NATIONAL INSTITUTE OF AYURVEDA

DEEMED TO BE UNIVERSITY

SCREENING TEST

FOR ADMISSION

INTO M.SC. (Saundarya Ayurveda and Marma Chikitsa Kreeda Bheshaj) COURSES

Proposed Scheme of Question Paper for Screening Test :

S No.	Subject (Syllabus Given Below)	Number of Questions	Marks
PART A			
1	BAMS / BHMS/ BSMS/MBBS/ BYNS/BPT/BDS (Separate Sets of Question Paper will be set as per the Candidate's Qualifying Degree)	30	30
PART B			
2	Research Methodology & Biostatistics	5	5
3	General Knowledge & Current Affairs	5	5
4	Computer Applications	5	5
5	Language (English) and Soft Skills	5	5
Total (Part A + Part B)		**50**	**50**

Syllabus for the Screening Test

Part – A

BAMS/BSMS– As per NCISM Prescribed Syllabus/
BHMS – As per NCH Prescribed Syllabus/
MBBS – As per NCM Prescribed Syllabus/
BDS – As per DCI Prescribed Syllabus/
BPT – Click here to download
BYNS – Click here to download

Part – B

RESEARCH METHODOLOGY

1. Introduction to Research, Definition of the term research, Definition, Scope and need of Interdisciplinary Research in the field of Ayurveda .
2. General guidelines and steps in the research process Selection of the research problem, Literature review: different methods (including computer database) with their advantages and limitations, Defining research problem and formulation of hypothesis, Defining general and specific objectives, Research design: observational and interventional, descriptive and analytical, preclinical and clinical, qualitative and quantitative, Sample design, Collection of the d, Analysis of data, Generalization and interpretation, evaluation and assessment of hypothesis, Ethical aspects related to human and animal experimentation, 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. Scientific writing and publication skills Familiarization with publication guidelines- Journal specific and CONSORT guidelines, Different types of referencing and bibliography, Thesis/Dissertation: contents and structure, Research articles structuring: Introduction, Methods, Results and Discussions (IMRAD)
4. Literary Research – General Concepts and methology.
5. 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).
6. Safety aspects: Protocols for assessing acute, sub-acute and chronic toxicity studies. Familiarization with AYUSH guidelines (Rule 170), CDCSO and OECD guidelines.
7. 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
8. 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.
9. 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.

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

10. Introduction to bioinformatics, scope of bioinformatics, role of computers in biology. Introduction to Data base- Pub med, Medlar and Scopus. Accession of databases. Intellectual Property Rights- Different aspect and steps in patenting. Information on Traditional Knowledge Digital Library (TKDL).

MEDICAL STATISTICS

1. Definition of Statistics : Concepts, relevance and general applications of Biostatistics in Ayurveda Collection, classification, presentation, analysis and interpretation of data (Definition, utility and methods)

2. 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, Measures of Central tendency – Mean, Median and Mode.

3. Variability: Types and measures of variability – Range, Quartile deviation, Percentile, Mean deviation and Standard deviation

4. Probability: Definitions, types and laws of probability,

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

6. Fundamentals of testing of hypotheses: Null and alternate hypotheses, type I and type 2 errors.

7. 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

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

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

10. 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.

11. 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.

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

13. Familiarization with the use of Statistical software like SPSS/Graph Pad

English Language

Tenses, Nouns, Pronouns, Adjectives, Verbs, Articles, Figures of speech, Proverbs, Adverbs, Genders, Numbers (Singular & Plurals), Prepositions, Conjunctions, Word meanings, Spot the Error, Fill in the Blanks, Synonyms, Homonyms, Antonyms, Spellings/ Detecting misspell words, Idioms & Phrases, One word substitution, Improvement of Sentences, Active/ Passive Voice of Verbs, Conversion into Direct/ Indirect Narration.

General Knowledge and Current Affairs

Questions will test the candidate's general awareness of the environment around him and its application to society. Questions will also test knowledge of current events and of such matters of everyday observation and experience in their scientific aspect as may be expected of an educated person. The test will also include questions relating to India and its neighboring countries especially pertaining to Sports, History, Culture, Geography, Economic Scene, General policy and scientific research.

Computer

Knowing computer : What is Computer, Basic Applications of Computer; Components of Computer System, Central Processing Unit (CPU), VDU, Keyboard and Mouse, Other input/output Devices, Computer Memory, Concepts of Hardware and Software; Concept of Computing, Data and Information; Applications of IECT; Connecting keyboard, mouse, monitor and printer to CPU and checking power supply. Operating Computer using GUI Based Operating System: What is an Operating System; Basics of Popular Operating Systems; The User Interface, Using Mouse; Using right Button of the Mouse and Moving Icons on the screen, Use of Common Icons, Status Bar, Using Menu and Menu-selection, Running an Application, Viewing of File, Folders and Directories, Creating and Renaming of files and folders, Opening and closing of different Windows; Using help; Creating Short cuts, Basics of O.S Setup; Common utilities. Understanding Word Processing and M. S. Office: Word Processing Basics; Opening and Closing of documents; Text creation and Manipulation; Formatting of text; Table handling; Spell check, language setting and thesaurus; Printing of word document. Understanding of components of M.S. Office, M.S. word, M.S. excel sheets, M.S. power point etc. Using Spread Sheet: Basics of Spreadsheet; Manipulation of cells; Formulas and Functions; Editing of Spread Sheet, printing of Spread Sheet. Introduction to Internet, WWW and Web Browsers: Basic of Computer networks; LAN, WAN; Concept of Internet; Applications of Internet; connecting to internet; What is ISP; Knowing the Internet; Basics of internet connectivity related troubleshooting, World Wide Web; Web Browsing software, Search Engines Understanding URL; Domain name; IP Address; Using e-governance website Communications and collaboration: Basics of electronic mail; Getting an email account; Sending and receiving emails; Accessing sent emails; Using Emails; Document collaboration; Instant Messaging; Netiquettes. Making Small Presentation: Basics of presentation software; Creating Presentation; Preparation and Presentation of Slides; Slide Show; Taking printouts of presentation / handouts.