## CENTRAL COUNCIL OF INDIAN MEDICINE

NEW DELHI

SYLLABUS FOR POST – GRADUATE COURSE IN AYURVED

### Preliminary Examination

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<td>64-65</td>
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</tbody>
</table>
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 tantrayukt

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 koshta.

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:
   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).

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 & Retrospective 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.


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**PART-B**

**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 1 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, Kruskal – 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 coefficient, 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: 10 marks
4. Research methodology 10 marks
5. Medical statistics 10 marks
6. Viva-Voce 40 Marks

REFERENCE BOOKS:

Pharmacognosy:

2. Drug Survey by Mayaram Uniyal
6. Tresser GE and Evans WC, Pharmacognosy, Bailliere Tindall, Eastbourne, U.K.

Pharmaceutical chemistry, quality control and drug standardization:

14. Srivastav VK and Shrivastav KK. Introduction to Chromatography (Theory and Practice)

Biochemistry and Laboratory techniques:

1. Asokan P. (2003) Analytical Biochemistry, China publications,
6. Harold Varley.  Practical Clinical Bio-chemistry
8. GradWohl, Clinical Laboratory-methods and diagnosis, Vol-I
10. Satyanaryanayan,U. Essentials of Biochemistry, Books and allied(P) Ltd.2002
Research methodology:
2. Ayurvediya Anusandhan Paddhati – P.V. Sharma
12. Relevant portions of Ayurvedic Samhitas and other texts

Drug research and development:
14- Ravindran R.: X-Pharm (Software), Indian Journal of Pharmacology, JIPMER, Pondicherry.

Biotechnology and Bio-informatics:
5. Satyanarayana, U.: Biotechnology, Books and Allied (P) Ltd, Kolkata, 2005
7. http://www.ilab.ac.in/~crnts
10. www.consort-statement.org
11. www.strobe-statement.org
12. www.icmr.nic.in

Clinical Evaluation:
Medical Statistics:

4. Bradford Hill – Basic Medical Statistics
8. Indrayan. (2008). Basic Methods of Medical Research. AITBS Publishers- India
13. Suhas Kumar Shetty- Medical statistics made easy

***********
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 Purusha, Ek Dhatu Purusha. Relevant principles described in the Sharirasthan of Sushrut Samhita, Charak Samhita, Ashtang Sangrah and Ashtang Hridaya.
2. Basic principles of Garbha Sharira in Ayurveda: Definitions of Garbha, Shukra Shonita Siddhanta, Dauhrida, Matrijadi Garbhhotpattikar bhava.

PART-B
50 marks

1. Types of tissues, histological study of liver, spleen, uterus, kidney, endocrine glands, mammary gland, skin, tongue, lungs, bronchi, bones, muscles, cartilages and nervous tissue.

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 Sharira.
### PRACTICAL

<table>
<thead>
<tr>
<th>Practical study of bones</th>
<th>20 Marks</th>
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<td>Practical study of surface and radiological anatomy</td>
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<td>Shava Vichhedana – detailed dissection of the whole body</td>
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<td>Demonstration of histology slides (10 slides)</td>
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### Reference Books:

1. Relevant matters of Brihatrayee and Laghutrayee
2. Pratyaksha Shariram
3. Abhinava Shariram
4. Parishadyam Sabdartha Shariram
5. Brihat Shariram
6. Shiva Samhita
7. Gray’s Anatomy
8. Human Anatomy
10. Developing Human
11. Clinically oriented Anatomy
12. Clinically oriented Neuro Anatomy
13. Surface and Radiological Anatomy
14. Grant’s Methods of Anatomy
15. Grant’s dissector
16. Human Embryology
17. Ayurvediya Human Anatomy

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### M.D.-AYURVEDA PRELIMINARY

#### 3. KRIYA SHARIR (Physiology)

#### PAPER-II

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<td>PART-A 50 marks</td>
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1. Theory of Loka-Purusha Samya
2. Theory of Panchamahabhuta
3. Physiological aspects of Samanya – Vishesha siddhanta
4. Concepts of Tridosh and Triguna
5. Concept of Dhatu
6. Concept of Mala
7. Description of Ojas
8. Process of Ahara Parinama including Ahararparinamakara Bhava and Asta Ahara Vidhi Visesayatana
9. Physiological importance of Agni, its classification and functions
10. Dhatuposana theories
PART-B

50 marks

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

1. Essentials of cell physiology – organization of cell.
3. Homeostasis- negative and positive feedback mechanisms.
5. Essentials of cardiovascular physiology- cardiac cycle, regulation of heart rate and blood pressure.
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 functions, functions of brain, brainstem and spinal cord.
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, pineal, pancreas and their functions.

Study of male and female reproductive system: functions of reproductive hormones.

PG 1st Year Syllabus-15

PRACTICAL

100 marks

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. Prakriti Dosha Vigyana - Acharya Niranjana Dev
8. Tridosha Vigyana - Acharya Niranjana Dev
9. Sharirra Tatva Darshana - Hirlekar Shastri
10. Prakriti Agni Vigyan - Niranjana Dev
12. Sharir Kriya Vigyana (Part 1-2) - Acharya Purnchandra Jain
13. Sharir Kriya Vigyana - Shri Moreswar Dutta Vd.
14. Sharira Kriya Vijnana (Part 1-2) - Nandini Dhargalkar
15. Dosha Dhatu Mala Vigyana - Basant Kumar Shrimalk
### Syllabus

16. Abhinava Sharir Kriya Vigyana - Dr. Shiv Kumar Gaur
17. Pragyogik Kriya Sharir - Acharya P.C. Jain
18. Kaya Chikitsa Parichaya - Vd. Bhagwan Das
19. Concept of Agni - Acharya V.J. Thakar
20. Purush Vichaya - Prof. Yogesh Chandra Mishra
21. Kriya Sharir - Prof. Jayaram Yadav & Dr. Sunil Verma
22. Sharir Kriya Vigyana - Dr. Sikant Kumar Panda
23. Basic Principles of Kriya-Sharir (A treatise on Ayurvedic Physiology) by - Dr. Ranade, Dr. Deshpande & Dr. Chobhe
24. Human Physiology in Ayurveda - Dr. R.R. Deshapande, Dr. Wavhal
25. Sharirkriya Vignyan Practical Hand Book - Dr. R.G. Deshapande, Dr. Chobhe
26. Sharir Kriya Part 1 & 2 - Dr. Ranade, Dr. Deshpande & Dr. Chobhe
27. Textbook of Physiology - Gyton & Hall
28. Review of medical physiology - William Ganong
29. Essentials Of Medical Physiology - Sembulingam, K.
30. Concise Medical Physiology - Chaudhari, Sujit. K.
31. Fundamentals of Anatomy & Physiology - Tortora & Grabowski
32. Human Physiology - Richards, Nocock
33. Samson Wrights Applied Physiology, Keele, Neil, Joels
34. Brainstem Control of Wakefulness And Sleep - Steriade, Mirce
35. Pharmacognosy and its relevance in Dravyaguna Vigyan - Green, J.h.
36. Integrated study of Charakokta Bheshaj pariksha and scientific method of drug evaluation with special reference to quality, safety and efficacy - Indu Khurana
37. Brief knowledge and importance of clinical pharmacology - Subrahmany Shastri
38. Knowledge on the Ayurvedic Pharmacopoeia of India, The Formulary of India and international pharmacopoeias - K. Syamalan

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### M.D. - AYURVEDA PRELIMINARY

#### 4. DRAYAGUNA VIGYAN

(Materia Medica & Pharmacology)

**PAPER-II**

<table>
<thead>
<tr>
<th>PART-A</th>
<th>Theory 100 Marks</th>
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<tbody>
<tr>
<td>1. Panchamahabhuta siddhanta, Samanya Vishesha siddhanta, Tridosha siddhanta. Extensive study on classifications of Dravya as described in Brihattrayi.</td>
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<tr>
<td>2. Applied aspects of Rasa, Guna, Virya, Vipaka and Prabhava</td>
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<td>3. Applied aspects of Aushdha karma with reference to Sharngadhara and Bhavaprakasha</td>
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<td>4. Importance of Namarupa vigyan and concept of basonyms and synonyms of Dravyas</td>
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<tr>
<td>5. Applied knowledge of Bhaishajya Prayoga (marga, kalpana, matra, anupana, sevan, kala etc.)</td>
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<tr>
<th>PART-B</th>
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<td>6. Basic principles of Desha pravichara, Dravya sangrahana (collection), Samrakshana (preservation)</td>
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<tr>
<td>7. Evolution of Dravyaguna vigyan with special emphasis on Nighantus</td>
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<td>8. Prashasta bheshaj lakshana</td>
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<td>9. Profound knowledge on applied aspects of Agya aushadha</td>
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<tr>
<td>10. Methodology of studying controversial, pratinitidi (substitute), apamishrana (adulterant) and unidentified dravya</td>
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<tr>
<td>11. Pharmacognosy and its relevance in Dravyaguna vigyan</td>
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<tr>
<td>12. Integrated study of Charakokta Bhesaj pariksha and scientific method of drug evaluation with special reference to quality, safety and efficacy</td>
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<tr>
<td>13. Brief knowledge and importance of clinical pharmacology</td>
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<tr>
<td>14. General principles of various good cultivation practices, collection practices, storage practices and manufacturing practices</td>
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<td>15. Pharmacovigilance and ADR issues</td>
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<tr>
<td>16. Knowledge on the Ayurvedic Pharmacopoeia of India, The Formulary of India and international pharmacopoeias</td>
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**PRACTICAL**

100 marks
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 pharmacoepia 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 phramapoeial 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. Vishivantha Dwivedi
3. Ayurvedya Aushadnkarma vigyana - Acharya V.J. Thakur
4. Bedi Vanaspati Kosh - 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 Kosh - 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
<table>
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<th>No.</th>
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<tr>
<td>21</td>
<td>Forgotten Healers (Indian Medicinal Plants)</td>
<td>Dr. Prakash Pranjape</td>
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<td>22</td>
<td>Glossary of Vegetable Drugs in Bhrityayis</td>
<td>Thakur Balwant Singh &amp; Vd. Krishna Chandra Chunekar</td>
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<td>23</td>
<td>Introduction to Dravyaguna</td>
<td>Acharya Priyavrata Sharma</td>
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<tr>
<td>24</td>
<td>Kriyamak Aushadi Parichaya</td>
<td>Acharya Pt. Vishvanath Dwivedi</td>
</tr>
<tr>
<td>25</td>
<td>Materia Medica</td>
<td>Acharya Ghosh</td>
</tr>
<tr>
<td>26</td>
<td>Nighantu Adarsh (Vol. 1-2)</td>
<td>Vd. Bapa Lal</td>
</tr>
<tr>
<td>27</td>
<td>Pharmacological basis of Medical Practice</td>
<td>Goodman &amp; Gillman</td>
</tr>
<tr>
<td>28</td>
<td>Pharmacology and Pharmacotherapeutics</td>
<td>Satoskar Bhandarkar &amp; Ainapure</td>
</tr>
<tr>
<td>29</td>
<td>Prayogatamaka Dravyaguna Vigyana</td>
<td>Dr. Maya Ram Uniyal</td>
</tr>
<tr>
<td>30</td>
<td>Priya nighantu</td>
<td>Acharya Priyavrata Sharma</td>
</tr>
<tr>
<td>31</td>
<td>Raspanchaka/Dravyaguna Siddhanta</td>
<td>Prof. Shivcharan Dhyani</td>
</tr>
<tr>
<td>32</td>
<td>System of Plant Nomenclature in Ayurveda</td>
<td>Dr. Gyanendra Panday</td>
</tr>
<tr>
<td>33</td>
<td>Text Book of Pharmaconogy</td>
<td>Trees &amp; Valis</td>
</tr>
<tr>
<td>34</td>
<td>Textbook of Dravyaguna</td>
<td>Dr. K. Nishteswar</td>
</tr>
<tr>
<td>35</td>
<td>Unani Dravyaguna Vigyana</td>
<td>Hakim Daljeet Singh</td>
</tr>
<tr>
<td>36</td>
<td>Useful parts of Charaka, Sushurut, and Vagbhata.</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>Uttarakand Ki Vanaspatiya</td>
<td>Dr. Gyanendra Pandey</td>
</tr>
<tr>
<td>38</td>
<td>Vanoashadhi Darshika</td>
<td>Thakur Balwant Singh</td>
</tr>
<tr>
<td>39</td>
<td>Vanoashadhi Nidarshika</td>
<td>Dr. Ram Sushil Singh</td>
</tr>
<tr>
<td>40</td>
<td>Vedic Vanaspatiyan</td>
<td>Dr. Dinesh Chandra Sharma</td>
</tr>
<tr>
<td>41</td>
<td>Pharmacopia of India – all the volumes</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>Database on medicinal plants all the volumes of CCRAS</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>Ayurveda formulary of India – all the volums</td>
<td></td>
</tr>
<tr>
<td>44</td>
<td>All the nighantoos</td>
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<tr>
<td>45</td>
<td>Laghutrayi</td>
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</tr>
</tbody>
</table>

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

PAPER-II  
Theory 100 marks

PART-A  
50 marks

1. Fundamental principles of Rasa Shastra and Bhaishajya Kalpana, introduction to Rasachikitsa, Ashuddha and Apakwa Bhasma-sevan Dosha and its management, introduction to Aushadha Sevan Kaal and Prayoga Marga (routes of 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 and 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 Practices (GMP).
7. Critical study of Rasa Ratnasamuchchaya, Rasendra Chintamani, Rasa Tarangini, Sharngadhara Samhita, Chakradutta and Bharat Bhaishajya Ratnakara with special reference to Aushadha-Nirmana.

PART-B  
50 marks

1. Introduction to methods of analytical, toxicity, experimental and clinical validation of classical and proprietary Ayurvedic formulations.
2. Introduction to new dosage forms.
3. Introduction to advance instruments of analysis like XRD, XRF, SEM-E-Dax, ICP analysis, Chromatography: TLC, gas 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 ‘The Ayurvedic Formulary of India’ (AFI).
5. Introduction to databases of medicinal plants published by CCRAS, ICMR and others.

PRACTICAL  
100 marks

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

Raw Materials
1. Minerals and Metals
   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. Orgnaleptic 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 Pariksha
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

2. 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-1 of D.C.Act-1940.
- All practicals related to Pharmacopoeial Standards should be performed in accordance with Methods Published in Protocol for testing of ASU Medicines and Laboratory Guidelines for the Analysis of Ayurveda & Siddha Formulations published by Deptt. 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, Ashtanga 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 (related 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 marks

PART-A

50 marks

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 and 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, water 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. Vishajanya Janapadodhvamsaniya Roga (community health problems due to poisons) - environmental pollution, water pollution, soil pollution, air pollution etc, their features and management according to ancient and contemporary concepts.

PART-B

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 forensic medicine.
4. Forensic Science Laboratory:- Structure and functions
5. Introduction to Medical Jurisprudence.
7. Ancient and contemporary fundamentals of medical ethics.
8. Diagnosis and Management of food poisoning.
10. Management of the toxic manifestations caused by the contact poisons (paduka, vastra, abhushana, mukhalepa- vishabadha etc).
11. Diagnosis and management of dermatological manifestations of Visha.
12. Death due to poisoning, duty of physician in poisoning and cases of suspected poisoning.
13. Post mortem findings in poisoning.

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. Aushadhinigadharsharma Shastra - Pt Visvanath Dwivedi
4. Kriyatmat Aushada parichaya Vigyan - Pt Visvanath Dwivedi
5. Ayurvedic Vyadhi Vigyan
6. Madhavanand with Madhuikosa commentary
7. Sharangadhara Samhita
8. Yogaratnakara
9. Aushadhinagadharsharma Shastra - Pt Gangadhara Shastri Gune
10. Rasendraacintamani
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. Mithai
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 Jurisprudence and Toxicology
23. The essentials of forensic medicine and toxicology - Dr. K.S. Narayan Reddy
24. Medical Laws and Ethics - Dr. H.S. Mehta
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. Panikh 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. Critical care toxicology - Bruent Wallace
43. Diagnosis and Management of common poisoning - Agarwal wali
44. Colour Atlas of Forensic Medicine - Govindaiah
45. Guidelines of poisons - W.H.O.
46. Doctors patients relationships - Dr. Lavekar
47. Bhavaprakasha.
49. Lakshnamritham.
50. Toxicology, Ayurvedic perspective - VPSV Ayurveda college, Kottakal
51. Text book of Agadatantra - Edited By Dr Huparikar, Dr. Joglekar
52. Agadatantra ki Pathyapustaka - Edited By Dr Huparikar, Dr. Joglekar
53. Vyavahar Ayurveda Vigyanam - Dr. Indramohan Jha (Sachchan)

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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
5. Guidelines of poisons - W.H.O.
6. Doctors patients relationships - Dr. Lavekar
7. Bhavaprakasha.
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)

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M.D.-AYURVEDA PRELIMINARY
7. SWASTHAVRITTA & YOGA
(Preventive, Social Medicine & Yoga)

PAPER-II
Theory 100 marks

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 per Ayurveda and World Health Organization.
3. Relevance of Dinacharya, Ratricharya and Ritucharya in Health Promotion.
4. Basic concept of Vega. Concept of Adharaniya and Dhariyana Vega in health promotion and prevention of diseases with 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.
10. The concept of Ashtanga Yoga and its relation to health. Concept of Moksha.
11. Basic concepts of Nisargopachara including Panchabhautika Chikitsa.

**PART B**

<table>
<thead>
<tr>
<th>Mark</th>
<th>Chapter</th>
</tr>
</thead>
</table>
| 50   | 1. Concept of Janapadodhwamsa and tools of its prevention.  
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.  
11. Role of Swasthavritta in communicable and non-commnicicable diseases and life style disorders.  
12. Biomedical waste management.  

**PRACTICAL**

<table>
<thead>
<tr>
<th>Mark</th>
<th>Activities</th>
</tr>
</thead>
</table>
| 100  | 1. Duty in OPD and IPD with regard to Pathyapathyya, Yoga and Nisargopchar  
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, Ardhamsyendrasana, Siddhasana.  
   - Supine Postures- Pavanamuktasana, Sarvangasana, Matsyasana, Halasana, Chakrasana, Shavasana.  
   - Prone postures- Bhujangasana, Shalbhasana, Dhanurasana, Makarasana. |

**Distribution of marks (Practical)**

<table>
<thead>
<tr>
<th>Mark</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Records</td>
</tr>
<tr>
<td>20</td>
<td>Long Procedures</td>
</tr>
<tr>
<td>10</td>
<td>Short Procedures</td>
</tr>
<tr>
<td>20</td>
<td>Spotting - Aahar dravyas, Family Planning</td>
</tr>
<tr>
<td>10</td>
<td>Devices, Vaccine/Serum and Models/Specimens, Naturopathic and Yogic specimens etc.</td>
</tr>
<tr>
<td>20</td>
<td>Yogasana</td>
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<tr>
<td>20</td>
<td>Viva-voce</td>
</tr>
</tbody>
</table>

**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 -VaidyaPrajesvarDuttaShastry  
3. Swasthaya Vignyana  
   -Dr.B.G.Ghanekarshastry  
4. Prakritika Chiktta  
   -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.
### M.D. - AYURVEDA PRELIMINARY

#### 8. ROGA NIDANA AVUM VIKRITI VIGYAN

**(Pathology and Diagnostic Procedure)**

**PAPER-II**

<table>
<thead>
<tr>
<th><strong>PART-A</strong></th>
<th><strong>50 marks</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Understanding of Samprapti of diseases in Charaka Nidana Sthana in contemporary context</td>
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<tr>
<td>2. Clinical aspects of Dosha, Dhatu, Upadhatu, Mala, Agni, Ama, Srotas and Indriya</td>
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<tr>
<td>3. Understanding of the role of Trividha Avasthapaka in the vitiation of Dosha</td>
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<tr>
<td>4. Concept of Nanatmaja and Samanyaja Vikara</td>
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<tr>
<td>5. Clinical application of Avarana in diagnosis of various diseases</td>
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<tr>
<td>7. Clinical and applied aspects of concept of Upadrava and Arista</td>
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<thead>
<tr>
<th><strong>PART-B</strong></th>
<th><strong>50 marks</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ayurvedic interpretation of various laboratory investigations to derive treatment principles.</td>
<td></td>
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<tr>
<td>2. Interpretation of various Rogi Bala and Roga Bala technique to plan Chikitsa Sutra</td>
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<tr>
<td>3. Clinical examination of Deha Bala, Roga Bala, Agnibala And Chetas Bala</td>
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<tr>
<td>4. Knowledge of current diagnostic tools like ECG, X-Ray, CT scan, MRI and USG</td>
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**PRACTICAL**

**100 marks**
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 - 20 Marks
3. Long case - 10 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. Doshakarana 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. Vyadhi Vigyan I and II - Yadav Thrikamji
10. Ayurvediya Nidan Evum Chikitsa Ke Siddhanta - Prof. Ram Harsh Singh
13. Oxford Handbook of Clinical Examination and Practical Skills
14. Symptoms & Signs in Clinical Medicine - Chamberlains
15. Bedside Clinics in Medicine Part- I & II - Kundu
16. Practical Pathology - Dr. K. Uma Chaturvedi
17. Medical Laboratory Technology - R. Sood
18. 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

PART A

Theory- 100 marks

PART B

50 marks

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 hospital 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.
PART B
50 marks

10. Management of Chhaya avum Vikiran Vigyan department. Relation between consultant, student, technical staff, patients (with their attendants).
11. Basic concept of research methodology related to Chhaya avum Vikiran Vigyan.

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.
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.
13. Record keeping.
14. Documentation, books and journals, research paper writing.

PRACTICAL
100 marks

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.
Radiology of the Radiologist - By Hail.Christensen’s Physics of Diagnostic Radiology
Thomson.
Radiographic positioning - By Curry T S , Dowdey J E
Radiobiology for the Radiologist - By Brant.
Fundamental of Diagnostic Radiology - 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 Imaging -Text book of medical
Introduction to Vascular Ultrasonography - By Zwiebel , Pellerito
Text Book in Radiology and Imaging - By D. Sutton.
Text book in Ultrasonography - By Roumack
M.D.-AYURVEDA PRELIMINARY
10. KAYACHIKITSA
(General Medicine)

PAPER-II
Theory- 100 marks

PART A
50 marks


4. Introduction of the basic principles of modern medicine, Homeopathy, Unani, Siddha, Tibetan Medicine, Yoga and Naturopathy and their relevance in light of the basic principles of Ayurvedic medicine.

PART B
50 marks


2. Emergency medicine: Acute Severe Asthma, pulmonary oedema, myocardial infarction, cerebro-vascular accidents, water and electrolyte imbalance, hypothermia, syncope, seizure, coma, hyperpyrexia, hyperpigmentation, Uric acid nephropathy, Myocardial infarction.

3. Knowledge of conducting various medical procedures like infusions, tapping, lumbar puncture, Ryle’s tube insertion, catheterization, tractions, water seal drainage, Cardio Pulmonary Resuscitation.

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:
   - Guggula-Kalpana: Triphalaguggula, Kaishoraguggula, Trayodashangaguggula, Simhanadaguggula, Yogarajaguggula, Gokshuradiguggula, Kanchanaraguggula
   - Kashaya: Dashamula, Rasasyapakas, Asanadi, Pathyadi, Phalatikadi, Punarnavashtaka, Gajivhadi, Mahamanjishthadi, Drakshadi Kashaya
   - Asavas-Arista: Amritarishta, Kanakasava, Chitrakasava, Saraswatarishta, Ashwagandharishta, Chandanasava
   - Vati: Sanjivani, Chandraprabha, Agnitundi, Chitrakadi, Khadiradi, Vyooshadi, Shankha Vati, Shiva Gutika
   - Guggula: Triphalaguggula, Kaishoraguggula, Trayodashangaguggula, Simhanadaguggula, Yogarajaguggula, Gokshuradiguggula, Kanchanaraguggula
   - Rasaukhadi: Tribhuvanakirti Rasa, Arogyavardhini Rasa, Shwasakuthara Rasa, Rasamaniyika Rasa, Smritisagara Rasa, Lakshmilasasa Rasa, Sushilekshara Rasa, Praval Pancharitra Parpati, Hemaarbhabottali Rasa
   - Taila: Mahanarayana Taila, Pindatala, Prasarniyadi Taila, Ksheerabala Taila, Brihat Sanidhavadi Taila, Panchaguna Taila, Amrirtadi Taila, Marichyadi Taila, Mahamasha Taila
   - Ghrita: Mahatriphaladi Ghrita, Brahmi Ghrita, Panchtikta Guggulu Ghrita, Sukumara Ghrita, Dadimadya Ghrita, Kantakari Ghrita, Kalyanaka Ghrita

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4. Introduction of the basic principles of modern medicine, Homeopathy, Unani, Siddha, Tibetan Medicine, Yoga and Naturopathy and their relevance in light of the basic principles of Ayurvedic medicine.

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Vati: Sanjivani, Chandraprabha, Agnitundi, Chitrakadi, Khadiradi, Vyooshadi, Shankha Vati, Shiva Gutika
Guggula-Kalpana: Triphalaguggula, Kaishoraguggula, Trayodashangaguggula, Simhanadaguggula, Yogarajaguggula, Gokshuradiguggula, Kanchanaraguggula
Rasaukhadi: Tribhuvanakirti Rasa, Arogyavardhini Rasa, Shwasakuthara Rasa, Rasamaniyika Rasa, Smritisagara Rasa, Lakshmilasasa Rasa, Sushilekshara Rasa, Praval Pancharitra Parpati, Hemaarbhabottali Rasa
Taila: Mahanarayana Taila, Pindatala, Prasarniyadi Taila, Ksheerabala Taila, Brihat Sanidhavadi Taila, Panchaguna Taila, Amrirtadi 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
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                                    -Cakrapandita commentry
Sushrut Samhita                                   -with all available commentaries.
Ashtang Samgraha                              –Indu commentary
Ashtang Hridaya                                 –Arundutta and Hemadri commentry
Cikitsadarsana                                   - Pandit Rajeswaradutta Shastri
Kayachikitsa                                         - Ramaraksha Pathak
Rog Pariksha Vidhi                              - Priyavrata Sharma
Panchakarma Vigyan                                - Haridas Sridhar Kasture
Ayurved Nidan Chikitsa Siddhanta                   - Prof. R.H. Sing.
Kayachikitsa Vol. I-IV.                         - Prof. Ajay Kumar
Davidson’s Principles and Practice of Medicine.
API Text Book of Medicine.
Harrison’s Text Book 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 marks

PART A 50 marks

   Philosophical concepts in Ayurveda and its applications.
2. Basic principles of Ayurveda psychology - Srishrut utpatti, Triguna, Loka purusha samya Siddhanta, determination of Purusha
   according to Dhatubhedha, Chikitsadhikrita purusha in a psycho somatic axis, Perception and cognition in Ayurveda. Dosh, Dhatu, Agni, Mala Vigyanam and its psychosomatic importance, 'Shariramapi Sattvamanuvadihitve Sattva 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
5. Psychological Processes – Attention and perception, intelligence, creativity, motivation, emotion, sex and other drives, states of
   consciousness, learning, memory, cognition and dream, knowledge of developmental psychology.
7. Manovikara 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 vivaran. Vibhramsha of Dhee, Dhriti and Smruti, Mano Dosh and
   Sharir Dosh in psychopathogenesis, Sadvritta and its importance.
10. Relation of psychology with parapsychology.

PART B 50 marks

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-Smrtili-Bhakti-Sheela-Cheshta and Acharya.
2. Psychiatric examination- Mental status examination, mini mental status examination, cognitive assessment with higher mental
   functions, personality and self in psycho analysis, basic psychiatric assessment inventories- Hamiltons scale, Bech’s inventory,
   GRISS questionnaire, Weschers’ scale for intelligence.
3. Clinical psychology – General psychology with schools of psychology, theories of personality development, social dimensions 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 disorders as per DSM and ICD classifications.

5. Basic knowledge about organic psychosis, psychoneurosis, Schizophrenia, mood disorders, personality disorders, sexual perversions, sleep disorders and mental retardation.


7. Nidra and Swapna, its types and role in psychopathogenesis.

8. Basic understanding of Chikitsa bheda, descriptions of general and specific principles of Kaychikitsa, its practical application in Manasroga, Daivavyapashraya, Yuktiyapashraya, Satavayjayajaya chikitsa and Dravya-adravaya chikitsa, Manodosha Samanya chikitsa, basic treatment principles in Manasika vyadhi, Panchakarma and its application in Manasika roga, Importance of Rasayana and Vajikaran 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 Roga and Kaumarabhritya.

11. Psychosomatic disorders, psychological understanding on essential hypertension, asthma and other allergic disorders, psoriasis, IBS, ulcerative colitis, CAD, tension /vascular headaches, pseudopsycho sis, 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.

**PRACTICAL**

100 marks

**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 Depressive Inventory, Weschlers’ scale, GRISS questionnaire -2 Cases each
4. Manasa Bhava assessment scales- Sattvabala, Manasa Kaya, Smriti, Buddhi, Raja and Tama rating, Manas Bhava Pariksha –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

**REFERENCE BOOKS:**

1. Related matter of Charak, Sushrut and Vagbhata and other ancient texts with commentaries
   - Ayodhya Prasad Achal
2. Prachin Manovikara Vigyan- - Ranjit Rai Deshai
3. Ayurvediya Padarth Vigyan - Prof. V.J. Thakkar
4. Ayurved Darshan - Prof. Ram Harsh Singh
5. Purusha Vichaya - Acharya Rajkumar Jain
6. Ayurvediya Manas Vigyan - Dr Yogesh Chandra Mishra
7. Yoga evum Ayurved - Benjami n saddock
8. Basic principles of Ayurvediya Padartha Vigyan - Harold kaplon and
9. Synopsis of Psychiatry - Benjami n saddock
1. Oxford textbook of Psychiatry - Michael Gerlder, Paul
2. General psychology and Abnormal psychology - S.K. Mangal
3. A text book of Post Graduate Psychiatry - Neeraj Ahuja
4. Mind in Ayurveda and other Indian Traditions - A.R.V. Murthy
5. Psychopathology in Indian medicine - Satyapal Gupta
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, Kotakkal
11. Panchakarma Illustrated - Prof. Shrinivasas Acharya
12. Unified Dimensions of Ayurvedic Medicine - Dr. J.S. Tripathi
13. Essential Psychiatry - Bhatia MS
14. Sahassrayoga - Nishteswar and Vaidyanath

15. Ayurveda and the Mind - David Frawley
16. Manasa Roga Vijnana - Balakrishna
17. Comprehensive Textbook of Psychiatry - Kaplan and Sadock's
18. Psychiatry for medical students - Robert J Waldinger
19. Introductions to Psychology - Morgan / King.

PAPER-II

PART A

50 marks

1. Concept of Bheshaja, classification and understanding of Swasthasya Urjaskara and Artasya Raganut.
2. Etymology, derivation, definition, synonyms and scope of Rasayana, Vajikarana & Virshya.
3. Historical aspects of Rasayana & Vajikarana
4. Rasayana-Vajikarana Arha & Anarha
5. Classification of Rasayana & Vajikarana.
10. Concept of Ojas.
11. Knowledge of Prakriti, Sara & Satwa.
12. Knowledge of concept of Agni: all components of Agni, levels of Agnimandya, Agnimandya Vikara.

PART B

50 marks

1. Applied anatomical & physiological aspects of male reproductive system.
2. Applied aspects of physiology of puberty.
3. Spermatogenesis.
5. Applied aspects of reproductive endocrinology.
6. Semen formation, knowledge of various components of semen.
8. Knowledge of metabolism and metabolic disorders.

PRACTICAL

100 marks

1. Daily hospital duties in OPD, IPD and casualty.
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
5. 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
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 yanstralaya, Manavashram, Jaipur
12. Vatsayana kamasutra
13. Ananga ranga
14. Kelikutuhala
15. Infertility manual by kamini Rao
16. Advanced infertility management- Mehroo Hansotia
17. Endocrine and Reproductive systems – Sanders
18. Proceedings of WHO Symposium on advances in fertility regulation, Moscow: USSR
22. Decision making in infertility; DeCherney AH, Polan ML, Lee RD, Boyers SP (Eds), JP Brothers, New Delhi
25. Kaplan and Saddocks Synopsis of Psychiatry, Lippincott Williams and Wilkins

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M.D.-AYURVEDA PRELIMINARY
13. PANCHKARMA
(Five Therapeutic procedure)

PAPER-II Theory- 100 marks

PART A 50 marks

1. Chikitsa and its classifications; Antah-Parimarjana and Bahir-Parimarjana Chikitsa
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 nervous
PART B  
50 marks

2. Importance of Panchakarma in health and disease.
5. Samsarjana Krama. General knowledge of various Aushadha and Ahara Kalpana used for Panchakarma.
6. Areas of research in Panchakarma.
7. Knowledge of equipments and instruments used in Panchakarma in ancient times and the possible modifications therein now.

Knowledge of quality standards of NABH (National Accreditation Board of Hospitals) for Ayurveda, guidelines for establishment and management of eco-friendly Panchakarma theatre including management of biomedical waste.

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PRACTICAL  
100 marks

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 Ayurveda Dipika by Chakrapani and Jalpakalpa tarubya Gangadhar
2. Sushrut Samhita with the Nibhandha Samgraha commentary of Dalhana and Nyayachandrika panjika of Gayadasa on nidansthana
3. Ashtang Hridaya with Sarvanga sundara and Ayurveda rasayana commentaries
4. Ashtanga Sangraha with Shashilekha commentery
5. Bhela Samhita
6. Kashyapa Samhita
7. Bhavaprakasha of Bhavamishra
8. Sharangadhar Samhita
9. Vangasen
10. Gadanigraha
11. Ayurvediya Panchkarma chikitsa Dr Mukundilal Dwivedi
12. Panchkarma Vigyan Dr Haridas Shreedhar Kasture
M.S.-AYURVEDA PRELIMINARY
14. PRASUTI AVUM STRI ROGA
(Gynecology & obstetrics)

PAPER-II

PART A

Theory- 100 marks

50 marks

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

PRACTICAL

100 marks

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.
7. Pre-natal, Natal and Post natal counseling and examination.
8. Pharmacological study of drugs used in gynaecology and obstetrics.
9. Knowledge of diagnostic techniques used in gynaecology and obstetrics.
10. Knowledge of pathological and biochemical investigation used in gynaecology and obstetrics.
12. Knowledge of contraception and sterilization procedures.

PRACTICAL

100 marks

Contents:

1. Hospital duties in OPD, IPD, labor room, OT and casualty
2. History taking and counseling - 25 cases.
3. Labor cases - observation/performance - 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
3. Procedures - 15 Marks
4. Identification of instruments, X-ray etc & Spotting - 15 Marks
5. Viva - voce - 20 Marks

REFERENCE BOOKS:

1. Related matter from all the 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
8. Text book of obstetrics- Williams
10. Text book of gynaecology - D C Dutta
13. Jeffcoat’s principles of gynaecology

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M.D.-AYURVEDA PRELIMINARY
15. KAUMARBHRITYA – BALA ROGA
(Pediatrics)

PAPER-II

Theory- 100 marks

PART A

50 marks

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 and 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.
9. Applied pharmacological considerations: Ayurvedic and modern concepts of drug doses, administration, distribution, metabolism, excretion, and other important factors of consideration.
11. Childhood Samskara

PART B

50 marks
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
17. Knowledge of their ingredients, indications, precautions and specific considerations including adverse drug reactions (ADR) of commonly used Ayurvedic formulations in pediatric practice e.g. Aravindasava, Baalachaturbhadra Churna, Kumarakalyana Rasa, Sarawatatarista, Swarnaprashana (Kashyapa Samhita), Kumaryasava, Kshushma Rasayana (Sharangdhar), Ashvagandha Rasayana (Ashtanga Hridyaya), Brahma Ghrita, Kalyanaka Ghrita, Talishadi Churna, Sitalapadi Churna, Haridra Khanda, Krimikuthara Rasa, Mugdha Rasa, Dadodheda-Gadantaka Rasa, Rajanyadi Churna (Ashtanga Hridaya), Samvardhana Ghrita, Ashta Mangal Ghrita.
18. Methods of preparation of various specific Kalpana (e.g. Lehyah, Syrup, drops etc.) according to needs of children.
20. Specific considerations in research methods related to Pediatrics.

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**PRACTICAL**

<table>
<thead>
<tr>
<th>Contents</th>
<th>Marks</th>
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</thead>
<tbody>
<tr>
<td>1. a) In-patient case history record -(25 Patient)</td>
<td>10 Marks</td>
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<tr>
<td>b) Child Health record</td>
<td>10 Marks</td>
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<tr>
<td>2. Bed side clinical case taking</td>
<td>20 Marks</td>
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<tr>
<td>3. Procedures/ Kriya Kalpa</td>
<td>15 Marks</td>
</tr>
<tr>
<td>4. Viva-voce</td>
<td>20 Marks</td>
</tr>
</tbody>
</table>

**REFERENCE BOOKS:**
1. Kashyapa Samhita Complete Hindi translation by Satyapal Vidhyalankara English translation by Prof. Premvati Tiwari
3. Child Health Care in Ayurveda: Abhimanyu Kumar
5. Kaumarbhritya by Prof. D.N. Mishra
6. Kaumarbhritya Ke Antargata Balgraho Ka Kramika Evam Valgvanika Adhynana by Prof. Chanchal Sharma
7. Notes on Kaumarbhritya-by Dr. Dinesh K S
8. Pran - Pratayagamanam-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
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 marks

PART A 50 marks

1. Etymology and definition of Shalya Tantra.
2. Scope and importance of Shalya Tantra.
4. Study of modern surgical clinical methodology.
5. Applied anatomy, physiology and surgical pathology of common surgical conditions including relevant Ayurvedic aspect.
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.
11. Concept and applicability of Sadhya-Asadhya (Prognosis) - Arishtha lakshana.
13. Diagnosis and management of Pranashtha Shalya.

PART B 50 marks

- 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 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.

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PRACTICAL 100 marks

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 Mukhopadhayaya
6. Shalya Tantra Samuchchaya - Pandit Ramadesh Sharma
2. Fractures and Joint Injuries - Watson-Jones
3. Text books of Operative Surgery - Farquharson’s
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) - Anantarang Sharma
4. Anushasstra 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
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.

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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 marks**

**PART A**

**50 marks**

1. Etymology and definition of Shalya Tantra.
2. Scope and Importance of Shalya Tantra.
4. Study of modern surgical clinical methodology.
5. Applied anatomy, physiology and surgical pathology of common surgical conditions including relevant Ayurvedic aspect.
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.
11. Concept and applicability of Sadhya-Asadhya- Prognosis – Arishtha Lakshana.
14. Diagnosis and management of Pranastha Shalya.

**PART B**

**50 marks**

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.
5. Ashtavidha Shalya Karmas.
10. Raktamokshana – Introduction, types and applications.

**PRACTICAL**

**100 marks**

**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. Surenra Kumar Sharma
- Shalya Samanvaya (Part 1-2) - Vd. Anantaram Sharma
- Shalya Pradeepika - Dr. Mukund Swaroop Verma
- Soudshriti - Dr. Ram Nath Dwivedi
- Clinical Shalya Vigyan - Dr. Akhilanand Sharma
- Bhagna Chikitsa - Dr. Prabhaskar Janardhan Deshpande
**PG 1st Year Syllabus-53**

- Kshara sutra management in anorectal ailments - Dr. S.K. Sharma, Dr. K.R. Sharma and Dr. Kulwant Singh.
- 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 Arshas / Haemorrhoids - Dr. P. Hemantha Kumar.
- 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.
- Operative Surgery - Rob and smith.

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2. Fractures and Joint Injuries - Watson-Jones.
3. Text books of Operative Surgery - Farquharson’s.
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. Sangyahanar Prakash - Dr. D.N. Pande.
18. Drugs and Equipment for Anaesthesia - Arun Kumar.
20. Ward Procedures - Patel Mansukh B.
21. Recent trends in the management of Arshas / Haemorrhoids - Dr. P. Hemantha Kumar.
22. Primary Anaesthesia - Maurice King.
27. Hamblen, L.
29. Recent trends in the management of Bhagandara / Fistula-in-ano - Dr. P. Hemantha Kumar.
30. Principles and Practice of Agnikarma - Dr. Anand Kumar.
31. Dr. Kanchan Shekokar.

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**M.S.-AYURVEDA PRELIMINARY**

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

**PAPER II**  
Theory - 100 marks
1. etymology and definition of Shalya and Shalya Tantra. Scope and importance of Shalya Tantra.
2. Dosha, Dhatu, Mal and Sarotas Vigyan.
10. Shatkriyakala and its applicability in the pathogenesis of surgical diseases.
12. Rogi and Rog Pariksha (Trividha, Shadvidha, Ashwavidha and Dashadvidha Pariksha) and its application in the diagnosis of diseases.
15. Anu Shashtra Karma like Kshararoga, Agnikarma, RaktaVashchana etc. and their application in orthopedic practice.
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.
   6. Intravenous fluid therapy.
18. Knowledge of imaging and diagnostic techniques – X-ray, Ultra Sonography, CT scan, MRI and recent advances.

PART B

1. Scope of Asthi Sandhi evam Marmaghatra Roga specialty and its importance. Historical aspect of Ayurvedic and modern orthopedics and Marm.
2. Marm Sharira – Etymological derivation, definition, basic concept of Marm, origin, classification, Pramana. Consequences of Marmaghatra and their management.
5. Itrathadagdha and Burns - Etyology, classification, symptomatology, prognosis and management principles. Knowledge of Burns Shock, its prevention and management principles.
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 anesthesia 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.

PRACTICAL

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-Shasha 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 Paschchat Karma.
- Practical knowledge of sterilization and OT Fumigation.
- Knowledge of handling of medicolegal cases and issuing MLCs and other certificates.
**Distribution of Marks (practical):**

1. Case Records (25 cases) 20 marks
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-:**

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<th>No.</th>
<th>Book Title</th>
<th>Author</th>
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<td>Sushruta Samhita</td>
<td>Relevant parts</td>
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<td>2</td>
<td>Sushruta Samhita (Dalhana commentary)</td>
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<td>3</td>
<td>Charak samhita</td>
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<td>4</td>
<td>Ashtang Hridaya</td>
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<td>Saushruti</td>
<td>Ramanath Dwivedi</td>
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<td>7</td>
<td>Watson and Jones - Fracture and Joint Injuries</td>
<td>J.N. Wilson</td>
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<td>8</td>
<td>Practical Fracture Treatment</td>
<td>R. McRae</td>
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<td>9</td>
<td>Clinical Orthopedic Examination</td>
<td>R. McRae</td>
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<td>10</td>
<td>Apley's System of Orthopedics</td>
<td>Apley Louis Solomon</td>
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<td>11</td>
<td>A Concise Text Book of Surgery</td>
<td>S. Das</td>
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<td>12</td>
<td>Pye's Surgical Handicraft</td>
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<td>Operative Surgery</td>
<td>S. Das</td>
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<td>16</td>
<td>Schwartz Principles of Surgery</td>
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<td>17</td>
<td>Bailey and Love's short practice of Surgery</td>
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**M.D.-AYURVEDA PRELIMINARY**

**19. SANGYAHARAN**  
(Anesthesiology)

**PAPER-II**  
Theory 100 marks

**PART-A**  
50 marks

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.
10. Types of Raktamokshana and determination of appropriate amount of blood loss during Raktamokshana according to diseases and patients.
11. Methods of Rakstastambhana.
13. Trividha Karma – Purva karma (preanaesthetic management), Pradhana karma (induction and maintenance) and Pashchat Karma.
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 marks

History of anesthesia.
1. Molecular basis of anesthesia, cell physiology and body fluids.
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 and medulla functions and disorders.
6. Pathophysiology of renal failure, renal function tests.
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.
12. Physics applied to anesthesia: Gas laws, ventilators & monitors, flow meters, vaporizers, breathing systems, carbon-dioxide absorbers, medical gas supply, suction machines, electrical fire & explosion hazards, pollution in O.T.
16. Anaethesia documentation and record keeping.

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PRACTICAL 100 marks

Contents:
1. Anesthetic Drugs.
2. Demonstration of induction of Anesthesia.
3. Pre anesthetic 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 - 20 Marks
3. Long Case - 10 Marks
4. Short Case - 15 Marks
5. Procedure - 15 Marks
6. Identification of instruments & Spotting - 20 Marks
7. Viva-voce - 20 Marks

REFERENCES 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

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M.S.-AYURVEDA PRELIMINARY
20. SHALAKYA - NETRA ROGA
(Ophthalmology)

PAPER-II
Theory- 100 marks

PART-A
50 marks

1. Shalakya Tantra Parichaya, Itihas and Pradhanyam.
2. Netra Sharir and related Marmas
3. Study of Dosha, Dhatu, Malai 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.
7. Swasthavritta related to Netra.
8. Chaturvirdhi 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 Visheshta 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 Silt 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 - 20 Marks
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.Srikant
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 Louis - Duke Elder, St.
17. Modern Ophthalmology Brothers - Dutta, L.C. Jaypee
20. Ocular Differential Diagnosis - Roy Fedrick Hampton
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
M.S.-AYURVEDA PRELIMINARY
21. SHALAKYA- DANTA AVUM MUKHA ROGA
(Dentistry and Oral Disease)

PAPER-II

PART-A
marks 50

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 Mukha Roga.
6. Swasthavritta related to Danta and Mukha Roga.
7. Chaturvidha Chikitsopaya (Bheshaja-Shastra-Kshara-Agni) Siddhanta and Raktamokshana related to Danta and Mukha Roga.
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 marks

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.

PRACTICAL
100 marks

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 - 20 Marks
3. Long case - 10 Marks
4. Short case - 15 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-Ashant Samgraha - Ashant 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
10. Clinical Periodontology - Dr. B.R.R. Varma
11. Anatomy for Dental Students - Indever Singh
12. Clinical Periodontology - Carranza, Newman
13. Operative Dentistry - M A Marzouk
17. Synopsis of Oral Pathology - S N Bhaskar
18. Oral Pathology - Stone

M.S.-AYURVEDA PRELIMINARY

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

PRACTICAL

Theory - 100 marks

PART A

50 marks

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.
5. Basic pharmacology of common modern drugs used in diagnostic and therapeutic procedures related to Shiro-Nasa- Karna- Evum Kantha Chikitsa.
8. Chaturvidha Chikitsopaya ( Bheshaja- Shastra-Kshar -Agni ) and Raktamokshan related to Shiro-Nasa- Karna- Evum Kantha Chikitsa.
9. Applied knowledge of various therapeutic modalities like Shirobasti, Shirodhara, Shirovirechana, Nasya, Karna Pooran, Karna Dhoopan, Kaval, Gandusha etc.

PART B

50 marks


PRACTICAL

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 Ed.
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. Paprela’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