anatomy.
4. Shava vichhedana – detailed dissection of the whole body.
5. Practical study of location of marma
6. Demonstration of histology slides (10 slides)

Distribution of marks

1. Spotting - 20 marks
2. Dissected organs and histology slides - 20 Marks

3.	Bones, joints, marma -	20 Marks
4.	Surface & radiological anatomy -	10 Marks
5.	Practical records -	10 Marks
6.	Viva-Voce -	20 Marks
	Total	**100 Marks**

Reference Books :-

S. No.	Name of Book	Author
1.	Brihat Shariram Vaidyaratna-	P.S. Varrier
2.	Abhinava Shariram-	Acharya Damodar Sharma Gaur
3.	Manava Sharir (Revised Edition)-	Prof. Dinkar Govind Thatte
4.	Manava Bhruna Vigyana -	Prof. Dinkar Govind Thatte
5.	Manava Anga Rekhankan Vikrian -	Prof. Dinkar Govind Thatte
6.	Sharir Rachana Vigyan (English)-	Vaidya P.G. Athawale
7.	Manual of Practical Anatomy Cunnigham Practical Manual Vol-1, Vol-2, Vol-3	
8.	Clinical Anatomy in Ayurveda -	Prof. D.G. Thatte & Prof. Suresh Chandra
9.	Sharir Rachna Vigyan (English)-	Prof. D.G. Thatte
10.	Ayurvedic Human Anatomy -	Prof. Dr. Giridhar M. Kanthi
11.	Regional Anatomy -	B. D. Chaurasia
12.	Rachana Sharir Vigyana -	Dr. Mahendra Sing
13.	elevant chapters of Brihtrayee and Laghuthrayee	
14.	Gray's Anatomy	
15.	Text Book of Human Anatomy-	Inderbir Singh
16.	Clinical Anatomy-	Richard S Snell
17.	Fundamentals of Human Anatomoy-	Dr. Chakraborthy
18.	Human Osteology -	Poddar

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1.5 Maulik Siddhant avum Ashtang Hridaya
(Basic Principles and Ashtang Hridaya- An ancient text of Ayurveda)

Theory- One Paper– 100 marks
Teaching Hours -120 hours

Part A **60 marks**

Ashtang Hridaya Sutrasthana Adhyaya 1 to 15

Part B **40 marks**

1. Ashtang Hridaya Sutrasthana Adhyaya 16 to 30
2. Description of Ashta Prakriti
3. Shastra Lakshan (Tantra), Tantraguna, Tantradosha, Tachitalya, Arthasraya, Kalpana

Reference Books:

1. Astang Hridaya : Hindi commentary by Lalchanda Vaidya
2. Astang Hridaya : Hindi commentary by Vd. B.L. Gaur
3. Astang Hridaya : English commentary by Dr. T. Sreekumar
4. Astang Hridaya : English commentary by Dr. Vishwavasu Gaur
5. Astang Hridaya : Sanskrit commentary by Hemadri
6. Astang Hridaya : Sanskrit commentary by Arunadatta

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CENTRAL COUNCIL OF INDIAN MEDICINE
NEW DELHI

SYLLABUS OF AYURVEDACHARYA (BAMS) COURSE

INDEX

2ND PROFESSIONAL

1.1	DRAVYAGUNA VIGHYAN	2-9
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2.1 DRAVYAGUNA VIJNAN

(PHARMACOLOGY & MATERIA MEDICA)

Lectures: 200 Hrs.

Practicals: 200 Hrs.

Total Marks -400

Theory Two Papers– 100 Marks Each

Practical/Viva voce – 200 Marks

Paper I **100 Marks**

Part A **50 Marks**

1- Dravyaguna Shastra Paribhasa- Lakshana of Sapta Padartha of Dravyaguna Vijnana viz Dravya- Rasa-Guna- Virya- Vipaka- Prabhava and Karma.

2- Dravya:
Etymological derivation, definition, panchbhoutikatwa.
Classification of Dravya according to Samhitas and Nighantus Taxonomical classification.

3- Guna:
Etymological derivation, definition and Classification of Guna.
Detailed knowledge of Gurvadi Guna & Paradi gunas.

4- Rasa:
Etymological derivation, definition, Meaning of "Rasa" in various contexts. Shad Rasas (Madhura, Amla, Lavana, Katu, Tikta, and Kashaya), Panchabhautik constitution of Rasas, Nirvrittiviseshakrama (manifestation in general and particular), Ritu and shad rasa Rasanurasayoh bheda (Difference between rasa and anurasa), Lakshana (characteristics),Guna and Karma of shad Rasas, Kopana and Shamana of Dosha and dushya by Shad rasas. Effects of excess usage of Rasa. Rasopalabdhi, Rasaskandha.

5- Vipaka:
Etymological derivation and definition, difference between Avasthapaka and Vipaka, Types of Vipaka, (Dvividha-Trividha,Panchavidha) Guna and karma of Vipaka.
Grades of Vipaka (taratamya), Vipakopalabdhi hetu (Factors to determineVipaka).

6- Veerya:
Etymological derivation, definition and Swarupa of Virya, Number of Virya.
(Dwividha & Ashtavidha), Panchabhauthikatva
Virya karmani (Effects of Virya), General principles in determination of virya along with exceptions.

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7- Prabhava:
Definition, Effects of Prabhava.

8- Interrelation of Rasa-Guna-Virya-Vipaka-Prabhava with respect to their strength (balabal nirupana). Samanapratyayarabdha and Vichitrapratyayarabdha dravyas.

9- Karma:
Lakshana, swaroopa and bheda of karma (Definition, nature and types of action).

Explanation of the following Karmas with examples:

1. Deepana	2. Pachana	3. Samshodhana
4. Samshamana	5. Anulomana	6. Sransana
7. Bhedana	8. Rechana	9. Chhedana
10. Lekhana	11. Grahi	12. Sthambhana
13. Madakari	14. Pramathi	15. Abhishyandi
16. Vyavayi	17. Vikashi	18. Rasayana
19. Vajeekarana	20. Jeevaneeya	21. Balya
22. Brimhana	23. Langhana	24. Medhya

10. Brief information on Karmas of dashemani gana of Charak Samhita.

11- Mishraka Gana:

11a)- Audbhida Gana (Vegetable origin) Brihatpanchamoola, Laghupanchamoola, Vallipanchamoola, Kantakapanchamoola, Trinapanchamoola,Madhyamapanchamoola, Jeevaneeya panchamoola, Panchapallava, Panchavalakala, Triphala, Trikatu,Trimada, Chaturusana, Panchakola, Shadusana, Chaturbeeja, Jeevaniya gana, Ashtavarga, Trijataka, Chaturajataka, Katuchaturjataka Panchatikta, Amlapanchaka, Chaturbhadra,Trikarshika, Swalpatriphala, Madhuratriphala, Mahavisha, Upavisha, Agrya aushadh varga- Knowledge of Agrayaaushadha Varga with example.

11 b)- Jangama Gana (Animal origin)- Ksheerashtaka, Mutrashtaka, Pitta panchaka.

11 c)- Parthiva Gana (Mineral origin) - Lavana Panchaka, Kshara dvaya, Kshara Ashtaka.

12- Basis of nomenclature:
Basis of nomenclature of dravya, Basis and Derivation of synonyms.

13. Bheashaja Pariksha vidhi (as described in Charaka samhita vimana sthana 8), Dravya Sangrahana (collection of dravya)- Ecology- Classification of desha (geographical area) and bhumi (soil), swarupa of sangrahaniya dravya of (Nature and quality of drug to be collected). Sangrahana vidhi (Method of collection) -Vegetable and Animal origin drugs according to part used. Period of collection according to virya, samrakshana vidhi (preservation of collected dravyas), bheshajagara (Storehouse), study on different prayojyanga (useful plant parts).

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Part B **50 Marks**

(I) **20 Marks**

14 a) Concept of dravya shodhan (purification of dravya).
14 b) Brief knowledge of Apamishran (adulterants)
14 c) Concept of Abhava pratinidhi dravya (substitutes)

15- Prashasta bheshaja (ideal drug), plant extracts. Concept of viruddha Dravya (incompatibility of the dravya).

16- Introduction to Nighantu Vigyan - Dhanwantari Nighantu, Bhavaprakashanighantu, Rajanighantu.

17- Brief knowledge of cultivation, conservation of medicinal plants and information about endangered species.

(II) **30 Marks**

18. - Introduction, Definition & scope of Pharmacology and Principles of general Pharmacology. Brief Knowledge about pharmacology of the following - Anaesthetics, CNS depressants, Sedatives, Hypnotics, Tranquilisers, Antipyretics, Analgesics, Antiepileptics, Antihypertensive, Antianginal, Antiplatelet, Hypolipidaemic, Haemopoetic, Coagulants, Bronchodialators, Aerosols/ Inhalants, Expectorants, Digestants, Carminatives, Antacids, Antiulcer, Laxatives, Antidiarrhoeals, Antiemetic, Hepatoprotective, Diuretic, Antidiuretic, Lithotriptic, Antiinflammatory, Hormonal therapy, Antiobesity, Antidiabetic, Antithyroid, Oxytocic. Galactagogues, Contraceptives, Styptics, Antihistamines, Antimicrobial, Antibiotics, Antimalarial, Amoebicidal, Antifilarial, Anthelmentic, Antifungal,Vitamins, Minerals,Water imbalance and IV fluids, Vaccines, antivenom, antirabbies serum, Local anti septics, drugs in ophthalmic practice, Anti cancer drugs and immunomodulators.

Paper II **100 Marks**

Part A **70 marks**

1-Detailed Knowledge of Following Dravya –

1- Detailed knowledge of following drugs with respect to Basonym of drug, Main Synonyms, Regional Name, Botanical Name, Family, Classification of Dravya (Gana) as described in Charak and Sushrut, External morphology, Useful parts, Important phytoconstituents, Rasa panchaka, Action on Dosha, Dhatu, Mala, Prayogarha vyadhi (therapeutic indications), Amayikaprayoga and Matra (Therapeutic administration and Dose), Vishishta yoga (names of important formulations), Vishakta Lakshan (adverse effects), Chikitsopachara (remedial measures) and Shodhana (as required)

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[Alphabetical order and Botanical names to all the drugs are to be added]

Agaru
Agnimantha
Agnimantha
Ahiphena
Amalaki
Apamarga
Aragvadha
Aragvadha
Ardraka-Sunti
Arjuna
Arjuna
Arkadvaya
Ashvagandha
Asoka
Ativisha
Bakuchi
Baladvayam.
Bhallataka
Bharangi
Bhrungaraj
Bibhitaka
Bijak/ Vijaysar
Bilva
Brahmi
Bruhati
Chandanadvaya,
Chitraka
Dadima
Devadaru
Dhataki
Durva
Eladvayam
Eranda
Gambhari
Gokshura
Guduchi
Guggulu
Haridradvaya
Haritaki
Hingu
Jambu
Jatamansi
Jatiphal
Jeerakadvaya
Jyotishmati
Kalamegha
Kampillaka
Kanchanara
Kantakari
Kapikacchu
Karkatakshringi
Karpura
Katuki
Khadira
Kiratatikta
Kumari
Kumkum Kesara
Kupilu
Kushta
Kutaja
Lavanga
Lodhra
Madanaphala
Mandukaparni.
Manjishtha
Maricha
Musta
Nagakeshara
Nimba
Nirgundi
Palasha
Parpata
Pashanabheda
Patala
Pippali-Pippalimula
Prishniparni
Punarnava
Pushkarmoola
Rasna
Rasona
Rohitaka
Saireyaka
Sarivadvaya
Sarpagandha
Shalaparni
Shallaki
Shalmali
Shankhapushpi
Shatavari
Shigru
Shirisha
Shyonaka
Talisa Patra
Tila
Trivrut
Tulasi
Tvak
Ushira
Vacha
Varahi
Varahi
Varuna
Vasa
Vatsanabha
Vidanga
Vidari
Yastimadhu
Yavani

Part B-

II- Brief Knowledge of following dravyas with Respect to Sanskrit Name, Botanical Name, Family, Habit (Samanya Swarupa), Parts Used and Indications.

Agastya
Ajamoda
Akarkarabh
Amlavetasa
Amra
Jati
Jayapala
Jeevanti
Kadali,
Kadamba
Palandu
Parasika Yavani
Parijata
Parisha
Parnabija

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Amragandhiharidra
Ankola
Aparajita
Ashvagol
Ashvattha
Asthishrunkhala
Atasi
Avartaki
Avartani
Babbula
Badara
Bakula
Bhumyamalki
Bijapoora
Bola
Chakramarda
Champaka
Chandrashura
Changeri
Chavya
Chirbilva
Chopachini
Danti
Darbha
Dattura
Dhanvayasa
Dhanyaka
Draksha
Dronapushpi
Gandhaprasarini
Garjara
Gojihva,
Gorakshaganja
Gunja
hinsapa
Hinstra
Hribera
Hrutpatri
Ikshu
Indravaruni
Ingudi
Irimeda
Ishvaku
Isvari
Japa
Kaidarya
Kakamachi
Kamala
Kankola
Karanja
Karavellaka
Karavira
Karira
Karpasa
Kasamarda
Kasha
Kasni
Kataka
Katphala
Kebuka
Kharjura
Kitmari
Kokilaksha
Koshataki
Kulatha
Kumuda
Kusha
Kusmanda
Lajjalu
Langali
Latakaranja
Latakasturi
Madayantika
Mahanimba
Mandukaparni
Markandika
Masha
Mashaparni
Matulunga
Mayaphala
Meshashrungi
Methika
Mudgaparni
Mulaka
Murva
Nagabala
Nala
Narikela
Nili
Padmaka
Parnayavani
Parpataka
Parushaka
Patalagarudi
Patha
Patola
Patranga
Pilu
Plaksha
Prasarani
Priyala
Priyangu
Puga
Putiha
Putranjivaka
Rajika/Sarshapa
Rohitaka
Saptachakra
Saptaparna
Saral
Sarja
Shala
Shara
Sharapunkha
Shatahwa
Shati
Snuhi
Sringataka
Svarnakshiri
Tagara .
Tailaparni
Talmuli
Taruni
Tavakshira
Teja Patra
Tuvaraka
Udumbara
urana
Vamsha
Vata
Vatada
Vrudhadaru
Vrukshamla

III .-Introduction, Guna, Karma and Uses of following Jantava Dravya (Drugs of Animal Origin).

1. Kasturi
2. Gorochana
3. Mrigasringa

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IV- Introductory Knowledge of Following Annapana Varga:

1. Jala Varga	2. Dugdha Varga	3. Madhu Varga
4. Taila Varga	5. Sukadhanya Varga	6.Shamidhanya Varga
7. Phala Varga	8. Shaka Varga	9. Mamsa Varga
10. Aharayogi		

PRACTICALS

1. A. Study of Macroscopic, Microscopic characters and Demonstration of organoleptic charcteristics and grahya-agrahyatva of following plants and their useful parts.

i. Kanda (stem) - Guduchi or Ashtishrinkhala
ii. Patra (leaves) - Vasa or Kumari
iii. Pushpa (flower and Parts of flower)- Dhataki or Japa
iv. Phala (fruit) – Maricha or Madanaphala or Vidanga
v. Beeja (seeds) – Eranda or Kapikacchhu
vi. Twak (bark) – Kutaja or Arjuna or Ashwattha
vii. Moola(Root)- Punarnava or Chitraka
viii. Niryasa (exudate) – Guggulu or Mocharasa
ix. Jangama dravya - Madhu or Ghrita.

2. Records of Herbarium sheets of 50 medicinal plants Compulsory study tour other state/s for field knowledge and procurement of plant species.

PRACTICAL MARKS DIVISION

1	Herbarium	20 Marks
2	Practical record	20 Marks
3	Drug identification- spotting –Raw/crude drugs	30 marks
4	Plant identification spotting –fresh	30 marks
5	Practical	40 marks
6.	Viva-Voce	60 Marks
Total		**200 marks**

Reference Books

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1.	Abhinav Buti Darpan (Vol.1-2)	-	Vd. Roop Lal Vaishya
2.	Aushadna Vigyna Shastra	-	Acharya Pt. Vishvanatha Dwidevi
3.	Ayurvediya Aushadnkarma vigyana	-	Acharya V.J. Thakur
4.	Bedi Vanaspati Kosha	-	Prof. Ramesh Bedi
5.	Bhaishajyaguna Vigyana	-	Dr. Alakhnarayan Singh
6.	Bhav Prakash Nigantu (English)	-	Shreekanthamurti
7.	Bhav Prakash Nighantu	-	With Vd. Krishna Chandra Chunekar commentary
8.	Bhrinad dravyagunadarsha	-	Mahendra Kumar Shastri
9.	Classical Uses of Medicinal Plants	-	Acharya Priyavrata Sharma
10.	Controversial Medicinal Plants	-	Vd. G. Bapa Lal
11.	Dalhana Ka Dravyaguna Shastra Ke Kshetra Me Yogadana	-	Vd. Shiv Kumar Vyas
12.	Dravyaguna Kosha	-	Acharya Priyavrata Sharma
13.	Dravyaguna Sutram	-	Acharya Priyavrata Sharma
14.	Dravyaguna Vigyana	-	Dr. Gyanendra Pandey
15.	Dravyaguna Vigyana(Vol. 1-2)	-	Acharya Yadavji Tikram Ji
16.	Dravyaguna Vijyana	-	Dr. V.M. Gogate
17.	Dravyaguna Vigyana (Vol. 1-5)	-	Acharya Priyavrata Sharma
18.	Dravyaguna Shastrum	-	Vaidya G.A. Phadake
19.	Dravyaguna Vijyana	-	Dr. A.P. Deshpande
20.	Dravyagunavijnana basic Principles	-	Prof.D.S.Lucas
21.	Forgotten Healers (Indian Medicinal Plants)	-	Dr. Prakash Pranjape
22.	Glossry of Vegetable Drugs in Bhrittrayis	-	Thakur Balwant Singh & Vd. Krishna Chandra Chunekar
23.	Introduction to Dravyaguna	-	Acharya Priyavrata Sharma
24.	Kriyatamka Aushadi Parichaya	-	Acharya Pt. Vishvanath Dwidevi
25.	Materia Medica	-	Acharya Ghosh
26.	Nighantu Adarsh (Vol. 1-2)	-	Vd. Bapa Lal
27.	Pharmacological basis of Medical Practice	-	Goodman & Gillman
28.	Pharmacology and Pharmacotherapeutics	-	Satoskar Bhandarkar & Ainapure
29.	Prayogatamaka Dravyaguna Vigyana	-	Dr. Maya Ram Uniyal
30.	Priya nighantu	-	Acharya Priyavrata Sharma
31.	Raspanchaka/Dravyaguna Siddhanta	-	Prof. Shivcharan Dhyani
32.	System of Plant Nomenclature in Ayurveda	-	Dr. Gyanendra Panday
33.	Text Book of Pharmacognosy	-	Trees & Valis
34.	Textbook of Dravyaguna	-	Dr.K.Nishteswar
35.	Unani Dravyaguna Vigyana	-	Hakim Daljeet Singh

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36.	Useful parts of Charaka, Sushurut, and Vagbhata.	-	
37.	Uttarakand Ki Vanaspatiya	-	Dr. Gyanendra Pandey
38.	Vanoaushadi Darshika	-	Thakur Balwant Singh
39.	Vanoaushadi Nidarshika	-	Dr. Ram Sushil Singh
40.	Vedic Vanaspatiyan	-	Dr. Dinesh Chandra Sharma

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2.2. AGADTANTRA, VYAVAHAR-AYURVED EVUM VIDHIVAIDYAK

(TOXICOLOGY, FORENSIC MEDICINE AND MEDICAL JURISPRUDENCE)

Theory One Paper – 100 Marks
Practical/Viva voce -50 Marks
Theory -200 hrs
Practical - 100 hrs

Part- A **50 Marks**

1 Derivation, definition of Visha and Agadatantra. Scope of Agadatantra. Visha Utpatti, Visha Prabhava, Visha Pranaharana Kriya, Visha Guna, Visha Gati, Visha Vega Visha Sankata, Shanka Visha.

2 Definition of toxicology, Definition of poison, suicidal and homicidal poisons, classification of poisons, their action and route of administration, absorption, excretion, metabolism, diagnosis and general principles of treatment, duties of a medical practitioner in case of suspected poisoning.

3 Origin and Classification of Visha:-Its sources, Difference between Visha, Madya and Oja guna, Visha Upadrava and Visha Mukta Lakshana.

4 Tests for detection of Visha, and Modern Toxicological Techniques of detection of poisons
Visha Data Lakshana, Visha Peeta Lakshana, Signs and symptoms of Visha afflicted organs and personal effects. (Poisoning with Anjana, Lepa paduka, Abharana etc.

5 Introduction to Environmental Toxicology- Samuhika Vishaprayoga- effect of chemical and nuclear warfare.

6 Vishopakrama described by Charak, General principles of Management of poisoning.

7 Manifestation of poisoning due to poisons of plant origin their fatal Dose, fatal period, management of poisoning, post mortem appearance and its medico legal importance.
Visha and Upavisha- Arka, Snuhi, Langali, Karaveera, Gunja, Ahiphena, Dhattura, Bhallataka, Vatsanabha, Kupeelu, Jayapala, Bhanga & Tobacco, Parthenium hysteriphorus, Chitraka, Eranda, Digitalis and Cerebra Odallam.

8 Garavisha, Dooshivisha, Viruddhahara. Food adulteration and poisoning–classification, diagnosis, management and contemporary significance.

9 Jangama Visha – Detailed study of Sarpa, Keeta, Loota, Vrischika, Mooshika, Alarka – Visha; Lakshana, Bheda, Chikitsa and their Sadhyasadhyata (contemporary and classical views).

10 Introduction to poisoning due to Acids, Alkalis, metals, Non-metals, Asphyxiants and others, their Fatal Dose, Fatal period, Manifestation, management, medico legal importance and postmortem appearance of poisoning due to:
a) Acid and Alkalis– Sulphuric acid, Hydrochloric acid, Nitric acid, Hydrocyanic acid, Oxalic acid, Carbolic acid, Formic acid, alkalis in general.
b) Asphyxiants – Carbon monoxide, Carbon dioxide, Hydrogen sulphide
c) Nonmetallic poisons – Phosphorous, Iodine
Metallic poisoning – Arsenic, Mercury, Lead, Copper, Zinc, Tin.

d) Others - Petroleum – Kerosene Organo phosphorus compounds -Aluminum phosphate, Organo Chlorinated Compounds, Household poisons.

11 Madya and Madatyaya. Alcohol poisoning (Ethanol and Methanol).

12 *Introduction to Narcotic drugs and Psychotropic substances Act 1985.*

Part –B **50 Marks**

1. Definition of Vyavahara Ayurveda (Forensic medicine) and Vidhivaidyaka (Medical jurisprudence), concise history of Vyavahara Ayurveda (Forensic medicine) and Vidhivaidyaka (Medical jurisprudence). Introduction to Indian Penal Code, Indian Evidence Act and Criminal Procedure Code.

2. Legal Procedures:- Inquest, Evidence, Witness, Courts and their powers.

3. Personal identity and its Medico legal aspects, forensic odontology, Introduction to Forensic Serology and DNA profiling.

4. Death and its Medico Legal Aspects, Medico Legal autopsy and *exhumation.*

5. Injuries and thermal injuries, their medico Legal aspects, general introduction of weapons.

6. Dowry deaths (Domestic Violence), their Medico Legal importance and laws in relation to it.

7. Asphyxial deaths and its Medico Legal importance.

8. Medico Legal importance of Pregnancy, Delivery; Impotence & Sterility, Abortion, Infanticide, battered baby. Virginity, Artificial Insemination, Legitimacy.

9. Sexual offences, and their Medico Legal aspects. Sexual perversions.

10. Introduction to Forensic psychiatry.

11. Introduction to forensic laboratory.

12. Ethics as in classical Texts. Types of Vaidya, Pranabhisara and Rogabhisara Vaidya, Qualities of Vaidya, Responsibilities of Vaidya, Chaturvidha Vaidyavrutti, Duties of Vaidya to his patient, Vaidya Sadvrittam, Apujya Vaidya, Code of conduct.

13. Laws in relation to Medical practitioners: Indian Medicine Central Council Act.

14. Maintenance of medical record.

15. Physician's responsibility in criminal matters, Professional negligence, Civil negligence, Criminal negligence, Medico Legal aspects of Acquired Immune Deficiency Syndrome, Rights of an unborn child, Medical Termination of Pregnancy Act Transplantation of

human organs Bill 1994, Pre Natal Diagnostic Testing Act, Malingering of feigned diseases, International Code of Medical Ethics for Doctors. Clinical establishment Act. Consumer Protection Act 1986.

PRACTICAL

Practical Training

1. Post Mortem examination
2. Evidence in the court
3. Demonstrations in the Forensic & Toxicology museum
   (Toxic & Anti toxic substances, medico legal specimens & Charts)
4. Clinical postings
5. Library Hours for compilation

Distribution of Practical Marks

1. Post Mortem examination and Court posting – Case Record	10 Marks
2. Practical/Clinical Record Book	10 Marks
3. Identification (spotting)	10 Marks
4. Viva – voce	20 Marks
Total	**50 Marks**

Reference Books

1. Topics related to Agada Tantra from Charak Samhita, Sushrut Samhita, Ashtanga Hridaya, Ashtanga Samgraha, Kasyapa Samhitha, Yogaratnakara, Bhavaprakasha and Madhava Nidana.	
2. Vidhivaidyaka (Vyavahar Ayurveda Vijnan)	Dr.Charuchandra Pathak Modi
3. Medical Jurisprudence and Toxicology	Edited by Vd.Govardhan
4. Basavarajeeyam	Sh. Ramanath Dwivedi
5. Agada Tantra	Edited by Dr Huparikar, Dr.Joglekar
6. Text book of Agada Tantra	Edited By Dr Huparikar, Dr.Joglekar
7. Agadatantra ki Pathyapustaka	Dr. Shekher Namboodri
8. Agad Tantra	Vaidya Balakrishnan Nair, Kerala
9. Vishachikitsa (Ayurveda Toxicology English Translation)	
10. Medical Ethics and Medical Laws in India	Dr. H.S. Mehta
11. Toxicology Ayurvedic Perspective	VPSV Ayurveda college Kottakkal
12. Kautilya Arthashastra (English)	Prof. Kangle
13. Kautilya Arthashastra (Hindi)	Dr. Raghunath Singh
14. Vyavahar Ayurveda	Dr.Ayodhya Prasad Achal
15. Vyavahar Ayurveda Vigyanam	Dr.Indramohan Jha (Sachchan)
16. Textbook of Forensic Medicine and Toxicology	Dr. V.V.Pillay
17. Forensic Medicine	Dr. B. Umadathan
18. Relevant Acts	Govt. of India
19. Relevant topics from Manu Smriti	

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2.K.2

2.3. Rasashastra Evam Bhaishajyakalpana

(IATROCHEMISTRY AND AYURVEDIC PHARMACEUTICS)

Theory -Two Papers
Total Marks- 200
Teaching hours-200

Practical :-
Total Marks-200
Teaching hours-200

RASASHASTRA

Paper 1 **100 Marks**
Part A **50 Marks**

1. Definition and etymology of Rasa, History of Rasashastra, Importance of Rasaushadhi, Concept of Rasa-Rasayana, Concept of Raseshwar Darshana. Concept of Rasashala and Rasamandap.

2. Brief Description and Application of Technical terminologies (Paribhasha): Avapa, Nirvapa, Dhalana, Bhavana, Jarana, Murchana, Shodhana, Marana, Amrutikarana, Lohitikarana, Mruta Loha, Satwa Patana, Druti, Apunarbhava, Niruttha, Rekhapurna, Varitara.

3. Dravya Varga: Amlavarga, Panchamrittika, Panchagavya, Panchamrita, Ksharashtaka, Dravakagana, Mitra panchaka, Rakta varga, Lavanapanchaka.

4. Brief description of Yantras and their application Ulukhala Yantra, Khalwa Yantra, Kachhapa Yantra, Damaru Yantra - Vidhyadhara Yantra- Urdhwapatan, Addhapatan & Tiryakpatana Yantra, Jaranartha Tulayantra, Dolayantra, Patalayantra, Palika Yantra, Baluka Yantra, Bhudhara Yantra, Sthali Yantra, Swedana Yantra.

5. Brief description & application of Musha (Crucible): Samanya Musha, Gostani musha, Vajra Musha, Maha musha, Yoga musha, Vrintaka Musha, Malla / Pakwa musha. Different types of crucibles e.g. Silica crucible, platinum crucible. Mudra and Sandhi Bandhana.

6. Brief description & applications of Chullika, Satwapatana Koshthi, Patala Kosthi, Gara Koshthi, Angarakoshthi and knowledge of various heating appliances viz. Gas stove, Hot plate, Heating mantle, Induction Stove, Hot Air Oven.

7. Concept, definition and types of Puta: Suryaputa, Chandraputa, Gomayaputa, Lawakaputa, Kukkutaputa, Kapotaputa, Varahaputa, Gajaputa, Mahaputa, Kumbhaputa, Valukaputa, Bhudharaputa, Applications of Electric muffle furnace and fuel (diesel) dependent furnace. Brief introduction to thermocouple and pyrometer.

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8. Knowledge of Parada: Synonyms, Occurrence, natural and artificial sources of Parada, Hingulottha parada, Types of Parada, Parada Dosha: Naisargika, Yougika, Aupadhika (Kanchuka). Grahya-Agrahya Parada, Parada gati, Parada bandha, Shodhana of Parada. Parada sanskara and brief description of Ashtasamskara.
9. Concept of Murchhana and Jarana of Parada, Preparation of Kajjali, Classification of Rasaushadhi: Khalvi rasa e.g. Tribhuvana Keerti Rasa, Parpati Rasa- Rasa Parpati, Kupipakva Rasa- Rasa sindur, Pottali rasa - Hemagarbha pottali. Rasa sevana vidhi and pathya and apathya.

10. Brief introduction of quality control , standardization and GMP of Rasaoushadhies.

Part B **50 Marks**

Occurrence, Synonyms, Minerological identification, Sources, Types, Grahya and Agrahyata, Shodhana, Marana and other processing techniques. Properties, dose, anupan and therapeutic uses, pathya – apathya and ashuddha, apakwa and avidhee sevanjanya dosha and its management, important formulations of the following:

1. **Maharasa** –Abhraka (Biotite Mica), Vaikrantha, Makshika (Chalco-pyrite), Vimala (Iron Pyrite), Shilajatu, Sasyaka (Peacock ore), Chapala and Rasaka (Sphalerite).

2. **Uparasa** – Gandhaka (Sulfur), Gairika (Red Ochre), Kasisa (Green Vitriol), Kankshi (Alum), Haratala (Orpiment), Manahshila (Realgar), Anjana and Kankustha.

3. **Sadharana Rasa** – Kampillaka, Gauri pashana (Arsenic oxide), Navasadara (Ammonium chloride), Kaparda (Cowry), Agnijara, Giri Sindura (Red oxide of Hg), Hingula (Red Cinnabar) and Mriddara shringa (Litharge).

4. **Dhatu** -Swarna (Gold), Rajata (Silver), Tamra (Copper), Loha (Iron), Vanga (Tin), Naga (Lead), Yashada (Zinc), Kamsya (Bronze), Pittala (Brass), Vartaloha. Dhatu -graha sambandha.

5. **Ratna** - Manikya (Ruby), Mukta (Pearl), Pravala (Coral), Tarkshya (Emerald), Pushparaga (Topaz), Vajra (Diamond), Nilam (Sapphire), Gomeda (Zircon or Cinnamone stone), Vaidurya (Cats eye). Ratnapariksha, Ratnadosha, Ratna-graha sambandha.

6. **Uparatna-** Vaikranta (Tourmaline), Suryakanta (Sun stone), Chandrakanta (Moon stone), Rajavarta (Lapis lazuli), Perojaka (Turquise), Sphatikamani (Quartz), Trinakanta, Palanka, Putika, Rudhir.

7. **Sudha varga –** Sudha (Lime stone), Kaparda (Cowries), Shukti (Oyster Shell) , Shankh (Conch Shell), Mriga shringa (Stag horn), Khatika, Godanti (Gypsum) and Samudraphena (Cattle Fish bone), Kukkutanda twak (Hen's Egg Shell).

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8. **Sikata varga -** Sikata (Silica), Dugdhapashana (Talc), Nagapashana / Jaharmohara (Serpentine), Badarshama (silicate of lime), Vyomashma (Sangeyashab - Jade), Kousheyashma (Asbestos) and Akika (Agate).

9. **Kshara varga** - Sarja kshara (Sodium bicarbonate), Yava kshara, Tankana kshara (Borax), Surya Kshara (Potassium Nitrate).

10. **Miscellaneous** - Mandura, Bola, Dam-ul Akhawayan (Raktabandhini), Kasturi, Bhoonag, Mayurpiccha, Sarjarasa, Madhoocchishta.

11. **Visha and Upavisha-**Introduction, collection and storage, classification, synonyms, shodhana, antidote, therapeutic and toxic doses, anupan, therapeutic uses, and formulations of following Visha and Upavisha-Vatsanabha, Kuchala, Jayapala, Dhattura, Bhanga, Bhallataka, Gunja, Arka, Snuhi. Langali, Karaveera, Ahiphena and Chitrakmool.

12. **Aushadhi Yoga Gyanam- ingredients, manufacturing process, and bheshajprayogvidhi.** Arogya Vardhini Gutika, Kasturibhairava Rasa, Kumara Kalyana Rasa, Garbhapala Rasa, Chandraprabha Vati, Chandramrita Rasa, Pratapalankeshwara Rasa, Pravalapanchamrita Rasa, Anandbhairava Rasa, Yogendra Rasa, Laxmivilas Rasa, Vasantakusumakara, Vasantamalati Rasa, Brihat Vata Chintamani Rasa, Shankha vati, Shwaskuthara Rasa, Hinguleswara Rasa, Hemagarbhapottali, Hridyarnava Rasa, Swarnavanga, Makaradhwaja, Putapakwavaisham Jwarantaka Loha, Vatvidhvamsan Rasa, Kamadugha Rasa, Laghusutshekhar Rasa, Navayasa Loha, Saptamrita Loha, Tamra Parpati, Panchamrita Parpati, Sveta Parpati.

13. **Introduction to** pharamcovigilance and its status in India, with reference to Ayurvedic drugs.
    A) Necessary to know – From part A and B : S. No. 1 to 9
    B) Desired to know – From part B : S. No. 10

Practical **100 Marks**

Minimum Twenty five practicals to be performed

1.	**Rasa [Parada]**	Samanya Shodhana of Parada Kajjali Mugdha rasa
2	**Maharasa varga**	Shodhana of Abhraka Dhanyabhraka nirmana Shodhana of Makshika Shodhana of Shilajatu Shodhana of Sasyaka.
3.	**Uparasa varga**	Shodhana of Gandhaka Shodhana of Gairika

		Shodhana of Kasisa
		Shodhana of Kankshi
		Shodhana of Haratala
		Rasa manikya nirman
		Shodana of Manashila
4.	**Sadharana rasa varga**	Shodhana of Hingula
		Sodhana of Navasadar
		Shodhana of Kapardika
5.	**Sudha Varga**	Shodhana of Shankha
		Shodhana of Shukti
		Shodhana of Pravala mula
		Shodhana of Godanti
6.	**Dhatu varga**	Samanya Shodhana of Lauha
		Shodhana of Mandura
		Samanya Shodhana of Tamra
		Shodhana of Naga
		Shodhana of Vanga
		Shodhana of Yashada
7.	**Kshara Varga**	Shodhana of Tankana
8.	**Parpati**	Preparation of Rasaparpati, Bola Parpati and Swetaparpati
9.	**Visha varga**	Shodhana of Vatsanabha, Bhallataka, Kupilu, Dhattura beeja, Jayapala, Gunja, Chitrakamoola.

PRACTICAL FOR DEMONSTRATION / GROUP PRACTICALS

1. Hingulad rasakrishti (Hingulottha Parada).

2. Bhasma: 4 (One from each group)
   - i. Abhraka bhasma, Swarna Makshika bhasma, Tamra bhasma
   - ii. Vanga bhasma, Naga bhasma, Yashada bhasma
   - iii. Mandura bhasma, Kasisa bhasma
   - iv. Shankha bhasma, Kapardika bhasma, Godanti bhasma.

3. Pishti : 1 Pravala pishti, Jaharmohara / Akika pishti, Trina kantha mani pishti, Mukta pishti.

4. Druti : 1 Gandhaka druti.

5. Formulations 4 (one from each group)
   - i. Rasasindura, Swarna vanga, Sameer pannaga rasa
   - ii. Saptamruta lauha, Punarnava mandura, Navayasa lauha
   - iii. Agnitundi vati, Tribhuvana kirti rasa, Sootshekhara rasa, Laghusutashekhara Rasa
   - iv. Arogyavardhini vati, Laghumalinivasanta rasa, Hinguleshwar rasa, Anandbhairav rasa, Rajapravartini vati

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BHAISHAJYAKALPANA

Paper II **100 Marks**

Part A **50 Marks**

1. **History and Chronological (kramika vikasa) development** of Bhaishajyakalpana. Concept of Aushadha and Bheshaja.

2. **Fundamental principles of Bhaishajya Kalpana.**

3. **Study of Ancient and Contemporary systems of 'Maana' (Units of measurement), Shushka -ardra –drava- dravya grahan niyam (**Rules of measures of dry, fresh, liquid drugs); Grahyagrahyatva, Nava Puran dravya grahan niyam.

4. Guidelines and Methods of collection, storage, preservation of Aushadhi dravya. Concept of Saviryatavadhi (shelf life) and stability in ancient and contemporary science.

5. **Bheshajprayogavidhi : Aushadha Matra, Anupana and sahapan and Aushadh sevan kaala. (Posology).**

6. **Panchavidha kashaya kalpana and Other kalpana :** Kashaya Yoni, Swarasa, Kalka, Kwatha, Hima and Phanta, Pramathya, Aushadha siddha paniya, Tandulodaka, Laksha rasa, Mantha, Panaka, Arka, Churna, Rasakriya, Ghana, Phanita, Avaleha, Prasha, Gudapaka, Sharkara, Syrups, Ksheerapaka, Satva, Guggulu kalpana, Vati, Guti, Pinda, Modaka, Varti Preparation of Tablets, pills, capsule and Suppositories. Masi kalpana, Lavana kalpana, Kshara kalpana and Kshara sutra.

7. **Introduction and general knowledge of useful instruments/ Equipments -** Disintegrator, Mixer, Grinder, End Runner, Edge Runner, Sieve-Shaker, Granulator, Tableting machine, Pill making machines, coating and polishing pan, capsule filling machine, sieves and mesh.

8. **Sneha kalpana :** Sneha yoni, Types of Sneha, Sneha murchana vidhi, Sneha paka vidhi, patra paka, types and their use. Sneha siddhi lakshana, dose, Preparation and uses of Triphala Ghrita, Bramhighrita, Narayana taila, Anutaila.

9. **Sandhana Kalpana and its types:** Madya Kalpana, Asava, Arishta, Sura (Prasanna - Kadambari - Medaka - Jagala - Bakkasa), Maireya, Surasava, Shukta, Kanjika, Sauviraka, Tushodaka, Sidhu kalpana their methods of preparation, siddhi lakshana, properties, uses, doses. Takrarishta, Draksharishta, Ashokarishta, Dashamoolarishta, Kumaryasava, Chandanasava.

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10. **Kritanna and Aushadhisiddha anna Kalpana:** Definition of Kritanna, Concept of Pathya and Apathya, Yavagu –types of yavagu, Manda, Peya, Vilepi, Anna, Bhakta, Odan, Yush -types, Krishara, Mansa rasa, Vesavara, Khad Kamblika, Raga, Shadava, Dadhi and Takra Varga – Takra, Udasvita, Katvar, Mathita, Chhachika.

PART B

1. **Bahyopacharartha kalpana (External Applications)-Lepa** -Types of Lepa, methods of preparation and mode of application. Udvartan and Avachurnan, Method of preparation of Siktha Taila, Malahara – Sarjarasa Malahara, Gandhak Malahara, Upanaha, Atasi upanaha, Shatadhouta and Sahastradhouta Ghrita. Brief introduction of semi solid dosage forms- Ointments, Creams, Emulsions, Gels, Lotions.

2. **Principles and precautions for preparation of formulations for following**:
   - **2.1 Netraupacharartha kalpana (Opthalmic preparations)** – Seka, Drava, Pindi, Anjana - Ashchyotana - Tarpana - Putapaka and Vidalaka, Methods of preparation of eye drops, eye ointments.
   - **2.2 Nasyopacharartha Kalpana** - Classification of Nasya, Navana, Avapidana, Pradhaman, Marsha and Pratimarsha nasya.
   - **2.3 Dhumapanarth kalpana** - Classification of dhumpaan, Method of preparation of dhumvarti and it's therapeutic uses. Dhupan: Vranadhupan, arshodhupan.
   - **2.4 Mukhaprayogarth kalpana** - Gandoosha - Kavala - Pratisaran, Tooth paste, Tooth powders and Mouth wash.
   - **2.5 Basti kalpana**- Classification, Method of preparation of Niruha and Anuvasana, Basti Therapeutic properties and uses of Basti.

3 Brief knowledge of Standardization of Ayurvedic formulations- Kasthaushadhi.

4 Brief introduction of Drug and Cosmetics Act 1940 and Rules 1945.

5 Concept of, Aushadhi Nirmanshala, with respect to Good Manufacturing Practices (GMP) in accordance to Schedule T.

Practical Bhaishajya Kalpana **50 Marks**

Following practicals to be performed- (Minimum one from each category)

Method of preparation, therapeutic uses, dose and anupana of the following

1. Swarasa- Ardraka swarasa, Tulasi swarasa, Kumari Swarasa, Vasa putapaka swarasa
2. Kalka- Nimba kalka, Rasona kalka.
3. Kwatha- Punarnavasthaka kwatha, Rasna Sapthaka kwatha, Kulattha kwath.
4. Hima- Dhanyaka hima, Sarivadi hima .
5. Phanta- Panchakola phanta,Yastimadhu Phanta.

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6. Pramathya- Mustadi pramathya
7. Mantha- Kharjuradi mantha
8. Aushadh siddha paniya- Shadanga paniya
9. Laksha Rasa.
10. Arka - Yavani arka, Gulab arka, Misreya arka
11. Panaka- Chincha panaka, Chandan panaka.
12. Sharkara- Banapsha sharkara, Nimbu sarkara.
13. Churna- Sitopaladi Churna, Hinguwashtaka Churna.
14. Gutika- Chitrakadi Gutika, Sanjivani Vati.
15. Guggulu-Triphala Guggulu, Kaishora Guggulu.
16. Avaleha- Chyavanaprashavaleha, Vasavaleha, Vyaghri Haritaki avaleha, Manibadra avaleha.
17. Rasa kriya - Darvi Rasakriya, Guduchi Ghana, Kutaja Ghana.
18. Khanda- Haridra khanda, Narikela khanda, Sowbhagya shunti paka
19. Satva- Amruta satva,
20. Varti- Phala varti, Chandrodaya varthi
21. Lavana- Arka lavana, Narikela lavana
22. Masi- Triphala masi, Mayurpiccha Masi
23. Ksheerapaka- Arjuna ksheerapaka, Rasona ksheerapaka, Shunthi Ksheerpaka
24. Kshara- Apamarga kshara, Snuhi kshara, Ksharasutra. .
25. Manda, Peya, Vilepi, Yavagu, Krishra, Vesavara
26. Yusha - Mudga yusha, Saptamushtika yusha, Kulattha yusha
27. Aristha- Kutajarishta, Takrarishta .
28. Asava - Kumaryasava, Kanakasava
29. Sukta kalpana- Kanji
30. Udaka- Tandulodaka
31. Upanaha- Atasi Upanaha
32. Siktha Taila Nirmaan
33. Malahara- Sarjarasa malahara, Gandaka malahara, Cream, Emulsion. Sneha Kalpana

Sneha Murchhana - Ghrita Murchana, Taila Moorchhana, Ghrita kalpana: Jatyadi ghrita, Triphala ghrita, ksheerashatphala ghrita- Taila kalpana-Panchaguna taila,Arka taila, Bala taila,Jatyadi taila

35. Taila patana- Bhallataka taila patana, Jayapala taila patana
36. Shodhana- Guggulu, Hingu.

II. Visit of minimum three GMP approved Ayurvedic manufacturing units.

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Distribution of Practical Marks: Total 200 Marks

Rasashastra - 100

1. Record Book - 10 Marks
2. Experiment - 30 Marks
3. Spotting - 20 Marks
4. Viva-voce - 40 Marks

Bhaishajyakalpana - 100

1. Record Book - 10 Marks
2. Experiment - 30 Marks
3. Spotting - 20 Marks
4. Viva-voce - 40 Marks

Reference Books

1. Adyatan Rasa Shastra	R.K. Goyal
2. Abhinav Rasa Shastra	Vaidya Somadev Sharma
3. Asava Arishta Vigyanam	Dr. Pakshdhar Jha
4. Ayurvediya Rasa Shastra (Sachitra)	Chandrabhusan Jha
5. Ayurvediya Rasa Shastra	Badrinarayan Pandey
6. Rasa Bhaishajya Paribhasa	Sureshananda Thapaliyal
7. Ayurvediya Rasa Shastra	Prof. Siddhi Nandan Mishra
8. Ayurved Prakash	Vaidya Gujrat Mishra
9. Drugs and Cosmetic Act - 1940	
10. Paka Darpana	Dr. Indradev Tripathi
11. The Paka-darpana of King Nala	Dr. Madhulika critical study
12. Parada Vigyaniyam	Vasudev M. Dwivedi
13. Pratyaksha Aushadh Nirmanam	Acharya VishwanathDwivdei
14. Bhaishjyakalpana Vigyanam	Dr. Agnihotri
15. Rasa Tarangini	Sadanand Sharma
16. Rasa Darpan	Prof. Bhajan Das Swami
17. Rasa Bindu	Dr. Sanjay Sharma
20. Rasa Bhaishajya Kalpana Vigyan Vaidya	Santosh Kumar Khandal
21. Rasa Mitra	Dr. Tryambak Nath Sharma
22. Rasa Ratna Samuchchaya (Hindi)	Dattattreya Ananta Kulkarni.
23. Rasaratna samuchchaya-	Ambikadatta shastri
24.Rasaratna samuchchaya -	Damodar Joshi

25. Rasa Shastra Prayogiki Srivastava,	Yadav and Prof. Ramesh Saxena
26. Rasamritam	Vaidya Yadavji Tirkramji Acharya
25. Rasayan Sara	Vaidya Shyam Sunderacharya Vaishya
26. Rasendra Sampradaya	Vaidya Hajari Lal Sukul
27. Rasendra Sara Sangraha	Vaidya Gopal Krishna
29. Vaidyak Paribhasha Pradeep (Hindi Translation)	Dr. Indradev Tripathi
30. Sharangadhara Samhita	Dr. Radhakrishna Parashar
31. Bharatiya Bhaishajya Kalpana Vigyana	Gananath Vishwanath Dwivedi
32. Bhaishajya Kalpana Vijnanam	Dr. K Ramachandra Reddy
33. Rasa Shastra (English)	Prof. Damodar Joshi
34. Rasa Ratna Samuchchaya (English)	Prof. Damodar Joshi
35. Rasendra Chintamani (Hindi)	Prof. Siddhinandan Mishra
36. Ayurvedic formulary of India	
38.Ayurvedic Pharmacopiea of India , CCRAS	
39. Bhaishjya Kalpana Vigyan	Siddhi Nandan Mishra
40. Textbook of Rasashasra	Dr. K Ramachandra Reddy.
41. Ashadhayoga Vigyanam	Dr. K. Ramachandra reddy
42. Vaidyaka Paribhasha Pradipa (Enlgish Translation)	Dr. K. Ramachndra Reddy & Dr. P. Suresh
43. Relevant parts of Brihatrayee	
44.Text book of Bhaishjya Kalpana -	Dr Shobha G Hiremath
45. Text Book of Rasa Shastra	Dr P H C Murthy
46.Rasa Chandashu	Prof S S Savirkar (CCRAS Publication)
47 .Bhaishjya Ratnawali	Prof S N Mishra
48 Yoga Ratnakar	

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2.K.C

2.4 CHARAKASAMHITA -PURVARDHA

(Sutrasthana, Nidanasthana, Vimanasthana, Sharirasthana and Indriyasthana)

Theory- One Paper– 100 Marks
Lectures – 200 Hours

Part A

1.	Sutrasthana	-	40 Marks
2.	Indriyasthana	-	10 Marks

Part B

1.	Nidanasthana	-	15 Marks
2.	Vimanasthana	-	20 Marks
3.	Sharirasthana	-	15 Marks

Reference Books

1. Charakasamhita –Ayurveda Dipika commentary by Chakrapani.
2. Charakasamhita (Hindi Commentary): Vaidya Jayadev Vidyalankar or Vd. Atridev Vidyalankar or Prof. Gorakha Nath Chaturvedi & Kashinath Shastri or Dr. Brahmanand Tripathy or Dr. Ravi Dutta Tripathy
3. Charakasamhita (English Commentary): Dr. Ram Karan Sharma & Vd. Bhagwan Dash or Acharya Priyavrata Sharma.
4. Charakasamhita-Ayurveda Dipika Commentary-Hindi Translation by Dr. B L Gaur, published by Rashtriya Ayurved Vidyapeeth.

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