



**BAMS (BACHELOR OF AYURVEDIC MEDICINE
AND SURGERY) AYURVEDACHARYA**

FACULTY OF MEDICAL SCIENCES

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PROGRAMME OUTCOMES

- PO1: Knowledge about the fundamental principles of Ayurveda.
- PO2: Knowledge about medicinal plants, Rasasastra, agadatantra,
- PO3: Knowledge about classical text of Ayurveda.
- PO4: Knowledge about treatment protocols, public health,
- PO5: Knowledge about the diseases and treatment of ENT, Gynecology
- PO5: Knowledge about the fundamentals of research.

PROGRAMME SPECIFIC OUTCOMES

- PSO1: Ability to examine the patients and clinical diagnosis.
- PSO2: Ability to prepare Ayurvedic medicines.
- PSO3: Ability to manage, diagnose, understand investigations
- PSO4: Ability to perform ayurvedic procedures.
- PSO5: Fundamental knowledge about further research in Ayurveda.

CURRICULUM STRUCTURE:

First Year Courses

Course Code	Course Name
1.1	PADARTHA VIGYAN AND AYURVED ITIHAS
1.2	SANSKRIT
1.3	KRIYA SHARIR
1.4	RACHANA SHARIR
1.5	MAULIK SIDDHANT AVUM ASHTANG HRIDAYA

Second Year Courses

Course Code	Course Name
2.1	DRAVYAGUNA VIGHYAN
2.2	ROGA NIDAN
2.3	RASASHATRA
2.4	CHARAK SAMHITA

Third Year Courses

Course code	Course name
3.1.	AGADTANTRA
3.2.	SWASTHAVRITTA
3.3.	PRASUTI TANTRA EVUM STRI ROGA
3.4.	KAUMARBHRITYA PARICHAYA
3.5.	CHARAK SAMHITA (UTTARARDHA)

Final Year Courses

Course code	Course name
4.1	KAYACHIKITSA
4.2	PANCHKARMA
4.3	SHALYA TANTRA
4.4	SHALAKYA TANTRA
4.5	RESEARCH METHODOLOGY AND MEDICAL STATISTICS

Syllabus

First Year Courses

1.1 PADARTHA VIGYAN EVUM AYURVEDA ITIHAS (Philosophy and History of Ayurveda)

1. Ayurveda Nirupana

- 1.1 Lakshana of Ayu, composition of Ayu.
- 1.2 Lakshana of Ayurveda.
- 1.3 Lakshana and classification of Siddhanta.
- 1.4 Introduction to basic principles of Ayurveda and their significance.

2. Ayurveda Darshana Nirupana

- 2.1 Philosophical background of fundamentals of Ayurveda.
- 2.2 Etymological derivation of the word "Darshana". Classification and general introduction to schools of Indian Philosophy with an emphasis on: Nyaya, Vaisheshika, Sankhya and Yoga.
- 2.3 Ayurveda as unique and independent school of thought (philosophical individuality of Ayurveda).
- 2.4 Padartha: Lakshana, enumeration and classification, Bhava and Abhava padartha, Padartha according to Charaka (Karana-Padartha).

3. Dravya Vigyaniam

- 3.1 **Dravya:** Lakshana, classification and enumeration.
- 3.2 **Panchabhuta:** Various theories regarding the creation (theories of Taittiriyanopanishad, Nyaya-Vaisheshika, Sankhya-Yoga, Sankaracharya, Charaka and Susruta), Lakshana and qualities of each Bhoota.
- 3.3 **ala:** Etymological derivation, Lakshana and division / units, significance in Ayurveda.
- 3.4 **Dik:** Lakshana and division, significance in Ayurveda.
- 3.5 **Atma:** Lakshana, classification, seat, Gunas, Linga according to Charaka, the method / process of knowledge formation (*atmanah jnasya pravrittih*).
- 3.6 **Purusha:** as mentioned in Ayurveda - Ativahikapurusha/ Sukshmasharira/ Rashipurusha/ Chikitsapurusha/ Karmapurusha/ Shaddhatvatmakapurusha.
- 3.7 **Manas:** Lakshana, synonyms, qualities, objects, functions, dual nature of mind (*ubhayaatmakatvam*), as a substratum of diseases, penta-elemental nature (*panchabhutatmakatvam*).
- 3.8 Role of Panchamahabhuta and Triguna in Dehaprakriti and Manasaprakriti respectively.
- 3.9 Tamas as the tenth Dravya.
- 3.10 Practical study/application in Ayurveda.

4. Gunavigyaniyam

- 4.1 Etymological derivation, classification and enumeration according to Nyaya- Vaisheshika and Charaka, Artha, Gurvadiguna, Paradiguna, Adhyatmaguna.
- 4.2 Lakshana and classification of all the 41 gunas.
- 4.3 Practical / clinical application in Ayurveda.

5. Karma Vigyaniyam

- 5.1 Lakshana, classification in Nyaya.
- 5.2 Description according to Ayurveda.
- 5.3 Practical study/ application in Ayurveda.

6. Samanya Vigyaniyam

- 6.1 Lakshana, classification.
- 6.2 Practical study/ application with reference to Dravya, Guna and Karma.

7. Vishesa Vigyaniyam

- 7.1 Lakshana, classification.
- 7.2 Practical study/ application with reference to Dravya, Guna and Karma.
- 7.3 Significance of the statement "*Pravrittirubhayasya tu*".

8. Samavaya Vigyaniyam

- 8.1 Lakshana
- 8.2 Practical study /clinical application in Ayurveda.

9. Abhava Vigyaniyam

- 9.1 Lakshana, classification
- 9.2 Clinical significances in Ayurveda.

Padartha Vigyan and Ayurveda Itihas

Pramana/ Pariksha- Vigyaniyam

1. Pariksha

- 1.1. Definition, significance, necessity and use of *Pariksha*.
- 1.2. Definition of *Prama*, *Prameya*, *Pramata*, *Pramana*.
- 1.3. Significance and importance of *Pramana*, Enumeration of *Pramana* according to different schools of philosophy.
- 1.4. Four types of methods for examination in *Ayurveda* (Chaturvidha-Parikshavidhi), *Pramana* in Ayurveda.
- 1.5. Subsudation of different *Pramanas* under three *Pramanas*.
- 1.6. Practical application of methods of examination (Parikshavidhi) in treatment (Chikitsa).

2. Aptopdesha Pariksha/ Pramana

- 2.1. Lakshana of Aptopadesha, Lakshana of Apta.
- 2.2. Lakshana of Shabda, and its types.
- 2.3. Shabdavritti-Abhidha, Lakshana, Vyanjana and Tatparyakhya. Shaktigrahahetu.
- 2.4. Vaakya: Characteristics, Vaakyarthagyanahetu- Aakanksha, Yogyata, Sannidhi.

3. Pratyaksha Pariksha/ Pramana

- 3.1. Lakshana of Pratyaksha, types of Pratyaksha- Nirvikalpaka-Savikalpaka with description, description of Laukika and Alaukika types and their further classification.
- 3.2. Indriya-prapyakaritvam, six types of Sannikarsha.
- 3.3. Indriyanam lakshanam, classification and enumeration of Indriya. Description of Panchapanchaka, Penta-elemental nature of Indriya by Panchamahabhuta (*Panchabhautikatwa* of Indriya) and similarity in sources (*Tulyayonitva*) of Indriya.
- 3.4. Trayodasha Karana, dominance of Antahkaran.
- 3.5. Hindrances in direct perception (*pratyaksha-anupalabdikaaran*), enhancement of direct perception (Pratyaksha) by various instruments/ equipments, necessity of other Pramanas in addition to Pratyaksha.
- 3.6. Practical study/ application of Pratyaksha in physiological, diagnostic, therapeutics and research grounds.

4. Anumanapariksha/Pramana

- 4.1. Lakshana of Anumana. Introduction of Anumiti, Paramarsha, Vyapti, Hetu, Sadhya, Paksha, Drishtanta. Types of Anumana mentioned by Charaka and Nyayadarshana.
- 4.2. Characteristic and types of Vyapti.
- 4.3. Lakshana and types of Hetu, description of Ahetu and Hetwabhasa.
- 4.4. Characteristic and significance of Tarka.
- 4.5. Practical study/ application of Anumanapramana in physiological, diagnostic, therapeutics and research.

5. Yুক্তipariksha/ Pramana

- 5.1. Lakshana and discussion.
- 5.2. Importance in Ayurveda.
- 5.3. Practical study and utility in therapeutics and research.

6. Upamana Pramana

- 6.1 Lakshana.
- 6.2 Application in therapeutics and research.

7. Karya- Karana Siddhanta (Cause and Effect Theory)

- 7.1. Lakshana of Karya and Karana. Types of Karana.
- 7.2. Significance of Karya and Karana in Ayurveda.
- 7.3. Different opinions regarding the manifestation of Karya from Karana: Satkaryavada, Asatkaryavada, Parinamavada, Arambhavada, Paramanuvada, Vivartavada, Kshanabhangurvada, Swabhavavada, Pilupaka, Pitharpaka, Anekantavada, Swabhavoparamavada.

Ayurved Itihas

1. Etymological derivation (Vyutpatti), syntactical derivation (Niruktti) and definition of the word Itihas, necessity of knowledge of history, its significance and utility, means and method of history, historical person (Vyakti), subject (Vishaya), time period (Kaal), happening (Ghatana) and their impact on Ayurveda.

2. Introduction to the authors of classical texts during Samhitakaal and their contribution: Atreya, Dhanwantari, Kashyapa, Agnivesha, Sushruta, Bhela, Harita, Charaka, Dridhabala, Vagbhata, Nagarjuna, Jivaka.
3. Introduction to the commentators of classical Samhitas – Bhattaraharicchandra, Jejjata, Chakrapani, Dalhana, Nishchalakara, Vijayarakshita, Gayadas, Arunadutta, Hemadri, Gangadhara, Yogindranath Sen, Haranachandra, Indu.
4. Introduction to the authors of compendiums (Granthasamgrahakaala) – Bhavmishra, Sharngadhara, Vrinda, Madhavakara, Shodhala, Govinda Das (Author of Bhaishajyaratnawali), Basavraja.
5. Introduction to the authors of Modern era –Gana Nath Sen, Yamini Bhushan Rai, Shankar Dajishastri Pade, Swami Lakshmiram, Yadavji Tikramji, Dr. P. M. Mehta, Ghanekar, Damodar Sharma Gaur, Priyavrat Sharma.
6. Globalization of Ayurveda – Expansion of Ayurveda in Misra (Egypt), Sri Lanka, Nepal other nations.
7.
 - a) Developmental activities in Ayurveda in the post-independence period, development in educational trends.
 - b) Establishment of different committees, their recommendations.
 - c) Introduction to and activities of the following Organizations :- Department of AYUSH, Central Council of Indian Medicine, Central Council for Research in Ayurvedic Sciences, Ayurvedic Pharmacopeia commission, National Medicinal Plants Board, Traditional Knowledge Digital Library (TKDL)
 - d) Introduction to the following National Institutions :
 - National Institute of Ayurved, Jaipur.
 - IPGT&RA, Gujrat Ayurved University, Jamnagar.
 - Faculty of Ayurved, BHU, Varanasi.
 - Rashtriya Ayurveda Vidyapeetha, New Delhi.
8. Introduction to national & international popular journals of Ayurveda.
9. Introduction to activities of WHO in the promotion of Ayurved.

Reference Books:-

A). Padartha Vigyan:-

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|-----|---|--------------------------|
| 1. | Padarthavigyan | Acharya Ramraksha Pathak |
| 2. | Ayurvediya Padartha Vigyana | Vaidya Ranjit Rai Desai |
| 3. | Ayurved Darshana | Acharya Rajkumar Jain |
| 4. | Padartha Vigyana | Kashikar |
| 5. | Padartha Vigyana | Balwant Shastri |
| 6. | Sankhyatantwa Kaumadi | GajananS hastri |
| 7. | Psycho Pathology in Indian Medicine | Dr. S.P. Gupta |
| 8. | Charak Evum Sushrut ke Jyotirmitra Acharya Darshanik Vishay ka Adhyayan | Prof. |
| 9. | Ayurvediya Padartha Vigyana | Dr. Ayodhya Prasad Achal |
| 10. | Padartha Vigyana | Dr. Vidyadhar Shukla |
| 11. | Padartha Vigyana | Dr. Ravidutta Tripathi |

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| 12. | Ayurvediya Padartha Vigyana
Dhand | Vaidya Ramkrishna Sharma |
| 13. | Ayurvediya Padartha Vigyan Parichaya | Vaidya Banwarilal Gaur |
| 14. | Ayurvediya Padartha Darshan | Pandit Shivhare |
| 15. | Scientific Exposition of Ayurveda | Dr. Sudhir Kumar |
| 16. | Relevant portions of Charakasamhita, Sushrutasamhita. | |

B) History of Ayurveda:-

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| 1. | Upodghata of Kashyapasamhita
Hem Raj Sharma Paragraph of acceptance of Indian medicine | Rajguru |
| 2. | Upodghata of Rasa Yogasagar
Sharma | Vaidy Hariprapanna |
| 3. | Ayurveda Ka Itihas | KaviraSuram Chand |
| 4. | Ayurveda Sutra
Sharma | Rajvaidya Ram Prasad |
| 5. | History of Indian Medicine (1-3 part)
Mukhopadhyaya | Dr. GirindrNath |
| 6. | A Short history of Aryan Medical Science | Bhagwat Singh |
| 7. | History of Indian Medicine | J. Jolly |
| 8. | Hindu Medicine | Zimer |
| 9. | Classical Doctrine of Indian Medicine | Filiyosa |
| 10. | Indian Medicine in the classical age | AcharyaPriyavrata Sharma |
| 11. | Indian Medicine (Osteology) | Dr. Harnley |
| 12. | Ancient Indian Medicine | Dr. P. Kutumbia |
| 13. | Madhava Nidan and its Chief
Dr. G.J. Mulenbelt Commentaries (Chapters
highlighting history) | |
| 14. | Ayurveda Ka BrihatItihasa
Vidyalankara | Vaidya Atridev |
| 15. | Ayurveda Ka VaigyanikaItihasa | Acharya Priyavrata Sharma |
| 16. | Ayurveda Ka PramanikaItihasa | Prof. Bhagwat Ram Gupta |
| 17. | History of Medicine in India | Acharya Priyavrata Sharma |
| 18. | Vedomein Ayurveda | Vaidya Ram GopalS hastri |
| 19. | Vedomein Ayurveda | Dr. Kapil Dev Dwivedi |
| 20. | Science and Philosophy of Indian Medicine | Dr. K.N. Udupa |
| 21. | History of Indian Medicine from

Dr. Jyotirmitra Pre-Mauryan to Kushana Period | |
| 22. | An Appraisal of Ayurvedic Material in
Buddhist literature | Dr. Jyotirmitra |
| 23. | Mahayana Granthon mein nihita
RavindraNathTripathi Ayurvediya Samagri | Dr. |
| 24. | Jain Ayurveda Sahitya Ka Itihasa
Bhatnagar | Dr. Rajendra Prakash |
| 25. | Ayurveda- Prabhashaka Jainacharya | Acharya Raj Kumar Jain |
| 26. | CharakaChintana | Acharya Priyavrata Sharma |
| 27. | Vagbhata Vivechana | Acharya Priyavrata Sharma |
| 28. | Atharvaveda and Ayurveda | Dr. Karambelkara |
| 29. | Ayurvedic Medicine Past and Present | Pt. Shiv Sharma |
| 30. | Ancient Scientist | Dr. O.P. Jaggi |
| 31. | Luminaries of Indian Medicine | Dr. K.R. Shrikanta Murthy |
| 32. | Ayurveda Ke Itihasa Ka Parichaya | Dr. RaviduttaTripathi |
| 33. | Ayurveda Ke Pranacharya | Ratnakara Shastri |
| 34. | Ayurveda Itihasa Parichaya | Prof. Banwari Lal Gaur |

COURSE OUTCOME

1.1 PADARTHA VIGYAN AND AYURVED ITIHAS

CO1: Knowledge in the derivation, definition and classification of technical terms of Ayurveda, Epistemology and Ontology

CO2: knowledge in fundamental principles of Ayurveda and various Philosophies

CO3: knowledge in Ayurvedic concepts, its significance in treatment

CO4: Understanding the history and development of Ayurveda through ages

CO5: knowledge about various authors , compendiums of Ayurveda, Nationalised instituties of Ayurveda, governing bodies, committees.

1.2 Sanskrit

. Vyakarana

Sanjna, ach-sandhi, hal-sandhi,visarga sandhi, Ajanta pullinga, Ajanta streelinga,

Ajanta napunsklinga, halanta

pullinga, halanta streelinga, Halanta napunsalinga,avyaya prakaran, bhvadidashganah, nyanta-sannanta,

yannanta-yanluganta-atmnepada-parasmaipada-bhavakam

Karma-karti,lakatha prakriya, kridanta prakarana(kriya prakriya),

Purvakridantam, unadaya,uttar-kridanta),

vibhaktyartha prakaran, samasa prakaran (keival samas, avyayi-bhavah, tatpurush,

bahuvrihi,

dvanda,samasanta), tadvita prakarnani,streepatyaya prakaranam.

TEXT BOOK- laghu siddhanta kaumudi

2. Translation

1. Translation from English / Hindi / regional language into Sanskrit

Or Essay in Sanskrit related to ayurveda

2 .Translation from Sanskrit to English, Hindi and Regional languages

(Any desired language)

Reference Books

1. Anuvada Chandrika- Chakradhara Hansa Nautiyal

2. Sansrita Ayurveda Sudha- Dr B. L.gaur

3. Praudh Rachananuvada Kaumudi- Dr Kapil Dev Dwivedi

4. Concerned material from authorised texts of

Ayurveda (for translation).

3. Corrections of mistakes - Matter may be selected from the Reference books.

Paper II 100 Marks

1. Vaidya Sadvrittam

1. Vaidyakiya subhashitani (1-20 chapters)

By Bhaskar Govinda Ghanenkar

2. Ayurveda Hitopadeshah

(Vaidya Ranjit Rai Desai)

3. Panchatantram- Aprikshitkarkam

Or

Verse from classics (brihatrayi) related to vaidya sadvritta

2. Order of reading classics (grantha-adhyayan krama parichaya)

Pathana karma / sampradana parichaya, padavibhaga, arthanvaya karma, anvyartha, bhavartha,

dhvanitadi-prabhasana karma parichaya Samastapada sarthak-vigraha, dhatudhatvartha, pratyaya-pratyartha, subanta-tivanta-adi according to padavidhi (anvyartha smarthanane) nirupanam.

Material for practice

SushrutSamhita-SharirSthan-chapter-4 (garbhavyakarana sharirm).

COURSE OUTCOME

1.2 SANSKRIT

CO1: knowledge in joined words, compound words and cases

CO2: knowledge in active voice and passive voice in research, various suffixes and ethical stories

CO3: systematic study of an Ayurvedic text

CO4: knowledge in nouns and verbs

CO5: Ayurvedic references from various types of literatures in sanskrit language

1.3 KRIYA SHARIR (PHYSIOLOGY)

1. Conceptual study of fundamental principles of Ayurvediya Kriya Sharir e.g - Panchamahabhuta, Tridosha, Triguna, Loka-Purusha Samya, Samanya-Vishesha. Description of basics of Srotas.
2. Definition and synonyms of the term Sharir, definition and synonyms of term Kriya, description of Sharir Dosha and Manasa Dosha. Mutual relationship between Triguna- Tridosha & Panchmahabhuta. Difference between Shaarir and Sharir. Description of the components of Purusha and classification of Purusha, role of Shatdhatupurusha in Kriya Sharira and Chikitsa.
3. Dosha- General description of Tridosha. Inter relationship between Ritu-Dosha-Rasa- Guna. Biological rhythms of Tridosha on the basis of day-night-age-season and food intake. Role of Dosha in the formation of Prakriti of an individual and in maintaining of health. Prakrita and Vaikrita Dosha.
4. Vata Dosha: Vyutpatti (derivation), Nirukti (etymology) of the term Vata, general locations, general properties and general functions of Vata, five types of Vata (Prana, Udana, Samana, Vyana, Apana) with their specific locations, specific properties, and specific functions. Respiratory Physiology in Ayurveda, Physiology of speech in Ayurveda.
5. Pitta Dosha: Vyutpatti, Nirukti of the term Pitta, general locations, general properties and general functions of Pitta, five types of Pitta (Pachaka, Ranjaka, Alochaka, Bhrajaka, Sadhaka) with their specific locations, specific properties, and specific functions. Similarities and differences between Agni and Pitta.
6. Kapha Dosha: Vyutpatti, Nirukti of the term Kapha, general locations, general properties and general functions of Kapha, five types of Kapha (Bodhaka, Avalambaka, Kledaka, Tarpaka, Śleshaka) with their specific locations, specific properties, and specific functions.
7. Etiological factors responsible for Dosha Vriddhi, Dosha Kshaya and their manifestations.
8. Concept of Kriyakala.
9. Prakriti:
 - a) Deha- Prakriti: Vyutpatti, Nirukti, various definitions and synonyms for the term „Prakriti“. Intra-uterine and extra-uterine factors influencing Deha-Prakriti, classification and characteristic features of each kind of Deha-Prakriti.
 - b) Manasa- Prakriti: Introduction and types of Manasa- Prakriti.
10. Ahara: Definition, classification and significance of Ahara, Ahara-vidhi-vidhana, Ashta Aharavidhi Viseshayatana, Ahara Parinamkar Bhava.

11. Aharapaka (Process of digestion): Description of Annavaha Srotas and their Mula. Role of Grahani & Pittadhara Kala.
12. Description of Avasthapaka (Madhura, Amla and Katu). Description of Nishthapaka (Vipaka) and its classification. Separation of Sara and Kitta. Absorption of Sara. Genesis of Vata-Pitta-Kapha during Aharapaka process. Definition of the term Koshtha. Classification of Koshtha and the characteristics of each type of Koshtha.
13. Agni – Definition and importance, synonyms, classification, location, properties and functions of Agni and functions of Jatharagni, Bhutagni, and Dhatvagni.

Modern Physiology

- a) Definition and mechanisms of maintenance of homeostasis. Cell physiology. Membrane physiology. Transportation of various substances across cell membrane.
- b) Resting membrane potential and action potential.
- c) Physiology of respiratory system: functional anatomy of respiratory system. Definition of ventilation, mechanism of respiration, exchange and transport of gases, neural and chemical control of respiration, artificial respiration, asphyxia, hypoxia. Introduction to Pulmonary Function Tests.
- d) Physiology of Nervous System: General introduction to nervous system, neurons, mechanism of propagation of nerve impulse, physiology of CNS, PNS, ANS; physiology of sensory and motor nervous system, Functions of different parts of brain and physiology of special senses, intelligence, memory, learning and motivation. Physiology of sleep and dreams, EEG. Physiology of speech and articulation. Physiology of temperature regulation.
- e) Functional anatomy of gastro-intestinal tract, mechanism of secretion and composition of different digestive juices. Functions of salivary glands, stomach, liver, pancreas, small intestine and large intestine in the process of digestion and absorption. Movements of the gut (deglutition, peristalsis, defecation) and their control. Enteric nervous system.
- f) Acid-base balance, water and electrolyte balance. Study of basic components of food. Digestion and metabolism of proteins, fats and carbohydrates.
Vitamins & Minerals- sources, daily requirement, functions, manifestations of hypo and hypervitaminosis.

1. Dhatu:

Etymology, derivation, definition, general introduction of term Dhatu, different theories related to Dhatuposhana (Dhatuposhana Nyaya)

2. Rasa Dhatu:

Etymology, derivation, location, properties, functions and Praman of Rasa-dhatu. Physiology of Rasavaha Srotas, Formation of Rasa

Dhatu from Aahara Rasa, circulation of Rasa (Rasa-Samvahana), role of Vyana Vayu and Samana Vayu in Rasa Samvahana. Description of functioning of Hridaya. Ashtavidha Sara (8 types

of Sara), characteristics of Tvakasara Purusha, conceptual study of mutual interdependence (Aashraya-Aashrayi Bhaava) and its relation to Rasa and Kapha. Manifestations of kshaya and Vriddhi of Rasa.

3. Rakta Dhatu:

Etymology, derivation, synonyms, location, properties, functions and Praman of Rakta Dhatu. Panchabhautikatva of Rakta Dhatu, physiology of Raktavaha Srotas, formation of Raktadhatu, Ranjana of Rasa by Ranjaka Pitta, features of Shuddha Rakta, specific functions of Rakta, characteristics of Raktasara Purusha, manifestations of Kshaya and Vriddhi of Raktadhatu, mutual interdependence of Rakta and Pitta.

4. Mamsa Dhatu :

Etymology, derivation, synonyms, location, properties and functions of Mamsa Dhatu, physiology of Mamsavaha Srotasa, formation of Mamsa Dhatu, characteristics of Mamsasara Purusha, manifestations of Kshaya and Vriddhi of Mamsa Dhatu .Concept of Peshi.

5. Meda Dhatu :

Etymology, derivation, location, properties, functions and Praman of Meda Dhatu, physiology of Medovaha Srotas, formation of Medo Dhatu, characteristics of Medasara Purusha and manifestations of Kshaya and Vriddhi of Meda.

6. Asthi Dhatu:

Etymology, derivation, synonyms, location, properties, functions of Asthi Dhatu. Number of Asthi. Physiology of Asthivaha Srotas and formation of Asthi Dhatu, characteristics of Asthisara Purusha, mutual interdependence of Vata and Asthi Dhatu, manifestations of Kshaya and Vriddhi of Asthi Dhatu.

7. Majja Dhatu :

Etymology, derivation, types, location, properties, functions and Praman of Majjaa Dhatu, physiology of Majjavaha Srotas, formation of Majja Dhatu, characteristics of Majja Sara Purusha, relation of Kapha, Pitta, Rakta and Majja, manifestations of Kshaya and Vriddhi of Majja Dhatu.

8. Shukra Dhatu:

Etymology, derivation, location, properties, functions and Praman of Shukra Dhatu, physiology of Shukraravaha Srotas and formation of Shukra Dhatu. Features of Shuddha Shukra, characteristics of Shukra-Sara Purusha, manifestations of Kshaya and Vriddhi of Shukra Dhatu.

9. Concept of **Ashraya-Ashrayi** bhava i.e. inter-relationship among Dasha, Dhatu Mala and Srotas.

10.Ojas: Etymological derivation, definition, formation, location,

properties, Praman, classification and functions of Ojas. Description of Vyadhikshamatva. Bala Vriddhikara Bhava. Classification of Bala. Etiological factors and manifestations of Ojavisramsas, Vyapat and Kshaya.

11.Upadhatu: General introduction, etymological derivation and definition of the term Upadhatu. Formation, nourishment, properties, location and functions of each Upadhatu.

- a) Stanya: Characteristic features and methods of assessing Shuddha and Dushita Stanya, manifestations of Vriddhi and Kshaya of Stanya.
- b) Artava: Characteristic features of Shuddha and Dushita Artava. Differences between Raja and Artava, physiology of Artavavaha Srotas.
- c) Tvak: classification, thickness of each layer and functions.

12.Mala: Etymological derivation and definition of the term Mala. Aharamala: Enumeration and description of the process of formation of Aharamala.

- a) Purisha: Etymological derivation, definition, formation, properties, quantity and functions of Purisha. Physiology of Purishavaha Srotas, manifestations of Vriddhi and Kshaya of Purisha.
- b) Mutra: Etymological derivation, definition, formation, properties, quantity and functions of Mutra. Physiology of Mutravaha Srotas, physiology of urine formation in Ayurveda, manifestations of Vriddhi and Kshaya of Mutra.
- c) Sveda: Etymological derivation, definition, formation and functions of Sveda. Manifestations of Vriddhi and Kshaya of Sveda. Description of Svedvaha Srotas
- d) Dhatumala: Brief description of each type of Dhatumala.

13.Panchagyanendriya: Physiological description of Panchagyaanendriya and physiology of perception of Shabda, Sparsha, Rupa, Rasa and Gandha. Physiological description of Karmendriya.

14.Manas: Etymological derivation, definition, synonyms, location, properties, functions and objects of Manas. Physiology of Manovaha Srotas.

15.Atma: Etymological derivation, definition, properties of Atma. Difference between Paramatma and Jivatma; Characteristic features of existence of Atma in living body.

16.Nidra: Nidrotipatti, types of Nidra, physiological and clinical significance of Nidra; Svapnotipatti and types of Svapna.

Modern Physiology

1. Haemopoetic system – composition, functions of blood and blood cells, Haemopoiesis (stages and development of RBCs, and WBCs and platelets), composition and functions of bone marrow,

structure, types and functions of haemoglobin, mechanism of blood clotting, anticoagulants, physiological basis of blood groups, plasma proteins, introduction to anaemia and jaundice.

2. Immunity, classification of immunity: Innate, acquired and artificial. Different mechanisms involved in immunity: Humoral (B-cell mediated) and T-Cell mediated immunity. Hypersensitivity.
3. Muscle physiology – comparison of physiology of skeletal muscles, cardiac muscles and smooth muscles. Physiology of muscle contraction.
4. Physiology of cardio-vascular system: Functional anatomy of cardiovascular system. Cardiac cycle. Heart sounds. Regulation of cardiac output and venous

return. Physiological basis of ECG. Heart-rate and its regulation. Arterial pulse. Systemic arterial blood pressure and its control.

5. Adipose tissue, lipoproteins like VLDL, LDL and HDL triglycerides.
6. Functions of skin, sweat glands and sebaceous glands.
7. Physiology of male and female reproductive systems. Description of ovulation, spermatogenesis, oogenesis, menstrual cycle.
8. Physiology of Excretion – functional anatomy of urinary tract, functions of kidney. Mechanism of formation of urine, control of micturition. Formation of faeces and mechanism of defecation.
9. Endocrine glands – General introduction to endocrine system, classification and characteristics of hormones, physiology of all endocrine glands, their functions and their effects.

PRACTICAL

Ayurvedic practical

1. Assessment of Prakriti
2. Assessment of Dosha (Features of Vriddhi- Kshaya)
3. Assessment of Dhatu (Features of Vriddhi- Kshaya)
4. Assessment of Agni
5. Assessment of Koshtha
6. Assessment of Sara
7. Nadi pariksha

Modern physiology practical

1. Introduction to laboratory instruments- Simple & Compound Microscope, Scalp vein set, bulbs for blood collection, Sahli's Haemometer, Haemocytometer, pipettes, Urinometer, Albuminometer, Stethoscope, B.P. Apparatus, Harpenden's caliper, Clinical Hammer, Tuning Fork, Stop Watch, Thermometer, Centrifuge machine, ECG Machine
2. Collection of blood sample – prick, vene-puncture method, use of anticoagulants
3. Preparation of blood smear and staining
4. Estimation of Hemoglobin
5. Microscopic examination of blood
 - a. Total RBC count
 - b. Total WBC count
 - c. Differential leucocyte count

6. Packed cell volume (PCV) demonstration
7. ESR demonstration
8. Bleeding time, Clotting time
9. Blood grouping and Rh typing
10. Examination of Cardio-Vascular system
 - a. Pulse examination
 - b. Arterial blood pressure measurement
 - c. Examination of heart sounds
 - d. ECG demonstration
11. Examination of Respiratory system
 - a. Respiratory rate
 - b. Breath sounds
 - c. Spirometry
12. Examination of Nervous System- Sensory & Motor.
- 13.

14. Urine examination –Physical examination, chemical examination. Test for normal constituents of urine. Detection of specific gravity and reaction of urine.

Distribution of Practical marks

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

REFERENCE BOOKS:-

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

- Sharir Kriya – Part I & Part II – Dr. Ranade, Dr. Deshpande & Dr. Chobhe
- Human Physiology in Ayurveda - Dr Kishor Patwardhan
- Sharirkriya Vignyan Practical Hand Book– Dr.Ranade, Dr.Chobhe, Dr. Deshpande
- Sharir Kriya Part 1 – Dr.R.R.Deshapande, Dr.Wavhal
- Sharir Kriya Part 2 – Dr. R.R.Deshapande, Dr.Wavhal
- Ayurveda Kriya Sharira- Yogesh Chandra Mishra
- Textbook of Physiology - Gyton & Hall
- A Textbook of Human Physiology – A.K.Jain
- Essentials of Medical Physiology - Sembulingam, K.
- Concise Medical Physiology - Chaudhari, Sujit K.
- Principals of Anatomy & Physiology – Tortora & Grabowski
- Textbook of Medical Physiology- Indu Khurana

COURSE OUTCOME

1.3 KRIYA SHARIR

CO1: The Ayurvedic aspect includes understanding the concepts of Dosha, Dhatu, Mala, Atma, Manas, Indriyas, Ojus etc

CO2: Modern physiology with the normal functioning of our body based on different system.

CO3: Hands on training on all basic Laboratory investigations

CO4: Assessment of Prakruti , Sara , Kostha and agni.

CO5: Assessment of Dosha Vrdhi and Kshaya lakshanas with normal individuals and patients.

1.4 RACHNA SHARIR (ANATOMY)

1. Shariropkramaniya Shaarira

Sharira and shaarira vyakhya (definitions of sharira and shaarira), shadangatvam (six regions of the body), anga pratyanga vibhaga (sub divisions). Mrita sharir samshodhan. Shaarira shastra vibhaga, shaarira gyan prayojana . Constitution of purusha according to dhatubheda, panchabhautikatvam, trigunatmakatvam, tridoshamayatvam, karma purusha, and doshadhatumala-mulakatvam.

2. Paribhasha Shaarira

Kurcha, kandara, jala, asthisanghat, seemanta, seevani, rajju, snayu and lasika.

3. Garbha Shaarira

Garbha definitions, explanation of shukra, artava, garbhadhana. Role of tridosha and panchmahabhuta in the fetal development. Beeja, beejabhaga and beejabhagavayava, linga vinischaya, masanumasika garbha vriddhi-krama, garbhottpadakbhava, garbhavriddhikara bhava, garbha poshana, apara nirmana , nabhinadi nirmana. Aanga pratyanga utpatti.

4. Pramana Shaarira: Anguli pramana.

5. Asthi Shaarira

Asthi vyakhya, number, types, asthi swarootpa, vasa, meda and majja.

6. Sandhi Shaarira

Sandhi vyakhya, numbers, types of asthi sandhi.

7. Sira, Dhamani, Srotas Shaarira

- a) Definition, types and number of sira and dhamani.
- b) Description of Hridaya.
- c) Sroto shaarira: Definition, types of srotas and srotomula.

8. Peshi Shaarira

- a) Peshi vyakhya, structure, types, number and importance.
- b) Description of Peshi.

9. Koshtha Evam Ashaya Shaarira

- a) Definition of koshta and number of koshtanga.
- b) Types and description of ashaya.

10. Kalaa Shaarira

Kalaa: definition and types.

11. Uttamangiya Shaarira

Shatchakra, ida, pingala and sushumna nadi - brief description.

12. Marma Shaarira

Marma: definition, number, location, classification, clinical importance with viddha lakshana. Explanation of trimarmas. Detail description of marmas.

13. Indriya Shaarira

Definition of indriya, indriya artha and indriya adhisthan, their number and importance. Description of gyanendria, karmendriya and ubhayendriya (manas).

1. Definition and branches of anatomy. Preservation methods of the cadaver.

2. Anatomical Terminologies

Anatomical position, Planes, and explanation of anatomical terms related to skin, fasciae, bones, joints and their movements, muscles, ligaments, tendons, blood vessels, nerves,.

3. Embryology

Definitions and branches of embryology. Embryo and fetus. Sperm and ovum, fertilization. Cleavage. Germ layers formation and their derivatives. Laws of heredity, Sex determination and differentiation, Month-wise development of embryo. Foetal circulation, placenta formation, Umbilical cord formation.

4. Osteology

Bone: Definition, ossification, structure and types. Description of bones with clinical anatomy.

5. Arthrology

Joints: Definition, structure types and movements. Description of joints of extremities, vertebral joints and temporomandibular joint with their clinical anatomy.

6. Cardiovascular system

- a. Definition, types and structure of arteries and veins.
- b. Description of heart and blood vessels with their course and branches.
- c. Pericardium with applied aspect.

7. Lymphatic system

Definition, types and structure of lymph vessels, lymph glands with their clinical aspect.

8. Myology

- a) Structure and types of muscles.
- b) Description of muscles; their origin, insertion, actions, nerve supply and clinical anatomy.

Paper II

1. Respiratory System

- a. Bronchial tree and lungs with their clinical aspects.
- b. Respiratory tract: nasal cavity, pharynx, larynx, trachea, bronchial tree.
- c. Pleura with its clinical aspects.
- d. Diaphragm.

2. Digestive system

- a. Organs of digestive tract (alimentary tract) with their clinical aspects.
- b. Digestive glands: liver, spleen and pancreas.
- c. Description of peritoneum with its clinical aspects.

Urinary System

Urinary tract: kidney, ureter, urinary bladder and urethra with their clinical aspects.

Reproductive system

- a. Male Reproductive system: reproductive organs, tract and glands (prostate and seminal vesicles) with their clinical aspects.
- b. Female reproductive system: reproductive organs, tract and glands with their clinical aspects.

Endocrinology

Definition, classification & description of endocrine glands (pituitary, thyroid, parathyroid, thymus and suprarenal glands) with clinical aspects.

Nervous System

Nervous system: definition, classification and its importance. Description of brain and spinal cord.

Description of peripheral nervous system: cranial and spinal nerves, nerve plexuses, and autonomic nervous system, formation and circulation of cerebrospinal fluid and blood supply of brain and spinal cord.

3. Sensory organs

Description of structures of eye, ear, nose, tongue and skin with their clinical aspects.

Surface and radiological anatomy

a. Study of radio-imaging of limbs, abdomen, pelvis and vertebral column with its clinical application.

b. Surface anatomy of thoracic and abdominal viscera.

PRACTICAL

Content of practical

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

Distribution of marks

- | | |
|--|----------|
| 1. Spotting - | 20 marks |
| 2. Dissected organs and histology slides - | 20 Marks |
| 3. Bones, joints, marma - | 20 Marks |
| 4. Surface & radiological anatomy - | 10 Marks |
| 5. Practical records - | 10 Marks |
| 6. Viva-Voce - | 20 Marks |

Total

100 Marks

Reference Books:-

Name of Book

Brihat Shariram Vaidyaratna-
Abhinava Shariram-
Manava Sharir (Revised Edition)-
Manava Bhruva Vigyana -
Manava Anga Rekhankan Vikrian -
Sharir Rachana Vigyan (English)-
Manual of Practical Anatomy Cunnigham
Clinical Anatomy in Ayurveda -

Sharir Rachna Vigyan (English)-
Ayurvedic Human Anatomy -
Regional Anatomy -
Rachana Sharir Vigyana -
elevant chapters of Brihtrayee and Laghuthrayee
Gray's Anatomy
Text Book of Human Anatomy-
Clinical Anatomy-
Fundamentals of Human Anatomoy-

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Practical Manual Vol-1, Vol-2, Vol-3
Prof. D.G. Thatte & Prof. Suresh
Chandra
Prof. D.G. Thatte
Prof. Dr. Giridhar M. Kanthi
B. D. Chaurasia
Dr. Mahendra Sing

Inderbir Singh
Richard S Snell
Dr. Chakraborty

COURSE OUTCOME

1.4 RACHANA SHARIR

CO1: to understand the various anatomical terminologies used in Ayurveda and contemporary science

CO2: to understand the anatomy of all organ systems of the body with clinical aspects

CO3: to understand the Ayurvedic concepts about body and body structures

CO4: to understand the anatomical and pathological aspects of Marma

CO5: to have hands on training on human body dissection

1.5 Maulik Siddhant avum Ashtang Hridaya
(Basic Principles and Ashtang Hridaya- An ancient text of Ayurveda)

Part A

Ashtang Hridaya Sutrasthana Adhyaya 1 to 15

Part B

1. Ashtang Hridaya Sutrasthana Adhyaya 16 to 30
2. Description of Ashta Prakriti
3. Shastra Lakshan (Tantra), Tantraguna, Tantradosha, Tachitalya, Arthasraya, Kalpana

Reference Books:

1. Astang Hridaya : Hindi commentary by Lalchanda Vaidya
2. Astang Hridaya : Hindi commentary by Vd. B.L. Gaur
3. Astang Hridaya : English commentary by Dr. T. Sreekumar
4. Astang Hridaya : English commentary by Dr. Vishwavasudhan Gaur
5. Astang Hridaya : Sanskrit commentary by Hemadri
6. Astang Hridaya : Sanskrit commentary by Arunadatta

COURSE OUTCOME

1.5 MAULIK SIDDHANT AVUM ASHTANG HRIDAYA

CO1: knowledge in the basic concepts of Ayurveda in its real essence

CO2: knowledge in overall outlook on all the specialities of Ayurveda

CO3: Idepth understanding of basic concepts provides guidelines for reading other subjects in forthcoming years

SECOND YEAR COURSES

2.1 DRAVYAGUNA VIGYAN

(PHARMACOLOGY & MATERIA MEDICA)

1- Dravyaguna Shastra Paribhasa- Lakshana of Sapta Padartha of Dravyaguna Vijnana viz Dravya- Rasa-Guna- Virya- Vipaka- Prabhava and Karma.

2- Dravya:

Etymological derivation, definition, panchbhoutikatwa.

Classification of Dravya according to Samhitas and Nighantus Taxonomical classification.

3- Guna:

Etymological derivation, definition and Classification of Guna.

Detailed knowledge of Gurvadi Guna & Paradi gunas.

4- Rasa:

Etymological derivation, definition, Meaning of "Rasa" in various contexts. Shad Rasas (Madhura, Amla, Lavana, Katu, Tikta, and Kashaya), Panchabhautik constitution of Rasas, Nirvrittivisheshakrama (manifestation in general and particular), Ritu and shad rasa Rasanurasayoh bheda (Difference between rasa and anurasa), Lakshana (characteristics), Guna and Karma of shad Rasas, Kopana and Shamana of Dosha and dushya by Shad rasas. Effects of excess usage of Rasa. Rasopalabdhhi, Rasaskandha.

5- Vipaka:

Etymological derivation and definition, difference between Avasthapaka and Vipaka, Types of Vipaka, (Dvidvidha-Trividha, Panchavidha) Guna and karma of Vipaka.

Grades of Vipaka (taratamya), Vipakopalabdhhi hetu (Factors to determine Vipaka).

6- Veerya:

Etymological derivation, definition and Swarupa of Virya, Number of Virya.

(Dwividha & Ashtavidha), Panchabhauthikatva

Virya karmani (Effects of Virya), General principles in determination of virya along with exceptions.

7- to part used. Period of collection according to virya, samrakshana vidhi (preservation of **Prabhava:**

Definition, Effects of Prabhava.

8- Interrelation of Rasa-Guna-Virya-Vipaka-Prabhava with respect to their strength (balabal nirupana). Samanapratyayarabdha and Vichitrapratyayarabdha dravyas.

9- Karma:

Lakshana, swarupa and bheda of karma (Definition, nature and types of action).

Explanation of the following Karmas with examples:

- | | | |
|------------------|----------------|-----------------|
| 1. Deepana | 2. Pachana | 3. Samshodhana |
| 4. Samshamana | 5. Anulomana | 6. Sransana |
| 7. Bhedana | 8. Rechana | 9. Chhedana |
| 10. Lekhana | 11. Grahi | 12. Sthambhana |
| 13. Madakari | 14. Pramathi | 15. Abhishyandi |
| 16. Vyavayi | 17. Vikashi | 18. Rasayana |
| 19. Vajeeekarana | 20. Jeevaneeya | 21. Balya |
| 22. Brimhana | 23. Langhana | 24. Medhya |

10. Brief information on Karmas of dashemani gana of Charak Samhita.

11- Mishraka Gana:

11a)- Audbhida Gana (Vegetable origin) Brihatpanchamoola, Laghupanchamoola, Vallipanchamoola, Kantakapanchamoola, Trinapanchamoola, Madhyamapanchamoola, Jeevaneeya panchamoola, Panchapallava, Panchavalakala, Triphala, Trikatu, Trimada, Chaturusana, Panchakola, Shadusana, Chaturbeeja, Jeevaniya gana, Ashtavarga, Trijataka, Chaturajataka, Katuchaturjataka Panchatikta, Amlapanchaka,

Chaturbhadra, Trikarshika, Swalpatriphala, Madhuratriphala, Mahavisha, Upavisha, Agrya aushadh varga- Knowledge of Agrayaushadha Varga with example.

11 b)- Jangama Gana (Animal origin)- Ksheerashtaka, Mutrashtaka, Pitta panchaka.

11 c)- Parthiva Gana (Mineral origin) - Lavana Panchaka, Kshara dvaya, Kshara Ashtaka.

12- Basis of nomenclature:

Basis of nomenclature of dravya, Basis and Derivation of synonyms.

13. Bheashaja Pariksha vidhi (as described in Charaka samhita vimana sthana 8), Dravya Sangrahana (collection of dravya)- Ecology- Classification of desha (geographical area) and bhumi (soil), swarupa of sangrahaniya dravya of (Nature and quality of drug to be collected). Sangrahana vidhi (Method of collection) -Vegetable and Animal origin drugs according to collected dravyas), bheashajagara (Storehouse), study on different prayojyanga (useful plant parts).

(I)

14 a) Concept of dravya shodhan (purification of dravya).

14 b) Brief knowledge of Apamishran (adulterants)

14 c) Concept of Abhava pratinidhi dravya (substitutes)

15- Prashasta bhesaja (ideal drug), plant extracts. Concept of viruddha Dravya (incompatibility of the dravya).

16- Introduction to Nighantu Vigyan - Dhanwantari Nighantu, Bhavaprakashanighantu, Rajanighantu.

17- Brief knowledge of cultivation, conservation of medicinal plants and information about endangered species.

(II)

18. - Introduction, Definition & scope of Pharmacology and Principles of general Pharmacology. Brief Knowledge about pharmacology of the following - Anaesthetics, CNS depressants, Sedatives, Hypnotics, Tranquilisers, Antipyretics, Analgesics, Antiepileptics, Antihypertensive, Antianginal, Antiplatelet, Hypolipidaemic, Haemopoetic, Coagulants, Bronchodilators, Aerosols/ Inhalants, Expectorants, Digestants, Carminatives, Antacids, Antiulcer, Laxatives, Antidiarrhoeals, Antiemetic, Hepatoprotective, Diuretic, Antidiuretic, Lithotriptic, Antiinflammatory, Hormonal therapy, Antiobesity, Antidiabetic, Antithyroid, Oxytocic. Galactagogues, Contraceptives, Styptics, Antihistamines, Antimicrobial, Antibiotics, Antimalarial, Amoebicidal, Antifilarial, Anthelmentic, Antifungal, Vitamins, Minerals, Water imbalance and IV fluids, Vaccines, antivenom, antirabbies serum, Local anti septics, drugs in ophthalmic practice, Anti cancer drugs and immunomodulators.

1-Detailed Knowledge of Following Dravya –

1- Detailed knowledge of following drugs with respect to Basonym of drug, Main Synonyms, Regional Name, Botanical Name, Family, Classification of Dravya (Gana) as described in Charak and Sushrut, External morphology, Useful parts, Important phytoconstituents, Rasa panchaka, Action on Dosha, Dhatu, Mala, Prayogarha vyadhi (therapeutic indications), Amayikaprayoga and Matra (Therapeutic administration and Dose), Vishishta yoga (names of important formulations), Vishakta Lakshan (adverse effects), Chikitsopachara (remedial measures) and Shodhana (as required)

[Alphabetical order and Botanical names to all the drugs are to be added]

Agaru	Guggulu	Pashanabheda
Agnimantha	Haridradvaya	Patala
Agnimantha	Haritaki	Pippali-Pippalimula
Ahiphena	Hingu	Prishniparni
Amalaki	Jambu	Punarnava
Apamarga	Jatamansi	Pushkarmoola
Aragvadha	Jatiphal	Rasna
Aragvadha	Jeerakadvaya	Rasona
Ardraka-Sunti	Jyotishmati	Rohitaka
Arjuna	Kalamegha	Saireyaka
Arjuna	Kampillaka	Sarivadvaya
Arkadvaya	Kanchanara	Sarpagandha
Ashvagandha	Kantakari	Shalaparni
Asoka	Kapikacchu	Shallaki
Ativisha	Karkatakshringi	Shalmali
Bakuchi	Karpura	Shankhapushpi
Baladvayam.	Katuki	Shatavari
Bhallataka	Khadira	Shigru
Bharangi	Kiratatikta	Shirisha
Bhrungaraj	Kumari	Shyonaka
Bibhitaka	Kumkum Kesara	Talisa Patra
Bijak/ Vijaysar	Kupilu	Tila
Bilva	Kushta	Trivrut
Brahmi	Kutaja	Tulasi
Bruhati	Lavanga	Tvak
Chandanadvaya,	Lodhra	Ushira
Chitraka	Madanaphala	Vacha
Dadima	Mandukaparni.	Varahi
Devadaru	Manjishtha	Varahi
Dhataki	Maricha	Varuna
Durva	Musta	Vasa
Eladvayam	Nagakeshara	Vatsanabha
Eranda	Nimba	Vidanga
Gambhari	Nirgundi	Vidari
Gokshura	Palasha	Yastimadhu
Guduchi	Parpata	Yavani

Part B-

II- Brief Knowledge of following dravyas with Respect to Sanskrit Name, Botanical Name, Family, Habit (Samanya Swarupa), Parts Used and Indications.

Agastya	Jati	Palandu
Ajamoda	Jayapala	Parasika Yavani
Akarkarabh	Jeevanti	Parijata
Amlavetasa	Kadali,	Parisha

Amra	Kadamba	Parnabija
Amragandhiharidra	Kaidarya	Parnayavani
Ankola	Kakamachi	Parpataka
Aparajita	Kamala	Parushaka
Ashvagol	Kankola	Patalagarudi
Ashvattha	Karanja	Patha
Asthishrunkhala	Karavellaka	Patola
Atasi	Karavira	Patranga
Avartaki	Karira	Pilu
Avartani	Karpasa	Plaksha
Babbula	Kasamarda	Prasarani
Badara	Kasha	Priyala
Bakula	Kasni	Priyangu
Bhumyamalki	Kataka	Puga
Bijapooru	Katphala	Putiha
Bola	Kebuka	Putranjivaka
Chakramarda	Kharjura	Rajika/Sarshapa
Champaka	Kitmari	Rohitaka
Chandrashura	Kokilaksha	Saptachakra
Changeri	Koshataki	Saptaparna
Chavya	Kulatha	Saral
Chirbilva	Kumuda	Sarja
Chopachini	Kusha	Shala
Danti	Kusmanda	Shara
Darbha	Lajjalu	Sharapunkha
Dattura	Langali	Shatahwa
Dhanvayasa	Latakaranja	Shati
Dhanyaka	Latakasturi	Snuhi
Draksha	Madayantika	Sringataka
Dronapushpi	Mahanimba	Svarnakshiri
Gandhaprasarini	Mandukaparni	Tagara .
Garjara	Markandika	Tailaparni
Gojihva,	Masha	Talmuli
Gorakshaganja	Mashaparni	Taruni
Gunja	Matulunga	Tavakshira
hinsapa	Mayaphala	Teja Patra
Hinstra	Meshashrungi	Tuvaraka
Hribera	Methika	Udumbara
Hrutpatri	Mudgaparni	urana
Ikshu	Mulaka	Vamsha
Indravaruni	Murva	Vata
Ingudi	Nagabala	Vatada
Irimesa	Nala	Vrudhadaru
Ishvaku	Narikela	Vrukshamla
Isvari	Nili	
Japa	Padmaka	

III .-Introduction, Guna, Karma and Uses of following Jantava Dravya (Drugs of Animal Origin).

- | | | |
|------------|-------------|----------------|
| 1. Kasturi | 2. Gorochna | 3. Mrigasringa |
|------------|-------------|----------------|

IV Introductory Knowledge of Following Annapana Varga:

- | | | |
|---------------|-----------------|----------------|
| 1. Jala Varga | 2. Dugdha Varga | 3. Madhu Varga |
|---------------|-----------------|----------------|

4. Taila Varga
7. Phala Varga
10. Aharayogi

5. Sukadhanya Varga
8. Shaka Varga

6. Shamidhanya Varga
9. Mamsa Varga

PRACTICALS

1. A. Study of Macroscopic, Microscopic characters and Demonstration of organoleptic characteristics and grahya-agrahyatva of following plants and their useful parts.
 - i. Kanda (stem) - Guduchi or Ashtishrinkhala
 - ii. Patra (leaves) - Vasa or Kumari
 - iii. Pushpa (flower and Parts of flower)- Dhataki or Japa
 - iv. Phala (fruit) - Maricha or Madanaphala or Vidanga
 - v. Beeja (seeds) - Eranda or Kapikacchhu
 - vi. Twak (bark) - Kutaja or Arjuna or Ashwattha
 - vii. Moola(Root)- Punarnava or Chitraka
 - viii. Niryasa (exudate) - Guggulu or Mocharasa
 - ix. Jangama dravya - Madhu or Ghrita.

2. Records of Herbarium sheets of 50 medicinal plants Compulsory study tour other state/s for field knowledge and procurement of plant species.

PRACTICAL MARKS DIVISION

1	Herbarium	20 Marks	
2	Practical record	20 Marks	
3	Drug identification- spotting -Raw/crude drugs		30 marks
4	Plant identification spotting -fresh		30 marks
5	Practical	40 marks	

6. Viva-Voce 60 Marks

Total

Reference Books

1. Abhinav Buti Darpan (Vol.1-2) - Vd. Roop Lal Vaishya
2. Aushadna Vigyna Shastra - Acharya Pt. Vishvanatha Dwidevi
3. Ayurvediya Aushadnkarma vigyana - Acharya V.J. Thakur
4. Bedi Vanaspati Kosha - Prof. Ramesh Bedi
5. Bhaishajyaguna Vigyana - Dr. Alakhnarayan Singh
6. Bhav Prakash Nigantu (English) - Shreekanthamurti
7. Bhav Prakash Nighantu - With Vd. Krishna Chandra Chunekar commentary
8. Bhrinad dravyagunadarsha - Mahendra Kumar Shastri
9. Classical Uses of Medicinal Plants - Acharya Priyavrata Sharma
10. Controversial Medicinal Plants - Vd. G. Bapa Lal
11. Dalhana Ka Dravyaguna Shastra Ke Kshetra Me Yogadana - Vd. Shiv Kumar Vyas
12. Dravyaguna Kosha - Acharya Priyavrata Sharma
13. Dravyaguna Sutram - Acharya Priyavrata Sharma
14. Dravyaguna Vigyana - Dr. Gyanendra Pandey
15. Dravyaguna Vigyana(Vol. 1-2) - Acharya Yadavji Tikram Ji
16. Dravyaguna Vijyana - Dr. V.M. Gogate
17. Dravyaguna Vigyana (Vol. 1-5) - Acharya Priyavrata Sharma
18. Dravyaguna Shastrum - Vaidya G.A. Phadake
19. Dravyaguna Vijyana - Dr. A.P. Deshpande
20. Dravyagunavijnana basic Principles - Prof.D.S.Lucas
21. Forgotten Healers (Indian Medicinal Plants) - Dr. Prakash Pranjape
22. Glossry of Vegetable Drugs in Bhritrtrayis - Thakur Balwant Singh & Vd. Krishna Chandra Chunekar
23. Introduction to Dravyaguna - Acharya Priyavrata Sharma
24. Kriyatamka Aushadi Parichaya - Acharya Pt. Vishvanath Dwidevi
25. Materia Medica - Acharya Ghosh
26. Nighantu Adarsh (Vol. 1-2) - Vd. Bapa Lal
27. Pharmacological basis of Medical Practice - Goodman & Gillman
28. Pharmacology and Pharmacotherapeutics - Satoskar Bhandarkar & Ainapure
29. Prayogatamaka Dravyaguna Vigyana - Dr. Maya Ram Uniyal
30. Priya nighantu - Acharya Priyavrata Sharma

- | | | |
|-----|------------------------------------|---------------------------------|
| 31. | Raspanchaka/Dravyaguna Siddhanta - | Prof. Shivcharan Dhyani |
| 32. | System of Plant Nomenclature in | - Dr. Gyanendra Panday Ayurveda |
| 33. | Text Book of Pharmacognosy | - Trees & Valis |
| 34. | Textbook of Dravyaguna - | Dr.K.Nishteswar |
| 35. | Unani Dravyaguna Vigyana | - Hakim Daljeet Singh |
| 36. | Useful parts of Charaka, Sushurut, | - and Vagbhata. |
| 37. | Uttarakand Ki Vanaspatiya | - Dr. Gyanendra Pandey |
| 38. | Vanoaushadi Darshika | - Thakur Balwant Singh |
| 39. | Vanoaushadi Nidarshika | - Dr. Ram Sushil Singh |
| 40. | Vedic Vanaspatiyan | - Dr. Dinesh Chandra Sharma |

COURSE OUTCOME

2.1 DRAVYAGUNA VIGHYAN

CO1: Understanding basic concepts of Ayurveda pharmacology

CO2: Knowledge about medicinal plants

CO3: Knowledge about basic concept of modern pharmacology.

CO4: knowledge about cultivation, adultration,substitution of drugs

CO5: Knowledge about formulations of medicines

2.2 ROGA NIDANA

Dosha Dushyadi Vigyan

1. Definition and importance of Roganidana.
2. Samanya Nidana and Samanya Lakshana of Dosha Vriddhi, Kshaya and Prakopa.
3. Dosha Dhatu Ashraya Ashrayi Bhava.
4. Dhatu Kshaya Vriddhi Lakshana.
6. Mala Kshaya Vriddhi Lakshana.
7. Hetu, Bheda and Lakshana of Agni Dushti.
8. Definitions and Samanya Lakshana of Ama.
9. Sama and nirama Dosha, Dushya Lakshana.
10. Dosha Paka and Dhatu Paka Lakshana.
11. Concept, classification, diagnosis and general complications of Avarana.
12. Doshagati and Rogmarga.
13. Detailed study of Srotomoola and Srotodushti Samanya and Vishishta Hetu Lakshana of all Srotas. Differences between Sroto Dushti and Kha Vaigunya.

II. Vyadhi Vigyan

1. Definition, synonyms and classification of Vyadhi & Vyadhi Ghatak.
2. Criteria for nomenclature of Diseases in Ayurveda (Vyadhinamakarana).
3. Bija, Bija Bhaga and Bija Bhaga Avayava Dushti.
4. Basic knowledge of Hereditary, Congenital, Acquired, Multifactorial, Traumatic and Environmental disorders.
5. Introduction to ICD Classification of Diseases of WHO and DSM classification.
6. Samanyaja and Nanatmaja Vikara. NidanarthakaraVyadhi, Hetu Sankara, Lingasankara, Vyadhisankara, Vyadhi Awastha.
7. Dhatu, Updhatu, Mala and Indriya Pradoshaj Vikara.
8. Concept of AshtaMahagada .
9. Introduction to Ashta Nindita.
10. Definition and classification of Vyadhikshamatva.
11. Ojas – types of Ojo Dushti- Visrimsa- Vyapad & Kshaya & It's Diseases.

III. Basic Pathology

1. Introduction to pathology and its sub-divisions.
2. Introduction to Cell Injury and Cellular adaptations.
3. Definition and brief description of inflammation – Healing/repair.
4. Definition and brief description of edema – shock – hemorrhage, Thrombosis , embolism, Ischemia and Infarction.
5. Types of Immunity – different types of immune responses in the body – Basic knowledge of auto immune diseases, Acquired immune deficiency disease and hypersensitivity.
6. Nomenclature and classification of tumors - difference between benign and malignant tumors.
7. Introduction to Nutritional disorders – disorders of macro and micro nutrients.
8. Introduction to infections.
9. Introduction and classification of microorganisms such as virus- bacteria-fungus.

Nidana Panchaka Vigyana

1. Difference between Roga and Rogi Pariksha.
2. Importance of Nidan Panchaka.
3. Hetu - Definition, Synonyms and Classification.
4. Purva Rupa – Definition, Synonyms, Samanya and Vishishta Purvarupa.
5. Rupa - Definition, Synonyms, Samanya and Pratyatma Lakshana. Difference between Vyadhi and Lakshana.
6. Upashaya / Anupashaya– Definition, Types and its importance in diagnosis.
7. Samprapti – Definition, Synonyms and Type and Samprapti Ghataka.
8. Shat Kriyakaala. Relationship between Nidana Panchaka and Shat Kriyakaala.
9. Upadrava and Udarka.
10. ArishtaVigyan – Definition, Types and its importance.
11. Sadhyasadhyatwa – Types, their parameters and importance.
12. General diagnostic principles of AnuktaVyadhi (Ch. Vi. 4).

V. Pariksha Vigyana

1. Importance and knowledge of Aptopadeshadi & Darshanadi Trividha, Chaturvidha, and Shadvidha Pariksha.
2. Importance and Knowledge of Ashtasthana Pariksha.
3. Importance and Knowledge of Karanadi Dashavidha Parikshya Bhava.
4. Importance and Knowledge of Dashavidha Pariksha.
5. Basic knowledge of ECG, USG, X Ray, CT Scan, MRI.

Systematic study of Nidana Panchaka of following diseases (Including Upadrava, Arishta and Sadhyasadyata).

I. Diseases of Rasavaha Srotas

- 1(a) Jwara (Jwarabheda-Ama, Pachyamana and Nirama Jwara, Agantukajwara, Punaravartaka Jwara, Vishama Jwara, Dhatugata Jwara, Charakokta Sannipata Jwara).
- 1(b) General mechanism of Fever, Introduction to the Aetiopathogenesis of Malaria, Typhoid, Dengue fever, Influenza and Chikungunya.
- 2(a) Pandu, Amavata, Hridroga, Shotha.
- 2(b) Introduction to Anaemia & its Classification, Rheumatic fever, Rheumatoid Arthritis, Hypertension, Angina, Ischaemic Heart Disease, Myocardial Infarction and CCF.

II. Diseases of Raktavaha Srotas

1. Kamala - Raktapitta - Vatarakta - Kroshtuksheersha - Shitapitta - Maha Kushtha - Visarpa - Shwitra and Introduction to Kshudra Kushtha.
2. Introduction to Hepatomegaly, Spleenomegaly, Leukaemia, Thalessemia, Sickle cell Anaemia.
3. Introduction to Urticaria, Psoriasis, Eczema, Pemphigus.

III. Diseases of Mamsavaha Srotas

- (a) Galganda
- (b) Introduction to Thyroid disorders

IV. Diseases of Medovaha Srotas

1. Sthoulya - Karshya - Prameha.
2. Introduction to Obesity and Diabetes Mellitus.

V. Diseases of Asthi - Majjavaha Srotas

1. Vatavyadhi - Akshepaka - Apatanaka - Ardita - Pakshaghata - Gridhrasi - Vishwachi, Avabahuka, - Manyasthambha, Katigraha, Pangutwa
2. Sandhigatavata, Asthi-Majjagata vata.
3. Introduction to Osteo- Arthritis, Osteoporosis.
4. Introduction to Parkinson's disease, Stroke, Lumbago- Sciatica syndrome, Bell's Palsy, Cervical- Lumber & Ankylosing Spondylitis.

VI. Diseases of Shukravaha Srotas

1. Introduction to Klaibya and Vandhyatva.
2. Introduction to male and female infertility.

VII. Diseases of Pranavaha Srotas

- 1(a). Kasa - Shwasa - Hikka - Urahkshata - Shosha - Rajayakshma.
- 1(b). Introduction to the aetiopathogenesis of Pneumonia, Pleural effusion, Bronchitis, Bronchiectasis, Bronchial Asthma.

VIII. Diseases of Annavaha- PureeshavahaSrotas

1. Agnimandya - Ajirna - Aruchi- Chhardi - Amlapitta- Shoola – Parinama Shoola – AnnadravaShoola- Atisara – Pravahika - Grahani –Gulma- Udara Roga.
2. Introduction to Anaha, Adhmana, Atopa, Visuchika Alasaka, Vilambika.
3. Introduction to Peptic Ulcer, Irritable Bowel Syndrome (IBS) Diarrhoea, Dysentery, Constipation, Inflammatory Bowel Diseases.

IX. Diseases of Udakavaha Srotas

- 1(a) Introduction to Trishna, Daha.
- 1(b) Introduction to water and electrolyte imbalance disorders.

X. Diseases of Mutravaha Srotas

- 1(a) Mutrakrichha – Mutraghata.
- 1(b) Introduction to Urinary Tract Infection, Nephropathies.

XI. Diseases of Swedavaha Srotas

- 1(a) Introduction to Khalitya, Palitya.

XII. Diseases of Manovaha Srotas

- 1(a) Apasmara, Unmada, Atatwabhinivesha-Vishada, Anidra, Mada, Murchha, Sanyasa.
- 1(b) Introduction to Epilepsy, Depression, Anxiety neurosis.

XIII. Upasargajanya Vyadhi (Communicable diseases)

- 1(a) Romantika – Masurika – Upadamsha – Phiranga.
- 1(b) Introduction to Measels, Chickenpox, Leprosy, Tuberculosis and AIDS.

XIV. Krimi Vigyana

- 1) Definition, classification of Krimi and features of Krimiroga
- 2) Snayuka, Shleepada.
- 3) Introduction of Filariasis and classification of common parasites.

PRACTICAL

Fundamental Principles of Laboratory Tests

Introduction to laboratory, Sterilization, glass wares, solutions reagents and safety procedures, Disposal of biomedical wastes.

ii) Haematology

- 1 Haemoglobin estimation.
- 2 Blood cells counting - WBC, RBC, platelets.
- 3 Hematocrit /Packed cell volume (PCV).
- 4 Erythrocyte indices - MCV, MCH, MCHC.
- 5 Peripheral blood smear, staining technique and differential leucocyte count.
- 6 Peripheral blood film examination in Anemia, Leukemia, Malaria, Filaria (Demonstration).
- 7 ESR.
- 8 Screening test for bleeding disorders- bleeding time (BT), Clotting time (CT), Demonstration of Prothrombin time (PT).
- 9 Blood grouping - ABO system, Rh typing (Rhesus system).

iii) Urine Examination

1. Ayurveda anusara mutrapariksha.
2. Physical Examination - Volume, Reaction (Ph) & Specific Gravity.
3. Chemical Examination for - Proteins, Glucose, Phosphate, Ketone, Bile salts, Bile pigment.
4. Dipstick examination
5. Demonstration of Microscopic Examination.

iv) Stool Examination

- 1 Ayurveda anusara purishapariksha.
- 2 Physical examination, Sama-Nirama Pariksha.
- 3 Microscopic examination of ova & cyst (Demonstration)
- 4 Occult Blood Test.

v) Demonstration of Sputum Examination

- 1 Ayurveda anusara sthivanapariksha.
- 2 Physical, Chemical and Microscopic Examination of the sputum.
- 3 Sample collection and Demonstration of AFB.

vi) Demonstration of Semen examination

- 1 Ayurveda anusara Retaspariksha.
- 2 Semen examination.

vii) Biochemical Examination – (Demonstration)

Blood Glucose, Serum Bilirubin, Blood Urea, Lipid Profile, Serum Creatinine, Serum Uric acid etc.

viii) Demonstration of different staining techniques in microbiology.

ix) Demonstration of Sero-immunological Investigations: RA and Widal.

x) Laboratory record – maintenance of laboratory record book.

Bed side Practical (Clinical Methods)

1. Introduction and demonstration of clinical methods (General and Systemic Examination).
2. Practical demonstration of examination of Roga based on Pancha Nidana.
3. Demonstration of instruments used for clinical examination.
4. Practical records of clinical examination of at least 20 long cases in I.P.D including Aturbala-pramana pareeksha.
5. Practical records of clinical examination of at least 20 short Cases based on Ashta vidha pariksha in O.P.D.
6. Demonstration of ECG, USG and Radio imaging techniques.

Distribution of Marks for final Practical Examination

1. Daily Record -10 Marks
2. Identification of Instruments -10 Marks
3. Laboratory Experiments -20 Marks
4. Short Case -10 Marks
5. Long Case -20 Marks
6. Viva - Voce -30 Marks

Reference Books

1. Madhava Nidana (Madhukosha Pt. Yadunandan Upadhyay Commentary) Part 1 – 2
2. Doshakaranatwa Mimamsa - Acharya P.V. Sharma
3. Nadi Darshan - Vd. Tara Shankar Mishra
4. Nadi Vigyana Vidyotini Hindi Tika
5. Nadi Vigyan- Shri Satya Dev Vashisht
6. Nadi Vigyan- Gangadhar Tika
7. Rogi Pariksha vidhi Acharya- Priyavrata Sharma
8. Ayurvediya Roga Vargikaran- Vd. Ramanath Dwivedi & Vd. Gurdip Singh.
9. Ayurvediya Nidan Evum Chikitsa Ke Siddhanta - Prof. Ram Harsh Singh.
10. Relevant portions of Charak Samhita, Sushrut Samhita and Vagbhata.
11. Text Book of Pathology- William Boyds.
12. Text Book of Pathology- Harsh Mohan.
13. Text Book of Pathology- Dey and Dey.
14. Text Book of Parasitology -Ramnik Sood.
15. Clinical Pathology and Bacteriology- S.P. Gupta.
16. Clinical methods in Ayurveda- K. R . S. Murthy.
17. Parameswarappa's Ayurvediya Vikriti Vigyan and Roga Vikriti Vigyan-Dr. P.S. Byadgi.
18. Oxford Handbook of Clinical Examination Oxford Handbooks and Practical Skills
19. Advanced Clinical Evaluation System for Practical Assessment of Clinical Examination Skills.
20. Symptoms & Signs in Clinical Medicine - Chamberlains.
21. Clinical Methods- Hutchison's.
22. Bedside Clinics in Medicine Part- I & II-Kundu.
23. Common Medical Symptoms- Mehta.
24. Advances in Pathology & Lab Med- Weimstean, Galem, Anderson, Cortan, Wick, Zumwelt.
25. Clinical Laboratory medicine Edited by Kenneth D Mc. Chately.
26. General Pathology- Walter & Israel Churchill Living stone.
27. A Comprehensive Dictionary of Pathology- Chris Newann.
28. Practical Pathology- Dr. K. Uma Chaturvedi.
29. Clinical examination- Douglas/Macleod's.
30. Pathology Practical book for Undergraduates- Harsh Mohan.
31. Medical Laboratory Technology - R. Sood.
32. Clinical Diagnosis and Management by Todd, Sanford and Davidson Laboratory methods
33. Clinical Hematology In Medical Practice- Degruchy's.
34. Robbins Basic Pathology- Kumar, Abbas, Fausto at al.

CORSE OUTCOME

2.2 ROGA NIDAN

- CO1: Classification & etiopathogenesis of each disease in detail, both Ayurveda & modern.
- CO2: Understanding of systemic examination in detail.
- CO3: Practical understanding of all laboratory procedures in detail.
- CO4: A thorough knowledge of basic investigatory procedures.
- CO5: Understanding the prognosis & differential diagnosis in detail.

2.3. Rasashastra Evam Bhaishajyakalpna

(IATROCHEMISTRY AND AYURVEDIC PHARMACEUTICS)

RASASHASTRA

- 1.** Definition and etymology of Rasa, History of Rasashastra, Importance of Rasaushadhi, Concept of Rasa-Rasayana, Concept of Raseshwar Darshana. Concept of Rasashala and Rasamandap.
- 2.** Brief Description and Application of Technical terminologies (Paribhasha): Avapa, Nirvapa, Dhalana, Bhavana, Jarana, Murchana, Shodhana, Marana, Amrutikarana, Lohitikarana, Mruta Loha, Satwa Patana, Druti, Apunarbhava, Niruttha, Rekhapura, Varitara.
- 3.** Dravya Varga: Amlavarga, Panchamrittika, Panchagavya, Panchamrita, Ksharashtaka, Dravakagana, Mitra panchaka, Rakta varga, Lavanapanchaka.
- 4.** Brief description of Yantras and their application Ulukhala Yantra, Khalwa Yantra, Kachhapa Yantra, Damaru Yantra - Vidhyadhara Yantra- Urdhwapatan, Addhapatan & Tiryakpatana Yantra, Jaranartha Tulayantra, Dolayantra, Patalayantra, Palika Yantra, Baluka Yantra, Bhudhara Yantra, Sthali Yantra, Swedana Yantra.
- 5.** Brief description & application of Musha (Crucible): Samanya Musha, Gostani musha, Vajra Musha, Maha musha, Yoga musha, Vrintaka Musha, Malla / Pakwa musha. Different types of crucibles e.g. Silica crucible, platinum crucible. Mudra and Sandhi Bandhana.
- 6.** Brief description & applications of Chullika, Satwapatana Koshti, Patala Koshti, Gara Koshti, Angarakoshti and knowledge of various heating appliances viz. Gas stove, Hot plate, Heating mantle, Induction Stove, Hot Air Oven.
- 7.** Concept, definition and types of Puta: Suryaputa, Chandraputa, Gomayaputa, Lawakaputa, Kukkutaputa, Kapotaputa, Varahaputa, Gajaputa, Mahaputa, Kumbhaputa, Valukaputa, Bhudharaputa, Applications of Electric muffle furnace and fuel (diesel) dependent furnace. Brief introduction to thermocouple and pyrometer.
- 8.** Knowledge of Parada: Synonyms, Occurrence, natural and artificial sources of Parada, Hingulottha parada, Types of Parada, Parada Dosha: Naisargika, Yougika, Aupadhika (Kanchuka). Grahya-Agrahya Parada, Parada gati, Parada bandha, Shodhana of Parada. Parada sanskara and brief description of Ashtasamskara.

9. Concept of Murchhana and Jarana of Parada, Preparation of Kajjali, Classification of Rasaushadhi: Khalvi rasa e.g. Tribhuvana Keerti Rasa, Parpati Rasa- Rasa Parpati, Kupipakva Rasa- Rasa sindur, Pottali rasa - Hemagarbha pottali. Rasa sevana vidhi and pathya and apathya.

10. Brief introduction of quality control , standardization and GMP of Rasaoushadhies.

Occurrence, Synonyms, Minerological identification, Sources, Types, Grahya and Agrahyata, Shodhana, Marana and other processing techniques. Properties, dose, anupan and therapeutic uses, pathya – apathya and ashuddha, apakwa and avidhee sevanjanya dosha and its management, important formulations of the following:

- 1. Maharasa** – Abhraka (Biotite Mica), Vaikrantha, Makshika (Chalcopyrite), Vimala (Iron Pyrite), Shilajatu, Sasyaka (Peacock ore), Chapala and Rasaka (Sphalerite).
- 2. Uparasa** – Gandhaka (Sulfur), Gairika (Red Ochre), Kasisa (Green Vitriol), Kankshi (Alum), Haratala (Orpiment), Manahshila (Realgar), Anjana and Kankustha.
- 3. Sadharana Rasa** – Kampillaka, Gauri pashana (Arsenic oxide), Navasadara (Ammonium chloride), Kaparda (Cowry), Agnijara, Giri Sindura (Red oxide of Hg), Hingula (Red Cinnabar) and Mriddara shringa (Litharge).
- 4. Dhatu** - Swarna (Gold), Rajata (Silver), Tamra (Copper), Loha (Iron), Vanga (Tin), Naga (Lead), Yashada (Zinc), Kamsya (Bronze), Pittala (Brass), Vartaloha. Dhatu -graha sambandha.
- 5. Ratna** - Manikya (Ruby), Mukta (Pearl), Pravala (Coral), Tarkshya (Emerald), Pushparaga (Topaz), Vajra (Diamond), Nilam (Sapphire), Gomeda (Zircon or Cinnamome stone), Vaidurya (Cats eye). Ratnapariksha, Ratnadosha, Ratna-graha sambandha.
- 6. Uparatna-** Vaikranta (Tourmaline), Suryakanta (Sun stone), Chandrakanta (Moon stone), Rajavarta (Lapis lazuli), Perojaka (Turquoise), Sphatikamani (Quartz), Trinakanta, Palanka, Putika, Rudhir.
- 7. Sudha varga** – Sudha (Lime stone), Kaparda (Cowries), Shukti (Oyster Shell) , Shankh (Conch Shell), Mriga shringa (Stag horn), Khatika, Godanti (Gypsum) and Samudraphena (Cattle Fish bone), Kukkutanda twak (Hen’s Egg Shell).
- 8. Sikata varga** - Sikata (Silica), Dugdhapashana (Talc), Nagapashana / Jaharmohara (Serpentine), Badarshama (silicate of lime), Vyomashma (Sangeyashab - Jade), Kousheyashma (Asbestos) and Akika (Agate).
- 9. Kshara varga** - Sarja kshara (Sodium bicarbonate), Yava kshara, Tankana kshara (Borax), Surya Kshara (Potassium Nitrate).

- 10. Miscellaneous** - Mandura, Bola, Dam-ul Akhawayan (Raktabandhini), Kasturi, Bhoonag, Mayurpiccha, Sarjarasa, Madhoochishta.
- 11. Visha and Upavisha**-Introduction, collection and storage, classification, synonyms, shodhana, antidote, therapeutic and toxic doses, anupan, therapeutic uses, and formulations of following Visha and Upavisha-Vatsanabha, Kuchala, Jayapala, Dhattura, Bhanga, Bhallataka, Gunja, Arka, Snuhi. Langali, Karaveera, Ahiphena and Chitrakmool.
- 12. Aushadhi Yoga Gyanam- ingredients, manufacturing process, and bhesajprayogvidhi.** Arogya Vardhini Gutika, Kasturibhairava Rasa, Kumara Kalyana Rasa, Garbhapala Rasa, Chandraprabha Vati, Chandramrita Rasa, Pratapalankeshwara Rasa, Pravalapanchamrita Rasa, Anandbhairava Rasa, Yogendra Rasa, Laxmivilas Rasa, Vasantakusumakara, Vasantamalati Rasa, Brihat Vata Chintamani Rasa, Shankha vati, Shwaskuthara Rasa, Hinguleswara Rasa, Hemagarbhapottali, Hridyarnava Rasa, Swarnavanga, Makaradhwaja, Putapakwavaisham Jwarantaka Loha, Vatvidhvamsan Rasa, Kamadugha Rasa, Laghusutshekhara Rasa, Navayasa Loha, Saptamrita Loha, Tamra Parpati, Panchamrita Parpati, Sveta Parpati.
- 13. Introduction to pharamcovigilance and its status in India, with reference to Ayurvedic drugs.**
- A)** Necessary to know – From part A and B : S. No. 1 to 9
- B)** Desired to know – From part B : S. No. 10

Practical

Minimum Twenty five practicals to be performed

- | | | |
|-----------|-----------------------------|---|
| 1. | Rasa [Parada] | Samanya Shodhana of Parada
Kajjali
Mugdha rasa |
| 2 | Maharasa varga | Shodhana of Abhraka
Dhanyabhraka nirmana
Shodhana of Makshika
Shodhana of Shilajatu
Shodhana of Sasyaka. |
| 3. | Uparasa varga | Shodhana of Gandhaka
Shodhana of Gairika
Shodhana of Kasisa
Shodhana of Kankshi
Shodhana of Haratala
Rasa manikya nirman
Shodana of Manashila |
| 4. | Sadharana rasa varga | Shodhana of Hingula
Sodhana of Navasadar
Shodhana of Kapardika |
| 5. | Sudha Varga | Shodhana of Shankha |

- Shodhana of Shukti
Shodhana of Pravala mula
Shodhana of Godanti
- 6. Dhatu varga** Samanya Shodhana of Lauha
Shodhana of Mandura
Samanya Shodhana of
Tamra
Shodhana of Naga
Shodhana of Vanga
Shodhana of Yashada
- 7. Kshara Varga** Shodhana of Tankana
- 8. Parpati** Preparation of Rasaparpati, Bola
Parpati and Swetaparpati
- 9. Visha varga** Shodhana of Vatsanabha,
Bhallataka, Kupilu, Dhattura
beeja,
Jayapala, Gunja, Chitrakamoola.

PRACTICAL FOR DEMONSTRATION / GROUP PRACTICALS

- 1.** Hingulad rasakrishti (Hingulottha Parada).
- 2.** Bhasma: 4 (One from each group)
 - i. Abhraka bhasma, Swarna Makshika bhasma, Tamra bhasma
 - ii. Vanga bhasma, Naga bhasma, Yashada bhasma
 - iii. Mandura bhasma, Kasisa bhasma
 - iv. Shankha bhasma, Kapardika bhasma, Godanti bhasma.
- 3.** Pishti : 1 Pravala pishti, Jaharmohara / Akika pishti, Trina kantha mani pishti, Mukta pishti.
- 4.** Druti : 1 Gandhaka druti.
- 5.** Formulations 4 (one from each group)
 - i. Rasasindura, Swarna vanga, Sameer pannaga rasa
 - ii. Saptamruta lauha, Punarnava mandura, Navayasa lauha
 - iii. Agnitundi vati, Tribhuvana kirti rasa, Sootshekhara rasa,
Laghusutashekhara Rasa
 - iv. Arogyavardhini vati, Laghumalinivasanta rasa, Hinguleshwar rasa,
Anandbhairav rasa, Rajapravartini vati

BHAISHAJYAKALPANA

- 1. History and Chronological (kramika vikasa) development of Bhaishajyakalpana.**
Concept of Aushadha and Bhesajya.
- 2. Fundamental principles of Bhaishajya Kalpana.**
- 3. Study of Ancient and Contemporary systems of 'Maana' (Units of measurement), Shushka -ardra -drava- dravya grahan niyam** (Rules of measures of dry, fresh, liquid drugs); Grahyagrahyatva, Nava Puran dravya grahan niyam.
- 4. Guidelines and Methods of collection, storage, preservation of Aushadhi dravya.** Concept of Saviryatavadhi (shelf life) and stability in ancient and contemporary science.
- 5. Bhesajprayogavidhi : Aushadha Matra, Anupana and sahapan and Aushadh sevan kaala. (Posology).**
- 6. Panchavidha kashaya kalpana and Other kalpana :** Kashaya Yoni, Swarasa, Kalka, Kwatha, Hima and Phanta, Pramathya, Aushadha siddha paniya, Tandulodaka, Laksha rasa, Mantha, Panaka, Arka, Churna, Rasakriya, Ghana, Phanita, Avaleha, Prasha, Gudapaka, Sharkara, Syrups, Ksheerapaka, Satva, Guggulu kalpana, Vati, Guti, Pinda, Modaka, Varti Preparation of Tablets, pills, capsule and Suppositories. Masi kalpana, Lavana kalpana, Kshara kalpana and Kshara sutra.
- 7. Introduction and general knowledge of useful instruments/ Equipments** Disintegrator, Mixer, Grinder, End Runner, Edge Runner, Sieve-Shaker, Granulator, Tableting machine, Pill making machines, coating and polishing pan, capsule filling machine, sieves and mesh.
- 8. Sneha kalpana :** Sneha yoni, Types of Sneha, Sneha murchana vidhi, Sneha paka vidhi, patra paka, types and their use. Sneha siddhi lakshana, dose, Preparation and uses of Triphala Ghrita, Bramhighrita, Narayana taila, Anutaila.
- 9. Sandhana Kalpana and its types:** Madya Kalpana, Asava, Arishta, Sura (Prasanna - Kadambari - Medaka - Jagala - Bakkasa), Maireya, Surasava, Shukta, Kanjika, Sauvira, Tushodaka, Sidhu kalpana their methods of preparation, siddhi lakshana, properties, uses, doses. Takrarishta, Draksharishta, Ashokarishta, Dashamoolarishta, Kumaryasava, Chandanasava.
- 10. Kritanna and Aushadhisiddha anna Kalpana:** Definition of Kritanna, Concept of Pathya and Apathya, Yavagu -types of yavagu, Manda, Peya, Vilepi, Anna, Bhakta, Odan, Yush -types, Krishara, Mansa rasa, Vesavara, Khad Kamblika, Raga, Shadava,

Dadhi and Takra Varga – Takra, Udasvita, Katvar, Mathita, Chhachika.

1. Bahyopacharartha kalpana (External Applications)-Lepa -Types of Lepa, methods of preparation and mode of application. Udvartan and Avachurnan, Method of preparation of Siktha Taila, Malahara – Sarjarasa Malahara, Gandhak Malahara, Upanaha, Atasi upanaha, Shatadhouta and Sahastradhouta Ghrita. Brief introduction of semi solid dosage forms- Ointments, Creams, Emulsions, Gels, Lotions.

2. Principles and precautions for preparation of formulations for following:

2.1 Netraupacharartha kalpana (Ophthalmic preparations) – Seka, Drava, Pindi, Anjana - Ashchyotana - Tarpana - Putapaka and Vidalaka, Methods of preparation of eye drops, eye ointments.

2.2 Nasyopachararth Kalpana - Classification of Nasya, Navana, Avapidana, Pradhaman, Marsha and Pratimarsha nasya.

2.3 Dhumapanarth kalpana - Classification of dhumpaan, Method of preparation of dhumvarti and it's therapeutic uses. Dhupan: Vranadhupan, arshodhupan.

2.4 Mukhaprayogarth kalpana - Gandoosha - Kavala - Pratisaran, Tooth paste, Tooth powders and Mouth wash.

2.5 Basti kalpana- Classification, Method of preparation of Niruha and Anuvasana, Basti Therapeutic properties and uses of Basti.

3 Brief knowledge of Standardization of Ayurvedic formulations- Kasthaushadhi.

4 Brief introduction of Drug and Cosmetics Act 1940 and Rules 1945.

5 Concept of, Aushadhi Nirmanshala, with respect to Good Manufacturing Practices (GMP) in accordance to Schedule T.

Practical Bhaishajya Kalpana

Following practicals to be performed- (Minimum one from each category)

Method of preparation, therapeutic uses, dose and anupana of the following

- 1.** Swarasa- Ardraka swarasa, Tulasi swarasa, Kumari Swarasa, Vasa putapaka swarasa
- 2.** Kalka- Nimba kalka, Rasona kalka.
- 3.** Kwatha- Punarnavasthaka kwatha, Rasna Sapthaka kwatha, Kulattha kwath.
- 4.** Hima- Dhanyaka hima, Sarivadi hima .
- 5.** Phanta- Panchakola phanta, Yastimadhu Phanta.
- 6.** Pramathya- Mustadi pramathya
- 7.** Mantha- Kharjuradi mantha

8. Aushadh siddha paniya- Shadanga paniya
9. Laksha Rasa.
10. Arka - Yavani arka, Gulab arka, Misreya arka
11. Panaka- Chinchu panaka, Chandan panaka.
12. Sharkara- Banapsha sharkara, Nimbu sarkara.
13. Churna- Sitopaladi Churna, Hinguwashtaka Churna.
14. Gutika- Chitrakadi Gutika, Sanjivani Vati.
15. Guggulu-Triphala Guggulu, Kaishora Guggulu.
16. Avaleha- Chyavanaprashavaleha, Vasavaleha, Vyaghri Haritaki avaleha, Manibadra avaleha.
17. Rasa kriya - Darvi Rasakriya, Guduchi Ghana, Kutaja Ghana.
18. Khanda- Haridra khanda, Narikela khanda, Sowbhagya shunti paka
19. Satva- Amruta satva,
20. Varti- Phala varti, Chandrodaya varthi
21. Lavana- Arka lavana, Narikela lavana
22. Masi- Triphala masi, Mayurpiccha Masi
23. Ksheerapaka- Arjuna ksheerapaka, Rasona ksheerapaka, Shunthi Ksheerapaka
24. Kshara- Apamarga kshara, Snuhi kshara, Ksharasutra. .
25. Manda, Peya, Vilepi, Yavagu, Krishra, Vesavara
26. Yusha - Mudga yusha, Saptamushtika yusha, Kulattha yusha
27. Aristha- Kutajarishta, Takrarishta .
28. Asava - Kumaryasava, Kanakasava
29. Sukta kalpana- Kanji
30. Udaka- Tandulodaka
31. Upanaha- Atasi Upanaha
32. Siktha Taila Nirmaan
33. Malahara- Sarjarasa malahara, Gandaka malahara, Cream, Emulsion. Sneha Kalpana
Sneha Murchhana - Ghrita Murchhana, Taila Moorchnana, Ghrita kalpana:
Jatyadi ghrita, Triphala ghrita, ksheerashatphala ghrita- Taila kalpana-
Panchaguna taila,Arka taila, Bala taila,Jatyadi taila
35. Taila patana- Bhallataka taila patana, Jayapala taila patana
36. Shodhana- Guggulu, Hingu.

II. Visit of minimum three GMP approved Ayurvedic manufacturing units.

Distribution of Practical Marks: Total 200 Marks

Rasashastra - 100

1. Record Book - 10 Marks

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|---------------|---|----------|
| 2. Experiment | - | 30 Marks |
| 3. Spotting | - | 20 Marks |
| 4. Viva-voce | - | 40 Marks |

Bhaishajyakalpana - 100

- | | | |
|----------------|---|----------|
| 1. Record Book | - | 10 Marks |
| 2. Experiment | - | 30 Marks |
| 3. Spotting | - | 20 Marks |
| 4. Viva-voce | - | 40 Marks |

Reference Books

- | | |
|--|-------------------------------|
| 1. Adyatan Rasa Shastra | R.K. Goyal |
| 2. Abhinav Rasa Shastra
Sharma | Vaidya Somadev |
| 3. Asava Arishta Vigyanam | Dr. Pakshdhar Jha |
| 4. Ayurvediya Rasa Shastra (Sachitra)
Jha | Chandrabhusan |
| 5. Ayurvediya Rasa Shastra
Pandey | Badrinarayan |
| 6. Rasa Bhaishajya Paribhasa
Thapaliyal | Sureshananda |
| 7. Ayurvediya Rasa Shastra
Mishra | Prof. Siddhi Nandan |
| 8. Ayurved Prakash
Mishra | Vaidya Gujrat |
| 9. Drugs and Cosmetic Act - 1940 | |
| 10. Paka Darpana
Tripathi | Dr. Indradev |
| 11. The Paka-darpana of King Nala
critical study | Dr. Madhulika |
| 12. Parada Vigyaniam | Vasudev M. Dwivedi |
| 13. Pratyaksha Aushadh Nirmanam
VishwanathDwivedi | Acharya |
| 14. Bhaishjyakalpana Vigyanam | Dr. Agnihotri |
| 15. Rasa Tarangini | Sadanand Sharma |
| 16. Rasa Darpan | Prof. Bhajan Das Swami |
| 17. Rasa Bindu | Dr. Sanjay Sharma |
| 20. Rasa Bhaishajya Kalpana Vigyan Vaidya | Santosh Kumar Khandal |
| 21. Rasa Mitra | Dr. Tryambak Nath Sharma |
| 22. Rasa Ratna Samuchchaya (Hindi) | Dattatreya Ananta Kulkarni. |
| 23. Rasaratna samuchchaya- | Ambikadatta shastri |
| 24. Rasaratna samuchchaya - | Damodar Joshi |
| 25. Rasa Shastra Prayogiki Srivastava, | Yadav and Prof. Ramesh Saxena |
| 26. Rasamritam
Acharya | Vaidya Yadavji Tirkramji |

25. Rasayan Sara Sunderacharya Vaishya	Vaidya Shyam
26. Rasendra Sampradaya	Vaidya Hajari Lal Sukul
27. Rasendra Sara Sangraha	Vaidya Gopal Krishna
29. Vaidyak Paribhasha Pradeep (Hindi Translation)	Dr. Indradev Tripathi
30. Sharangadhara Samhita	Dr. Radhakrishna Parashar
31. Bharatiya Bhaishajya Kalpana Vigyana	Gananath Vishwanath Dwivedi
32. Bhaishajya Kalpana Vijnanam	Dr. K Ramachandra Reddy
33. Rasa Shastra (English)	Prof. Damodar Joshi
34. Rasa Ratna Samuchchaya (English)	Prof. Damodar Joshi
35. Rasendra Chintamani (Hindi) Mishra	Prof. Siddhinandan
36. Ayurvedic formulary of India	
38. Ayurvedic Pharmacopiea of India , CCRAS	
39. Bhaishjya Kalpana Vigyan	Siddhi Nandan Mishra
40. Textbook of Rasashasra	Dr. K Ramachandra Reddy.
41. Ashadhayoga Vigyanam	Dr. K. Ramachandra reddy
42. Vaidyaka Paribhasha Pradipa (Enlgish Translation) &	Dr. K. Ramachndra Reddy
	Dr. P. Suresh
43. Relevant parts of Brihatrayee	
44. Text book of Bhaishjya Kalpana -	Dr Shobha G Hiremath
45. Text Book of Rasa Shastra	Dr P H C Murthy
46. Rasa Chandashu Publication)	Prof S S Savirkar (CCRAS
47 .Bhaishjya Ratnawali	Prof S N Mishra
48 Yoga Ratnakar	

COURSE OUTCOMES

2.3 RASASHATRA

CO1: Understanding basic concepts of Rasashastra & Bhaishajya Kalpana

CO2: Identification, collection and preservation of Herbal and Mineral drugs

CO3: Preparation of Herbal and Mineral dosage forms

CO4: Knowledge of ancient and contemporary instruments and equipments used in pharmaceutical industry

2.4 CHARAKASAMHITA -PURVARDHA

(Sutrasthana, Nidanasthana, Vimanasthana, Sharirasthana and Indriyasthana)

Part A

1. Sutrasthana
2. Indriyasthana

Part B

1. Nidanasthana
2. Vimanasthana
3. Sharirasthana

Reference Books

1. Charakasamhita –Ayurveda Dipika commentary by Chakrapani.
2. Charakasamhita (Hindi Commentary): Vaidya Jayadev Vidyalankar or Vd. Atridev Vidyalankar or Prof. Gorakha Nath Chaturvedi & Kashinath Shastri or Dr. Brahmanand Tripathy or Dr. Ravi Dutta Tripathy
3. Charakasamhita (English Commentary): Dr. Ram Karan Sharma & Vd. Bhagwan Dash or Acharya Priyavrata Sharma.
4. Charakasamhita-Ayurveda Dipika Commentary-Hindi Translation by Dr. B L Gaur, published by Rashtriya Ayurved Vidyapeeth.

COURSE OUTCOMES

2.4 CHARAK SAMHITA(PURVARDHA)

- CO1: Knowledge in various ancient research methodologies, methodology of reading samhita.
- CO2: Knowledge in Ayurvedic pharmacology and their significance
- CO3: Knowledge in Anatomy and Physiology
- CO4: Knowledge in diagnosis, prognosis of diseases and treatment planning
- CO5: Knowledge in carrying out palliative and purificatory therapies

THIRD YEAR COURSES

AGADTANTRA, VYAVAHAR-AYURVED EVUM VIDHIVAIDYAK

(TOXICOLOGY, FORENSIC MEDICINE AND MEDICAL JURISPRUDENCE)

- 1** Derivation, definition of Visha and Agadatantra. Scope of Agadatantra. Visha Utpatti, Visha Prabhava, Visha Pranaharana Kriya, Visha Guna, Visha Gati, Visha Vega Visha Sankata, Shanka Visha.
- 2** Definition of toxicology, Definition of poison, suicidal and homicidal poisons, classification of poisons, their action and route of administration, absorption, excretion, metabolism, diagnosis and general principles of treatment, duties of a medical practitioner in case of suspected poisoning.
- 3** Origin and Classification of Visha:-Its sources, Difference between Visha, Madya and Oja guna, Visha Upadrava and Visha Mukta Lakshana.
- 4** Tests for detection of Visha, and Modern Toxicological Techniques of detection of poisons
Visha Data Lakshana, Visha Peeta Lakshana, Signs and symptoms of Visha afflicted organs and personal effects. (Poisoning with Anjana, Lepa paduka, Abharana etc.
- 5** Introduction to Environmental Toxicology- Samuhika Vishaprayoga- effect of chemical and nuclear warfare.
- 6** Vishopakrama described by Charak, General principles of Management of poisoning.
- 7** Manifestation of poisoning due to poisons of plant origin their fatal Dose, fatal period, management of poisoning, post mortem appearance and its medico legal importance. Visha and Upavisha- Arka, Snuhi, Langali, Karaveera, Gunja, Ahiphena, Dhatura, Bhallataka, Vatsanabha, Kupeelu, Jayapala, Bhang & Tobacco, Parthenium hysteriphorus, Chitraka, Eranda, Digitalis and Cerebra Odallam.
- 8** Garavisha, Dooshivisha, Viruddhahara. Food adulteration and poisoning-classification, diagnosis, management and contemporary significance.
- 9** Jangama Visha – Detailed study of Sarpa, Keeta, Loota, Vrischika, Mooshika, Alarka – Visha; Lakshana, Bheda, Chikitsa and their Sadhyasadyata (contemporary and classical views).
- 10** Introduction to poisoning due to Acids, Alkalis, metals, Non-metals, Asphyxiants and others, their Fatal Dose, Fatal period, Manifestation, management, medico legal importance and postmortem appearance of poisoning due to:
 - a) Acid and Alkalis– Sulphuric acid, Hydrochloric acid, Nitric acid, Hydrocyanic acid, Oxalic acid, Carbolic acid, Formic acid, alkalis in general.
 - b) Asphyxiants – Carbon monoxide, Carbon dioxide, Hydrogen sulphide
 - c) Nonmetallic poisons – Phosphorous, Iodine
Metallic poisoning – Arsenic, Mercury, Lead, Copper, Zinc, Tin.
 - d) Others - Petroleum – Kerosene Organo phosphorus compounds - Aluminum phosphate, Organo Chlorinated Compounds, Household poisons.

11 Madya and Madatyaya. Alcohol poisoning (Ethanol and Methanol).

12 *Introduction to Narcotic drugs and Psychotropic substances Act 1985.*

1. Definition of Vyavahara Ayurveda (Forensic medicine) and Vidhivaidyaka (Medical jurisprudence), concise history of Vyavahara Ayurveda (Forensic medicine) and Vidhivaidyaka (Medical jurisprudence). Introduction to Indian Penal Code, Indian Evidence Act and Criminal Procedure Code.

2. Legal Procedures:- Inquest, Evidence, Witness, Courts and their powers.

3. Personal identity and its Medico legal aspects, forensic odontology, Introduction to Forensic Serology and DNA profiling.

4. Death and its Medico Legal Aspects, Medico Legal autopsy and *exhumation*.

5. Injuries and thermal injuries, their medico Legal aspects, general introduction of weapons.

6. Dowry deaths (Domestic Violence), their Medico Legal importance and laws in relation to it.

7. Asphyxial deaths and its Medico Legal importance.

8. Medico Legal importance of Pregnancy, Delivery; Impotence & Sterility, Abortion, Infanticide, battered baby. Virginity, Artificial Insemination, Legitimacy.

9. Sexual offences, and their Medico Legal aspects. Sexual perversions.

10. Introduction to Forensic psychiatry.

11. Introduction to forensic laboratory.

12. Ethics as in classical Texts. Types of Vaidya, Pranabhisara and Rogabhisara Vaidya, Qualities of Vaidya, Responsibilities of Vaidya, Chaturvidha Vaidyavrutti, Duties of Vaidya to his patient, Vaidya Sadvrittam, Apujya Vaidya, Code of conduct.

13. Laws in relation to Medical practitioners: Indian Medicine Central Council Act.

14. Maintenance of medical record.

15. Physician's responsibility in criminal matters, Professional negligence, Civil negligence, Criminal negligence, Medico Legal aspects of Acquired Immune Deficiency Syndrome, Rights of an unborn child, Medical Termination of Pregnancy Act Transplantation of human organs Bill 1994, Pre Natal Diagnostic Testing Act, Malingering of feigned diseases, International Code of Medical Ethics for Doctors. Clinical establishment Act.

Consumer Protection Act 1986.

PRACTICAL Practical Training

1. Post Mortem examination
2. Evidence in the court
3. Demonstrations in the Forensic & Toxicology museum
(Toxic & Anti toxic substances, medico legal specimens & Charts)
4. Clinical postings
5. Library Hours for compilation

Distribution of Practical Marks

- | | |
|--|----------|
| 1. Post Mortem examination and Court posting – Case Record | 10 Marks |
| 2. Practical/Clinical Record Book | 10 Marks |
| 3. Identification (spotting) | 10 Marks |
| 4. Viva – voce | 20 Marks |

Reference Books

1. Topics related to Agada Tantra from Charak Samhita, Sushrut Samhita, Ashtanga Hridaya, Ashtanga Samgraha, Kasyapa Samhitha, Yogaratnakara, Bhavaprakasha and Madhava Nidana.
2. Vidhivaidyaka (Vyavahar Ayurveda Vijnan) Dr.Charuchandra Pathak
3. Medical Jurisprudence and Toxicology Modi
4. Basavarajeeyam Edited by Vd.Govardhan
5. Agada Tantra Sh. Ramanath Dwivedi
6. Text book of Agada Tantra Edited by Dr Huparikar, Dr.Joglekar
7. Agadatantra ki Pathyapustaka Edited By Dr Huparikar,
Dr.Joglekar
8. Agad Tantra Dr. Shekher Namboodri
9. Vishachikitsa Vaidya Balakrishnan Nair, Kerala
(Ayurveda Toxicology English Translation)
10. Medical Ethics and Medical Laws in India Dr. H.S. Mehta
11. Toxicology Ayurvedic Perspective VPSV Ayurveda college Kottakkal
12. Kautilya Arthashastra (English) Prof. Kangle
13. Kautilya Arthashastra (Hindi) Dr. Raghunath Singh
14. Vyavahar Ayurveda Dr.Ayodhya Prasad Achal
15. Vyavahar Ayurveda Vigyanam Dr.Indramohan Jha (Sachchan)
16. Textbook of Forensic Medicine and Toxicology Dr. V.V.Pillay
17. Forensic Medicine Dr. B. Umadathan
18. Relevant Acts Govt. of India
19. Relevant topics from Manu Smriti

COURSE OUTCOMES

3.1. AGADTANTRA

CO1: Students will be able to diagnose and treat different types of poisonous bites of animals.

CO2: students are thorough with toxic signs of plants and its treatment also

CO3: students are taught all the ethics and moral principles that should follow through out the profession

CO4: students will be able to understand the medicolegal importances and consequences of issues

CO5: Students could understand the court procedures and legal implications of medicine

3.2 SWASTHAVRITTA

VAIYAKTIKA SWASTHAVRITTA

Introduction

Definition of swastha & swasthya and swasthavritta. Arogya lakshana, swasthavritta prayojanam, WHO definition of health.

Dimensions of health-Physical, Mental, Social.

Concept of wellbeing- objective, subjective, standard of living, quality of life.

Dinacharya

1. Definition of Dinacharya
2. Aims and importance of dinacharya
3. Brahma Muhurta evam Utthana
4. Usha Jalapana
5. Sharirachinta
6. Malatyaga
7. Mukha prakshalan
8. Dantadhavana and preparation of Ayurvedic tooth powder and paste
9. Jihvanirlekhavidhi
10. Anjana
11. Pratimarsha Nasya
12. Gandusha and Kavala
13. Tambulasevana
14. Dhoomapana
15. Abhyanga
16. Udvardana
17. Utsadana
18. Vyayama
19. Chankramana
20. Snana
21. Anulepana
22. Vastra dharana
23. Danda dharana
24. Padatra dharana
25. Chatra dharana
26. Ushnisha dharana
27. Ratnabharana dharana
28. Madhyahna charya
29. Cosmetic effect of Dinacharya procedures

Rathricharya

1. Sandhya charya
2. Rathri bhojana vidhi
3. Shayanavidhi according to Bhavamishra

Ritucharya

1. Importance of ritucharya
2. Ritu presentation as per different acharyas
3. Adana kala & visarga kala
4. Sanchaya-Prakopa-Prashamana of Dosha according to ritu
5. Doshashodhana in Ritu Charya
6. Relation of Agni bala and Ritu
7. Pathya and Apathya Ahara and Vihara in different ritus
8. a) Ritusandhi
b) Yamadamsthra
c) Rituharitaki
d) Rituviparyaya

Sadvritta

Description of Sadvritta and Achara Rasayana their role in Prevention and control of diseases.

Trayopastambha

i) Ahara- Nirukti, Swarupa, Pramukhatva, Ahara dravya Vargikaranam, Aharavidhividhana, Dwadashashana pravicharana, Ashtaharvidhivisheshayatanani, Pathyahara, Apathyahara, Samashana, Adhyashana, Vishamashana, Ahara dushparinama & tajjanya vyadhaya, Santarpanajanya evam Apatarpanajanya vyadhi, Viruddhahara and its effects, Shadrasabhojanasya mahatwam.

Dietetic standards, Proximate principles of Food, Nutritional requirements, Sources and deficiency diseases of Protein, Carbohydrate, Fat, Vitamins and Minerals. Concept of balanced diet in Ayurveda, Nitya sevaneeya dravya, Balanced diet for different sections of people in the society, Social aspects of nutrition.

Aharavarga - Dhanya varga(Cereals and millets), Shaka and Harita varga (Leafy and Non leafy vegetables), Kanda varga (roots and tubers), Phala varga (Fruits), Taila varga(Fats and Oils), Ikshu varga & Madhya varga(Alcoholic Beverages), Dugdha varga (Milk and Milk products), Masala and vyanjana dravyas (Spices & Condiments), Kritanna varga(Prepared Food), Mamsa varga (Meat types).

Food hygiene

Milk hygiene-Milk composition, Source of infection (for Milk), Milk borne diseases, Clean and Safe milk, Pasteurization of milk.

Meat hygiene-Meat inspection, Slaughter house, Freshness of fish and egg. Fruits and Vegetables hygiene

Sanitation of eating places, Preservation of food, Food handlers, Food borne diseases, Food fortification, and Food adulteration, Food toxicants, Properties of

Vegetarian and Non- vegetarian diet, Effects of spices and condiments
Consumption of Alcohol and its effects on personal and social health. Effects of pathya-apathya in life style disorders-Diabetes, Hypertension, Obesity and Coronary heart Disease.

ii) Nidra- Nirukti and Utpatti, Types , Nidra – Swasthya sambandha, Properties of Yukta Nidra, Effects of Ratri Jagarana, Diwaswapna, Anidra, Atinidra, Ahara and Vihara causing disturbed sleep , Ahara and Vihara Causing sound sleep.

Duration of sleep according to age, Sleep in healthy and diseased persons.

iii) Brahmacharya – Brahmacharya and Abrahmacharya, Importance of Bharmacharya and Abrahmacharya, Vyavaya sambandhi niyama, Effects of Ativyavaya. Methods of Virya Raksha, Surataspriha(Libido) through Vajikarana, Viryanasa phala.

Roganutpadaniya- Concept of Vega- Adharaniya Vega and Dharaneeya Vega, Diseases due to vegadharana and their chikitsa, sharir shodhan.

Rasayana for Swastha-Nirukti, paribhasha(definition), classification and examples

Ashta nindita purusha Menstrual hygiene

YOGA AND NISARGOPACHARA

YOGA

Introduction

Yoga shabda utpatti, definitions, Different schools of Yoga – Rajayoga, Hathayoga, Mantrayoga, Layayoga, Jnanayoga, Karmayoga, Bhaktiyoga.

Yoga prayojana

Ayurveda yoga sambandha, swasthya rakshane yogasya mahatvam

Yogabhyasa pratibhandhaka & siddhikara bhavas as per Hathayoga.

Mitahara and Pathyapathyani during Yogabhyasa.

Panchakosha Theory

Astanga yoga

Yama, Niyama

Asana and its importance

Standing Postures

Ardhakatichakrasana, Padahastasana, Ardhashakrasana, Trikonasana.

Sitting postures

Swasthika, Gomukhasana, Padmasana, Vajrasana, Bhadrasana, Shashankasana,

Ushtrasana, Pashchimottanasana, Suptavajrasana, ardhmatsyendrasana,

Siddhasana.

Supine Postures

Pavanamuktasana, Sarvangasana, Matsyasana, Halasana, Chakrasana, Shavasana, Setubandhasana.

Prone postures

Bhujangasana, Shalabhasana, Dhanurasana, Makarasana.
Suryanamaskara – procedure and benefits.

Pranayama

Benefits of pranayama, time of practice, avara-pravara-madhyama lakshana, yuktaayukta lakshana

Nadishudhi Pranayama .

Kumbhakabheda – suryabhedana, ujjayi, sheetali, Sitkari, Bhastrika, Bhramari
Murcha, Plavini.

Nadishudhilakshana

Shatkarma

Dhauti, Basti, Neti, Trataka, Nauli, Kapalabhati

Bandhas and Mudras

Shad chakras, Ida-pingala-sushumna nadis.

Pratyahara, Dharana, Dhyana, Samadhi

Description of Yoga in Ayurveda

Moksha and Muktatma lakshana and upaya, Naishtiki chikitsa, Satyabuddhi, Tatvasmriti, Ashta Aishwarya, Ashta siddhis.

NISARGOPACHARA (Prakritika chikitsa)

Definition, history, aims and objectives

Theories as per Western school of Naturopathy

Indian school – Panchabhutopasana

Relation of Ayurveda and Naturopathy

Importance of Naturopathy in present era.

Jalachikitsa(hydrotherapy) – Hot water treatment, Cold water treatment, foot and arm bath, Spinal bath, hip bath, abdominal wet pack, Steam bath, enema and whirl pool bath.

Mrittika chikitsa (Mud therapy)

Types of soil, doctrine of mud selection, mud bath.

Suryakirana sevana (sun bath - heliotherapy)

Mardana (Massage) – different methods and effects.

Diet types – Soothing, Eliminative, Constructive, Positive and negative diet, Acidic and alkaline diet

Upavasa chikitsa(Fasting therapy) – Importance, types, therapeutic effects of fasting.

Visrama chikitsa upayoga

SAMAJIKA SWASTHAVRITTA

Janapadodhwamsa

Causes, Manifestations and control measures, importance of Panchakarma and Rasayana.

Vayu (Air)

Vayu guna according to sushruta samhita, Properties of Vayu as per different directions, Vayu shudhi prakara – Ayurvedic aspect.

Composition of air.

Air of occupied room- Thermal discomfort and comfort zone, indices of thermal comfort. Air pollution – health and social aspects, Prevention and control of air pollution, Global warming.

Ventilation and its types.

Mountain air & High altitude – Health problems

Jala (Ayurvedic and modern aspects)

Importance of water, safe and wholesome water, water requirements, properties, types and sources of water, water pollution and health hazards, Methods of water purification.

Hardness of Water.

Examination, Tests and analysis of water.

Rain water harvesting and water recycling

Bhumi and nivasa sthana(Land and housing)

Types of soil, soil & health, Land pollution, Bhumi shodhana, Nivasa yogya bhoomi, Social goals of housing, Housing standards, Mahanasa (Kitchen) standards, Rural housing, Housing and health, Overcrowding.

Prakasha(lightning)

Requirement of good lighting, natural lighting, artificial lighting, biological effects of lighting.

Dhwani pradooshana(Noise pollution) -Noise, Sources, effects,& control
Vikirana(Radiation)- sources, effects and control

Apadravya Nirmulana (Disposal of solid waste)

Different types of solid waste

Storage and collection of refuse

Methods of disposal of solid waste (Rural & urban)

Bio-medical waste management

Malanishkasana Vyavastha (Excreta Disposal)

Methods for Unsewered area and Sewered area

Latrines for camps, fairs and festivals

Disposal of dead body – Burial, Burning, Electric cremation.

Meteorology (Ritu evam Vatavarana jnanam)

Definition of weather and climate, factors influencing weather and climate.

Disaster management

Definition, natural and man-made disasters, epidemiologic surveillance and disease control.

Occupational Health

Occupational Hazards, Occupational Diseases, Prevention of Occupational Diseases, Health & precautionary measures, ESI Act, Indian factories Act.

Offensive Trades- Effects on health and precautionary measures .

School health services

Health problems of school children, aspects of school health service, duties of school medical officers, Maintenance of healthy environment

Epidemiology

Concept of Epidemiology, Dynamics of disease transmission, concept of diseases, concept of causation, Epidemiological triad, natural history of disease, concept of control, concept of prevention, Risks factor, modes of intervention, incidence and prevalence. Susceptible host, host defenses, Immunizing Agents, Disease prevention and control, investigation of epidemic.

Disinfection – definition, types.

Ayurvedic concept of Vyadhikshamatva and sankramaka rogas.

Epidemiology of communicable Diseases

Chicken Pox, Measles, Diphtheria, Pertussis, Mumps, Tuberculosis, SARS, Influenza, Pneumonia, Cholera, Polio, Viral Hepatitis , Typhoid, Leptospirosis, Dengue Fever, Chikungunia, Malaria, Filariasis , Leprosy, Rabies , Tetanus, Emerging and re-emerging diseases

Kuprasangaja vyadhi (STDs)

AIDS, Syphilis, Gonorrhoea, Chancroid

Non-communicable disease epidemiology

Diabetes, Obesity, Hypertension, Coronary Heart Diseases, Rheumatic Heart Disease, Cancer

Chikitsalaya Bhavana (Hospital Building)

Prathamika swasthya samrakshana (Primary Health Care)

Definition, principle, elements, levels of health care.

Structure at village, sub centre, PHC, CHC, Rural hospital levels.

Health insurance, Private agencies, Voluntary health agencies, NGOs and AYUSH sector.

Role of Ayurveda in Primary Health Care.

Parivara kalyana Yojana (Family welfare Programmes)– Demography,

demographic cycle, life expectancy.

Family planning, methods of family planning.

Matru sishu kalyana Yojana – MCH programme

Ante natal, intra natal, post natal, neo natal care. Child health problems and indicators of MCH care.

Preventive geriatrics–Problems of elderly, prevention and control measures.

World Health Organisation–Objectives, structure and functions.

International health agencies–United Nations agencies, Health work of bilateral agencies.

Alma Ata declaration National Health Policy

Health statistics- Definition, Sources, uses Data collection, Classification, Presentation. Vital statistics-Morbidity rates, Mortality rates, Fertility rates. Health survey

Swasthya prashasana(Health Administration) – Health administration at Central including AYUSH, state, district, village levels.

National health programmes

Tuberculosis(RNTCP), Leprosy(NLEP), AIDS (NACP), Blindness (NPCB), Polio(PPI), Diabetes (NDCP), Cancer (NCCP), Guinea worm, Vector born disease control programme, NRHM, all the upcoming national health programmes, RCH programme, Universal Immunization Programme.

National Nutritional Programmes - IDD, Vitamin A prophylaxis, Mid day meal, anemia control programmes.

PRACTICALS

Demonstration of Dinacharya procedures- anjana, nasya, kavala, gandoosha dhoomapana, abhyanga, udvartana.

Parichaya of aharadravya, immunization agents, disinfectants and family planning devices

Practical demonstrations of Asanas mentioned in the syllabus

Pranayama (Suryabhedana, Ujjayi, Shitali, Sitkari, Bhastrika, Bhramari and Nadishuddhi) and Shad karmas(Jala dhauti, Jananeti, Sutraneti, Trataka, Kapalabhati).

Preparing and delivering of a health educational talk on health related issues. A short compilation on any topic on environmental health.

Educational Visits

Observe the functioning of the Milk Dairy, Water purification unit, Sewage treatment unit, MCH/Family welfare centre, Leprosy hospital and industrial unit.

Visit to Primary Health Centre for knowledge of actual implementation of National health programmes including knowledge of rural health.

Visit of rural Ayurvedic dispensary.

Visit to naturopathy centre to observe naturopathic treatment modalities.

Health survey- Minimum 5 families of rural and urban areas.

There should be 3 case sheets for Yoga Naturopathy & pathya apathya together and 3 case sheets for communicable diseases.

Proformas for Case sheets/practical records/survey/Dinacharya projects etc should be prepared by the respective universities.

Practical and Viva Voce examination

Marks distribution

100 marks

1. Vaiyaktika Swasthavritta

20

2. Samajik swasthavritta		
203. Demonstration of Yoga		
10		
4. Naturopathy	10	
5. Journal and compilation work		10
6. Viva voce		30

Reference Books:

Relevant portions of Charaka, Sushruta, Vagbhata, Sarngadhara, Bhavaprakasha, Yogaratnakara, Madhavanidana and Bhelasamhita.

Swasthavritta Samucchaya	- Pandit Rajeshwar duitt Shastri
Swasthya Vigyan	- Dr. Bhaskar Govind Ghanekar
Swasthya Vigyan	- Dr. Mukund swarup Varma
Swasthavritta	- Vaidya Sakad
Swasthavritta	- Dr. Ranade and Dr. Firke
Ayurveda Hitopadesh	- Vaidya Ranjit Rai Desai
Yoga and Ayurved	- Acharya Rajkumar Jain
Swasthavritta vigyan	- Dr. Ramharsha Singh
Swasthavrittam	- Dr. Brahmanand Tripathi
Swasthavrittam	- Dr. Shivkumar Gaud
Ayurvediya Swasthavritta	- Vaidya Jalukar Shastri
Patanjala yogasutra	- Patanjali Maharshi
Hathayogapradipika	- Swatmaram Yogendra
Gheranda samhita	- Gherand Muni
Yoga Paddhati	- Bharatiya Prakritik Chikitsa Parishad
Yogik Chikitsa	- Shri. Kedar Nath Gupta
Sachitra Yogasan darshika	- Dr. Indramohan Jha
Yoga deepika	- Shri. B.K.S. Iyengar
Light on Yoga	- Shri. B.K.S. Iyengar
Light on Pranayama	- Shri. B.K.S. Iyengar
Yoga and yoga chikitsa	- Dr. Ramharsha Singh
Foundations of Contemporary Yoga	- Dr. Ramharsha Singh
Yoga Sidhant evam Sadhana	- Harikrishna Shastri datar
Prakritik chikitsa Vidhi	- Sharan Prasad
Prakritik chikitsa vigyan	- Verma
Preventive and Social Medicine	- J. Park
Preventive and Social Medicine	- Baride and kulkarni
Janasankhya Shiksha Sidhanta	- Dr. Nirmal Sahani
Evam upadesya	
Health Administration in India	- S.C.Seel
Health and family welfare	- T.L.Devaraj
Positive Health	- L.P. Gupta
Biogenic Secrets of food in Ayurveda	- L.P.Gupta
Smriti granthon mein nihit	- Dr. Smt. Nigam Sharma
Swasthaprakara samagri	
Dr. Reddy's comprehensive guide to Swasthavritta	- Dr.P.sudhakar Reddy
Nutritive value of Indian foods	- ICMR
Yoga and Nisargopachar	- Vd. Prama Joshi
Prachin Vangmay mein prakritik chikitsa	- swami Anant Bharati, CCRYN
Swasthavritta	- Vd Yashwant Patil and Vd. Vhawal
Food and nutrition	- Swaminathan
Organology and sensology in yoga	-Prashant S Iyengar
Yoga-A game for Women	-Geeta S Iyengar

Yoga-A game for Women(hindi translation)-Madhu Pandey

CORSE OUTCOMES

3.2. SWASTHAVRITTA

CO1: The student should be able to understand in detail the concept of health,immunity,nutrition and disease both in Ayurveda and modern science and also the concept of prevention in Ayurveda like Dinacharya,Rutucharya, importance of trayopasthambha ie food,sleep and sex and also the role of vega in the causation of disease, Role of Panchakarma and Rasayana in promotion of health and prevention of diseases.

CO2: They will gain deep knowledge in the philosophy of Yoga and Naturopathy and they will be able to perform yoga themselves and teach patients for various clinical conditions understanding the relation between Yoga and Ayurveda.

CO3: They should have an understanding about the Concept of Epidemiology, Dynamics of disease transmission, concept of causationof disease, Epidemiological triad, ,Epidemiology of both communicable Diseases and Non Communicable diseases and also its control measures and Prevention and the concept of the term Janapadodhwamsa

CO4: They should be aware of the social problems like Disposal of Solid wastes/Excreta/Dead body,/Biomedical waste management,Disaster management, and Environmental Health- concept of water, soil and air purification as per Ayurveda and modern science.

CO5: They should have a deep knowledge in Occupational health and Metereology.

CO6:They are introduced to Primary Health Care ,WHO,International Health Agencies,National Health Administration and National Health Programmes involving MCH, Geriatrics,Family Planning and Welfare, School Health Care Services etc. , National Health Policy and Role of Ayurveda therein.

CO7: They shold be able to apply principles of Swasthavritta in communicable and non-communicable diseases and life style disorders.

3.3 PRASUTI TANTRA & STRIROGA

PRASUTI TANTRA

INTRODUCTION TO SUBJECT

STRI SHARIRAVIJNAN

Etymological origin of the word Stri. Artava vaha and Stanyavaha strotamsi. Tryavarta yoni Stri Vishishta,Peshi Marmani.

Anatomy of female reproductive system.(External and internal genital organs) Soft & Bony Pelvis and its obstetrical importance.

DESIRABLE (non detail)

Vayobhedena Stri sangnya

RAJO VIGYANA

Description of Raja, Artava and Prathama Rajo Darshana, Rajasvala Charya. Ritumati Lakshana, Ritumatcharya, Ritukala

Menarche, Menstrual cycle and their regulation by endocrine glands,

Ovulation –Importance in conception

DESIRABLE (non detail)

Concept of Stri Sukra

GARBHA VIGYANA

a) Garbhasya paribhasha, Garbhadhanavidhi, Garbhavakranti, Garbha Sambhava samagri, Garbhakara bhava, Panchabhautikatwa of Garbha, Masanumasika Vridhi of Garbha, Garbha Poshana , Garbhasayasthe Garbhasthiti

Foetal attitude, lie, position, presentation

b) Apra, GarbhaNabhinadi, Jarayu, Ulba

Formation, Development, Function of Placenta, Umbilical cord, Amniotic fluid

Foetal membranes -Abnormalities of Placenta

DESIRABLE (non detail)

Garbhalingotpatti, Garbhasya Avayavotpatti, Garbha Varnotpatti, Garbha Vikriti

GARBHINI VIGYANA

a) Lakshana of Sadhyograhita Garbha, Lakshana of Vyakta Garbha, Pumsavana vidhi

Diagnosis of Pregnancy

b) Garbhini vyavastha: Garbhini Paricharya, Garbha Upaghatakara Bhava, Dauhrida

Ante Natal care-Examination, Investigation and Management

c) Garbha Vyapada: Nidana, Samprapthy and Chikitsa Garbhasrava and Garbhapata-

Garbha shosha-Upavishtaka, Nagodara, Upashushka, Leena garbha,

Antarmrita garbha, Raktagulma, Bahugarbhatha

d) Abortions, Rh-incompatability-

Causes, clinical features, complications and management.

Gestational trophoblastic neoplasias, Ectopic pregnancy, IUGR, Intrauterine foetal death, Multiple pregnancy

GARBHINI VYAPAD

a) Hrillasa, Chardi, Aruchi,Atisara, Vibandha, Arsa, Udavarta, Sotha, Parikarthika,

Vaivarnya, Kandu, Kikkisa, Pandu, and Kamala, makkala

b) Common ailments of Pregnancy-High Risk Pregnancy, Emesis gravid arum, Gestational Anemia, Gestational Hypertension, Gestational Diabetes, Toxemias of Pregnancy, Jaundice, AIDS,

Ante Partum Hemorrhage causes, clinical features complications and Management

PRASAVA VIGYANA

- a) Prasava Paribhasha, Prasava hetu, Prasava kaala, Sutikagaranirmana, Sangrahaniya Dravyani, Sutikagara praveshavidhi.
- b) Prasavavastha; Prajayani/ Upasthita Prasava/ Asannaprasava lakshana, Aavi. Prasavaparicharya, Jatamatraparicharya
- c) Normal Labour:-Definition of Labour, Physiology & Mechanism of Labour, Monitoring of Labour and management, Pictogram, Episiotomy, care and resuscitation of newborn.

PRASAVA VYAPAD

- a) Garbhasanga, Yonisamvarana, Aparasanga, Mudagarbha-defenition, Nidana, Types & Management
- b) Induction and augmentation of labour, Cervical dystocia, Cephalopelvic disproportion, Prolonged labour, Preterm labour, Post term labour, foetal distress, Assisted Labour, Caesarian
- c) Retention of Placenta, PPH - causes, clinical features and management, Genital tract Injuries during labour

DESIRABLE (non detail)

Uterine Inversion, Amniotic Fluid Embolism, Garbhasthithi parivarthan (Version), Forceps Delivery, Ventouse Delivery.

SUTIKA VIGYANA

- a) Sutika Paribhasha, Sutika Kaal, Sutika paricharya. Changes during sootika avastha (Sareerika & Manasika)
Normal and abnormal Puerperium and its Management
- b) Sutika Roga – Number of Sutika Roga, Sutika Jwara, Shotha and Makkala.
- c) Stanyavijnan- Sthanyadushti, Sthanyakshaya, Sthanyavidhi -their causes, clinical features and treatment
- d) Emergency care in obstetrics

DESIRABLE (non detail) Stana stanya – Pareeksha, Stanya sampat.

STRI ROGA

ARTAVA VYAPAD

- a) Artava-kshaya vridhi, Ashtartavadushti lakshana chikitsa
Asrigdara lakshana samprapti Chikitsa
- b) Menstrual disorders- Amenorrhoea, hypomenorrhoea, Oligomenorrhoea, Dysmenorrhoea, Abnormal uterine Bleeding

YONI VYAPAD

Sankhya, Nidana, Lakshana, Upadrava evam Chikitsa

Endometriosis, Fibroid uterus, Genital Prolapses, Retroverted Uterus, Pelvic infections, Cervical erosion, Pelvic Inflammatory Diseases

VANDHYATWA – Prakar, Nidana, Chikitsa

Infertility – Causes, Types, Investigations and Management.

Yoni Kanda, Yoni Arsa, Granthi, Arbud,

Pelvic Infections including Sexually Transmitted Infections, HIV, AIDS, Preventive measures.

MENOPAUSE-changes during menopause ,menopause syndrome, management.

DESIRABLE (non detail)

Congenital malformations of female genital tract.

Sukra vijnan –kshaya,vridhi, dushti hetu lakshana and chikitsa

Benign and Malignant tumours of Genital Tract

STANA ROGA

a) Stanakeela- nidana lakshana chikitsa, Stanagranthi, Stanavidradhi, Stanashoph Mastitis, Breast abscess, Galactocele -Etiopathology, clinicalfeatures, diagnosis, prognosis and complications

b) Sthanik Chikitsa

Snehana, Swedana, Uttarabasti, Pichu, Varti, Lepana, Dhupana, Dhavana, Dahana, Ksharakarma -. Practical knowledge of all these procedures along with indications, complications and management.

Shastra Karma

Surgical procedures their Indications, Contraindications of cauterization of cervix, cervical dilatation and curettage, female surgical sterilization

Knowledge of indication and procedure of PAP smear. Endometrial biopsy and interpretation of the reports

Stri roga Sambandhita Pramukha Aushadhyai, Prasuti & Stri Roga Chikitsa Upayogi

Yantra Shastra Parichaya and Vyadhivinishchaya Upaya (Investigative and Diagnostic Aids)

Garbhanirodhaka Upaya.

Parivar Niyojana, Reproductive and Child Health Care, AIDS/HIV control Programme, MCH, PNMT Act, MTP Act, and importance of current National Programme

Knowledge of important Commonly used Ayurvedic and Allopathic drugs used in Prasutitantra and Streeroga. Pharmacotherapeutics of allopathic drugs in obstetrics and Gynaecology

Record keeping, ethical and medicolegal issues in Streeroga and prasutitantra ant tumours of Genital Tract

DESIRABLE (non detail)

Laproscopy, hysteroscopy, hysterosalpingography, USG, X-RAY, Colposcopy, Cervical Biopsy. Granthi evum Granthi nirharan samanyajnan (Myomectomy, hysterectomy)

CLINICAL TRAINING-OBSTETRIC SKILLS

To perform independently

1. History taking and examination of antenatal and gynaecological cases
2. Diagnosis of Pregnancy, assessing of gestational period, to diagnose onset of labour
3. To monitor labour progress, able to plot Partogram
4. Observation of 10 labours
5. To diagnose abnormalities of labour and decide about the referral of the patient
6. Able to provide first aid for obstetric emergencies
7. Recognition of post partum complications
8. Councelling and promoting of breast feeding
9. Record 5 antenatal cases, 5 intrapatum and 5 post partum cases

To observe/assist-D&C, D&E, Caesarean section, Repair operations, Resuscitation of new born.

GYNAECOLOGICAL SKILLS -To perform independently

1. History taking and examination of gynaecological cases
2. Recording 10 gynaecological cases, 5 gynaecological procedures
3. Taking vaginal smear, high vaginal swab
4. Practical knowledge of sthanika chikitsa
5. Observation and practical knowledge of minor gynaecological procedures
6. Observation of Surgical procedures
7. Identification, uses., Demonstration of surgical instruments
8. Observation of Method of sterilization, MTP, Surgical procedures Hystrectomy, Oopherctomy

DISTRIBUTION OF PRACTICAL MARKS

1. Case taking-2cases -one Gynec, one obstetric- 30marks

2.Instruments ,Drugs, &Models-	20 marks
3.General Viva-	40 marks
4.Record -2-(one Prasuti, one streerog)-	10 marks

COURSE OUTCOMES

3.3. PRASUTI TANTRA EVUM STRI ROGA

CO1: Understand the anatomical and physiological changes seen in females according to age, endocrinological changes with its pathology and its treatment.

CO2: knowledge of preconceptional, antenatal, intranatal and postnatal care, examinations, investigations, and management along with knowledge of its complications.

CO3: to get the basic knowledge of Ayurvedic procedures along with knowledge of minor and major surgical procedures in contomparary science.

CO4: knowledge about anatomy and physiology of breast along with its pathology and investigations and basic management of breast disorders.

CO5: know about Commonly used Ayurvedic and Allopathic drugs used in Prasutitantra and Streeroga with its

3.4. Kaumarbhritya (Ayurvedic Pediatrics)

Kaumarbhritya Parichaya Evum Balaka Paricharya (Introduction to Ayurvedic Pediatrics and Child Care)

1. General introduction and scope of Kaumarbhritya (Ayurvedic Pediatrics), Definitions and terminologies used in Kaumarbhritya.
2. Scientific contribution of Kashyapa Samhita in Kaumarbhritya.
3. Vayobheda (Classification of age): Garbha, Bala, Kumara; Kshirada, Kshirannada & Annada etc. and modern classification of childhood period.
4. Prana Pratyagamanam (Neonatal Resuscitation): Methodology; complications and their management (Ayurvedic and modern view). Assessment of gestational age. 5. Navajata Shishu Paricharya (Neonatal Care): Care of the Jatmatra (Newly born child) and the Sadyojata, Care of the Samaya-purvajata Shishu (Preterm), Purnakalika Shishu (Full term), and Samaya-Paschatjata Shishu (Post term neonate), Nabhinala Chhedana (Cutting of umbilical cord), Complications of improper cutting of umbilical cord and its treatment, Rakshoghna Karma (Protective measures- Ayurvedic and modern view).
6. Navajata Shishu Parikshana (Examination of newborn): Ayu-Parikshana, Modern approach to Neonatal Examination
7. Navajat Shishu Poshana (infant feeding): Specific feeding schedule as per Ayurvedic texts and modern concept; Stanya-Sampat (Properties of normal breast milk) Stanyotpatti (Physiology of lactation), Stanya Sangathana (Composition of breast milk), Stanya Parikshana (Examination of breast milk), Stanya-Piyusha (Colostrum); Stanya-Pana-Vidhi (Techniques of breast feeding),

Stanyakshaya Stanyanasha (Inadequate production and absence of breast milk), Dhatri (wet nurse)- Stanyabhava dugdh Vyavastha (alternative feeding in the absence of breast milk), Various other milk feeding methods.

8. Stanyadosha (Vitiation of Breast milk), Stanya Shodhana (Purification of breast milk), Stanya Janana and Vardhanopakrama (Methods to enhance breast milk formation).
9. Garbha Vridhi Vikasa Krama: Samanya Parichaya (brief monthwise development of fetus), Milestones of development during infancy and childhood including concepts of various Samskaras.
10. Poshana (Nutrition): Normal requirements of nutrients and common food sources.
11. Dantotpatti evum Danta Raksha Vidhi (Dentition and dental care): Danta-sampat (Characteristics of healthy teeth), Danta Nisheka evum Dantodbheda (Eruption of teeth), Dantodbhedjanya Vikara (Dentition disorders).
12. Vyadhikshamatva: General concepts of Bala (Immunity) and methods of Bala Vridhi.
13. Prashan & Lehana: Indications, contra-indications, different drugs used in lehana
14. Knowledge of National Programs related to Child Health Care: Reproductive and Child Health (RCH) Program, Community Child Health Programs, Nutritional Programs, National Immunization Program and other programs incorporated by Govt. of India from time to time

Samanya Chikitsa Siddhanta and Balaroga (General Principles of Treatment and Management of Pediatric Disorders)

1. Bala Pariksha-vidhi Evam Shishu Vedana Parigyan (Examination of sick child and Diagnostic methods-Ayurvedic and modern). Samanya Chikitsa Siddhanta (General principles of treatment in children).
2. General Aushadhi Matra Nirdharana - for Ayurvedic and modern drugs preparations (drug doses according to age, weight and drug contents)
3. Specific therapeutic panchakarma procedures in children with special emphases on snehan, swedan and basti.
4. Prasava Kaleena Abhighata (Birth injuries): Shwasavrodha (Asphyxia neonatorum), Ulvaka, Upashirshaka (Caput Succidanum and Cephalohaematoma), Facial Paralysis, Erb's Paralysis, Bhagna (fractures).
5. Brief description of Sahajavyadhi (Congenital disorders): Sahaja Hridaya Vikara (Congenital Cardiac Disorders) Jalashirshaka (Hydrocephalus), Khandaoushtha (cleft lip), Khanda-Talu (cleft palate) Sanniruddha Guda (Anal stricture / imperforated anus), Pada Vikriti (Talipes equinovarus and valgus), Spina bifida, Meningocele, Meningomyelocele.
6. Brief knowledge of genetic disorders): Down syndrome, Turner Syndrome, Muscular dystrophy, Sickle-Cell Anemia, Thalassaemia, Sahaja Madhumeha (Juvenile diabetes).
7. Prasavottara Vyadhi (Neonatal disorders): Navajata Kamala (Neonatal Jaundice), Navajata Netrabhishyanda (Neonatal conjunctivitis), Nabhiroga (Umbilical disorders), Navajatshishu-raktavishmayata (Neonatal Septicemia)
8. Dushta

Stanyapanajanya Vyadhi (Disorders due to Vitiated Milk): Lactose intolerance, Kshiralasaka, Kukunaka, Ahiputana (Napkin Rashes)

9. Kuposhanajanya Vyadhi (Nutritional disorders): Karshya, Phakka, Balashosha and Parigarbhika (Protein Energy Malnutrition), Vitamin and Micro-nutrient deficiency disorders, Hyper-vitaminosis, failure to thrive.
10. Aupasargika Vyadhi (Infectious Diseases): Karnamula Shotha (Mumps), Romantika (Measles), Rubella, Masurika (Chicken Pox), Rohini (Diphtheria), Kukkura-Kasa (Whooping Cough), Dhanurvata (Tetanus), Krimiroga (Worm Infestations), Antrika

Jwara (Typhoid), Mastisakavarnashotha (Meningitis), AIDS, Dengue, Malaria, Rajayakshma (Tuberculosis), Jivanujanya Yakrit Shotha (Hepatitis)

1. Srotas Vikara:

- a) Pranavaha Srotas: Pratishyaya (common cold), Kasa (Cough), Shwasa (Respiratory distress syndrome), Tamaka Shwasa (Bronchial Asthma), Utphuliika, Swasanaka Jwara (Pneumonia/Pneumonitis, Bronchiolitis), Gala shotha (Pharyngitis, Laryngitis), Talukantaka (Tonsillitis)
- b) Annavaha_ Srotas: Ajirna (Indigestion), Atisara (Diarrhoea), Chhardi (Vomiting), Vibandha (Constipation), Mukhapaka (Stomatitis), Gudapaka (Proctitis), Parikartika (Anal fissure), Udarshula (Infantile Colic), Pravahika (Dysentery), Gudabhransa (Rectal Prolapse). Ama and its disorders like Ama vata jwara (Rheumatic fever).
- c) Rasavaha Srotas: Jwara (Fever), Pandu (Anemia), Mridbhakshanajanya Pandu (Anemia associated with clay eating/Pica).
- d) Raktavaha Srotas: Kamala (Jaundice), Raktapitta (Haemorrhagic disorders), Yakritodara (Hepatomegaly).and Pieehodara (Spleenomegaly)
- e) Mamsa-Medovaha Srotas: Apachi (Lymphadenitis), Galaganda (Goitre), Gandamala (Cervical Lymphadenopathy).
- f) Mutravaha Srotas: Shopha in Vrikka (Glomerulonephritis and Nephrotic syndrome)

2. Anya Bala Vikara (Miscellaneous Pediatric Disorders), Apasmara (Epilepsy), Akshepa (Convulsions), Nirudhaprakasha (Phimosis), Cerebral palsy.

3. Behavioral Disorders of Children, their management and counseling: Breath holding spell, Shayyamuutra (Bed wetting), Pica, Unmada, Autism, ADHD (Attention Deficit and Hyperactive Disorders), Jadatwa (Mental retardation).

4. Pran raksha vidhi (Life saving measures in children): Principles of management of Shock and Anaphylaxis, Poisoning, Foreign body in respiratory tract, Status epilepticus, Hemorrhage, Acute Renal Failure, Febrile Convulsion, Status Asthmaticus, Fluid and Electrolyte Management.

5. Balagraha: General description, classification, clinical features and management.

PRACTICAL Content of Practical / demonstration

1. Clinical training of above mentioned disorders of children.
2. Exposure to -
 - a) Navajata Shishu Paricharya (Care of the newborn)
 - b) Pranapratyagamana Vidhi (Resuscitation procedure of new born)

- c) Vaccination
- d) Panchakarma Vidhi (Panchakarma procedures) especially Snehan, Swedana, Basti.

3. Knowledge of various equipments such as phototherapy unit, overhead radiant warmer, resuscitation equipments, Panchakarma equipments and their application

4. Knowledge of IV fluid administration, blood sampling

5. Anthropometry measurements and their interpretation

6. Various Ayurvedic & modern Procedures and investigations in pediatric practice

Distribution of Marks

Clinical work: Pediatric and neonatal case records [1.0 case sheets of each] 10 Marks

Patient Examination 20 Marks

Spotting 05 Marks Viva – voce 15 Marks

Total 50 Marks

Reference Books

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

COURSE OUTCOMES

3.4. KAUMARBHRITYA PARICHAYA

CO1: Understand the Scope of Kaumarbhritya (Ayurvedic Pediatrics) and age classification

CO2: Know about Navajata Shishu Paricharya (Neonatal Care) and Parikshana (Examination)

CO3: Detail knowledge of Navajata shishu poshana (Infant feeding)

CO4: Know about the milestones of development during infancy and childhood including concepts of various Samskaras

CO5: Knowledge about various pediatric diseases, their diagnosis, treatment and dosage of medicines

CO6: Knowledge of National Programs related to Child Health Care

3.5. CHARAK SAMHITA- UTTARARDHA

(Uttarardha: Chikitsa – Kalpa - Siddhi Sthana)

The marks of theory examination are distributed as follows:

1.	Chikitsa sthana	60 Marks
2.	Kalpa sthana	15 Marks
3.	Siddhi sthana	25 Marks

Reference Books

1. Charak Samhita -Chakrapani Tika (Sanskrit Commentary)
2. Charak Samhita (Hindi Commentary) Vd. Jayadev Vidyalankar or Vd. Atridev Vidyalankar or Prof. Gorakh Nath Chaturvedi & Kashinath Shastri or Dr. Brahmanand Tripathy or Dr. Ravidutta Tripathy
3. Charak Samhita (English Commentary): Dr. Ram Karan Sharma & Vd. Bhagwan Dash or Acharya Priyavrata Sharma.

COURSE OUTCOMES

3.5. CHARAK SAMHITA (UTTARARDHA)

CO1: knowledge in Rejuvenation and Aphrodisiac therapies

CO2:knowledge in various diseases- etiology, signs and symptoms, pathogenesis, treatment principles

CO3:knowledge in various medicinal formulations according to the condition of the diseases

CO4: knowledge in various drugs used for purificatory therapies according to the disease

CO5:knowledge in deep understanding of five purificatory procedures, indications-contraindications and management of complications

FOURTH YEAR COURSES

4.1 KAYACHIKITSA

- 1 Derivation of the terms 'Kaya', 'Chikitsa' and their definitions and synonyms. Definition of 'Kayachikitsa, Definition of 'Bheshaja'. Types and detailed description of Bheshaja and Chikitsa, Knowledge about Chikitsa Chatushpada, Rogi Roga Pariksha Siddhantha, Astasthan Pariksha.
- 2 Importance of Kriya Kaala according to stages of Dosha and their management.
- 3 Chikitsa sutra and Management of vriddhi (increased) and kshaya (decreased) of Dosha, Dhatu and Mala, Ojo Vyapat (Kshaya, Visramsa and Vyapat) and its management. Chikitsasutra and Management of Sama-Nirama states, Roga-Anutpattikara Chikitsa, Roga Prashamana Chikitsa (Doshapratyanika, Vyadhipratyanika, Ubhayapratyanika), Doshopakrama, Chikitsa sutra and Management of Sthanantara Dosha (Ashayapakarsha, Anuloma/Pratiloma gati of Dosha, Vimarga gamana of Dosha), Knowledge of Lina Dosha & its management, Diagnosis, Chikitsa Sutra and Management of Avarana and of Dhatu Pradoshaja diseases, Importance of Dosha, Dushya , Bala, Kaala, Agni, Prakriti, Vaya, Sattva Satmya, Desha, Ahara and stage of diseases in treating them. Chikitsa Sutra and Management of 'Samanyaja and Nanatmaja' diseases.
- 4 Detailed description of Dvidividhopakrama (Santarpana and Apatarpana) and Shadavidhopakrama (Rookshana, Snehana, Swedana, Sthambhana, Langhana and Brimhana). Detailed description of Shodhana, Shamana and Nidana Parivarjana. Knowledge of Aushadha matra, Sevan kaala and Anupana, Definition and Knowledge of Pathya-Apathya with examples of diseases of various systems.
- 5 Derivation of the term 'Manas', its sthana (place), Guna (qualities) and Karma (functions). Samanya Chikitsa Siddhanta of Manasa Roga.
- 6 Principles & Management of Nutritional deficiency disorders.
- 7 Management of Vardhakyajanita vikara, Indriyapradoshoja vikara, Alzhiemer's Disease, Sleep disorders, General debility.
- 8 General introduction and principles of Management of diseases produced by Genetic, Environmental and Iatrogenic factors. Disorders due to drug and Food allergy and their management and other allergic conditions

1. Detailed description of Chikitsa Sutra and Management of Jwara and its types.

Etiopathogenesis & relevant Ayurvedic and Modern management of following types of Fevers-Typhoid, Pneumonia, Pleurisy, Influenza, Mumps, Meningitis, Encephalitis, Tetanus, Yellow fever, Plague, Dengue Fever, Chikun Guniya, Leptospirosis, Viral Fever, Anthrax, Masurika (Small pox), Laghu Masurika (Chicken pox), Romantika (Measles).

1. Chikitsa sutra and Management of the diseases of Rasavaha Srotas such as – Pandu, Amavata, Madatyaya, Hridroga, Hridshoola, Hypotension, Hypertension, Anaemia, Rheumatoid arthritis.
2. Chikitsa sutra and Management of the diseases of Raktavaha Srotas such as -

Raktapitta, Kamala, Kumbhakamala, Halimaka, Daha, Mada, Murcha, Sanyasa, Vatarakta, Plihadasha, Yakrut dosha, Haemolytic disorders, Hepatitis, Cirrhosis of Liver, Leukaemia, Kushta, Shvitra, Visarpa, Sheetapitta, Udarda, Kotha and Kshudra Roga.

3. Knowledge of National Health Programmes and the relevant Ayurvedic Management of the following diseases enlisted by World Health Organisation- Malaria, Filariasis, Kala Azar, Leprosy, Tuberculosis, AIDS.
4. Introduction of general principles of maintenance of health and management of diseases of following systems of Medicine- Yoga, Naturopathy, Unani, Siddha, Physiotherapy and Rehabilitation.
5. Diseases of different Endocrine Glands- such as Thyroid, Parathyroid, Pituitary, Pancreas and Adrenal glands and their management.
6. General introduction, types and Management of diseases caused by Vyadhi Kshamatwa Hinata (Immuno deficiency disorders), Auto Immune Disorders.
7. Description and Management of following Emergency Conditions- Acute Haemorrhage, Hypertensive Emergencies, Acute abdominal pain (Renal colic, Biliary colic, Gastritis, Pancreatitis, Peritonitis and Appendicitis), Acute Abdomen, Anuria/ Oliguria, Congestive Heart Failure, Myocardial Infarction/Angina, Shock, Syncope, Convulsions, Hyperpyrexia, Hyperglycaemia, Hypoglycaemia, Status Asthmaticus, Acute Respiratory distress Syndrome, Drowning and Electric shock.

1. Chikitsa sutra and Management of the diseases of Pranavaha Srotas such as - Kasa, Shwasa, Hikka, Rajayakshma, Urakshata, Parshwashoola, Bronchitis, Bronchiectasis, Emphysema and COPDs.
2. Chikitsa sutra and Management of the diseases of Udakavaha Srotas such as- Shotha, Jalodara, Trishna, Water & Electrolyte Imbalance.
3. Chikitsa sutra and Management of the diseases of Annavaha Srotas such as – Agnimandya, Aruchi, Ajirna, Anaha, Atopa, Adhmana, Alasaka, Vilambika, Visuchika, Chardi, Grahani, Amlapitta, Gulma, Shoola, Bhasmaka, Acid peptic disorders.
4. Principles of treatment and management of Vata Vyadhi such as - Pakshavadha, Ekangavata, Sarvangavata, Ardita, Avbahuka, Kati Graha, Manyastambha, Gridhrasi, Vishwachi, Khalli, Khanja, Pangu, Padaharsha, Padadaha, Vatakantaka, Kroshtukashirsha, Udavarta, Kampavata, Dhatugata and Ashayagata Avarana Vata, other Vata Rogas, Parkinsonism.
5. Nidana and Chikitsa of Urusthambha, Gullian Barrie syndrome, Muscular Dystrophy, Myasthenia Gravis, Motor Neuron Diseases and Neuralgia.

1. Chikitsa Sutra and Management of Mamsavaha Srotas and Medovaha Srotas such as- Gandamala, Galaganda, Mamsashosha, Arbuda, Apachi, Prameha, Sthaulya, Karshya, Diabetes Mellitus, Dyslipidaemia.
2. Chikitsa Sutra and Management of 'Asthi and Majjavaha Srotas such as Asthimajja Vidradhi, Asthisoushrya, Asthi kshaya, Sandhigata Vata, Osteo Arthritis, Osteomyelitis, Osteoporosis, Osteopenia.
3. Chikitsa sutra and management of Shukravaha srotas such as Klaibya, shukralpata, shukradosha, kshina shukra, dhvajabhanga.

4. Chikitsa Sutra and Management of diseases of Mutravaha Srotas such as -Mutrakricha, Mutraghata, Ashmari, Cystitis, Nephritis, Nephrotic Syndrome, BPH, Renal Failure.
5. Chikitsa Sutra and Management of diseases of Purishavaha Srotas such as – Atisara, Pravahika, Arsha, Purishaj Krimi, IBS and Ulcerative Colitis.
6. Chikitsa Sutra and Management of Sexually Transmitted Diseases such as – Phiranga, Puyameha, Upadamsha, lymphogranuloma inguinale, Syphilis, Gonorrhoea.
7. Introduction, Definition and Management of Kama, Krodha, Lobha, Moha, Mada, Matsarya, Shoka, Bhaya, Vishada, Dainya, Harsha and Pragyaparadha.
8. Manas and Manovahasrotas, Nidana and Chikitsa of the following disorders - Unmada, Apasmara, Atattvabhinivesha, Chittodvega, Vishada, Anxiety disorders, Depression, Somatoform and Mood disorders, Stress induced disorders, Psychosexual Disorders. Importance of Daivavyapashraya, Sattwavajaya, Adravyabhuta Chikitsa. Medhya Rasayana in the management of Manasa Roga. Bhuta Vidya diagnosis and management of graha disorders.
9. Derivation, definition and synonyms of Rasayana, importance of Rasayana and its benefits. Indications of Rasayana therapy. Classification of Rasayana. Kutipravesika and Vatatapika Rasayana. Indications of Vatatapika Rasayana. Knowledge of Kayakalpa, Achara Rasayana. Procedures of Kutipravesika, Poorvakarma and specific schedules to be followed after Kutipravesha, benefits of Kutipravesika Rasayana, duration of process, Rasayana yoga and directions for their use. Determination of dose of Rasayana according to age. Rules and regulation after Rasayana therapy, Importance of Immunomodulators and antioxidants in Rasayana therapy.
10. Vajikarana- Derivation, definition, synonyms, necessity, benefits, importance of fertility, Symptoms of Shûkra (Semen), Vajikaran Dravya and Aushadhi. Properties, doses, methods of administration, ingredients and methods of formation of Rasayana & Vajikarana formulation. Classification and importance of Vajikarana Dravya

Distribution of practical Marks 100

1) Daily case record/ 20 cases	- 20 marks
2) Patient examination	
a) 1 Long case	- 20 marks
b) 1 short case	- 10 marks
3) Viva –voice	
a) Paper I	- 25 marks
b) Paper II	- 25 marks

Reference books:

1. Charak Samhita, Sushrut Samhita, Ashtanga Samgraha and Ashtanga Hridaya with their commentaries. Madhav Nidana with Madhukosha Commentary.
2. Ayurvediya Vyadhi Vigyana - Yadavji Trikamji
3. Roga Pariksha Vidhi - Priyavrat Sharma
4. Panchakarma Vigyan -Haridasa Sridhar Kasture

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|-----|---|-------------------------------|
| 5. | Cikitsadarsha | -Pandit Rajesvardutta Shastri |
| 6. | Kayachikitsa I-IV | -Ramaraksha Pathaka |
| 7. | Harrison's Text Book of Medicine. | |
| 8. | Cecil Text Book of Medicine. | |
| 9. | Panchkarma Illustrated by Dr. G.Srinivasacharya. | |
| 10. | Other relevant publications on subjects concerned | |
| 11. | Ayurved Nidan Chikitsa Siddhanta | -Prof. R.H.Singh. |
| 12. | Kayachikitsa Vol. I-IV. | -Prof. Ajay Kumar |
| 13. | Davidson's Principles and Practice of Medicine. | |
| 14. | API Text Book of Medicine. | |

COURSE OUTCOMES

4.1 KAYACHIKITSA

CO1: Understanding the basic concepts of Kayachikitsa

CO2: Understanding treatment protocol with regards to samana, sodhana and rasayana

CO3: Emergency management

CO4: Understanding the concept of vajeekarana

CO5: Understanding Psychiatric disorders and management

4.2. PANCHAKARMA

I. Introduction

1. Introduction to Panchakarma, Panchakarma and Shodhana, its importance for promotion of health, prevention and treatment of diseases.
2. Trividha Karma- Purva, Pradhana and Pashchat Karma in relation to Shodhana and their importance.
3. Indications of Shodhana, Shodhana according to Ritu
4. General Principles of doshagati from Koshta to Shaka and vice versa
5. General precautions (Parihaya Vishaya) for Panchakarma
6. Specifications of Panchakarma theatre and necessary equipments
7. Importance of Koshta and Agni Parikshan

II. Snehana

1. Etymology and Definition of Sneha and Snehana
2. Snehayoni- Sthavara and Jangama: Properties of Sneha dravyas, Snehopag Dravyas
3. General knowledge of Ghrita, Taila, Vasa and Majja with their specific utility and actions, Yamaka, Trivrit and Maha Sneha
4. Metabolism of fat
5. Achcha and Pravicharana of Sneha
6. Snehapaka and its importance in Panchakarma
7. **Types of Snehana:** i) Bahya and ii) Abhyantara Snehana

i) Bāhya Snehana :

Methods, indications and contraindications of the following types of Bahyasnehana;

Mardana, Unmardana, Pādāghāta, Samvāhana, Karna Purana & Akshi Tarpan, Lepa, Talam,

Murdhni Taila: Siro-Abhyanga, Shiro Seka/dhārā, Siro Pichu and Siro-Basti

ii) Ābhyantara Snehana

Three Types of Ābhyantara Snehana: Shodhanārtha, Shamanārtha and Brimhanārtha Snehana, Indications and contraindications for Snehana

Shodhanārtha Snehana

a. Importance and method of Deepan Pāchan and Rookshana in Shodhanārtha

Snehana. Properties of Rookshana Dravya. Samyak Rookshana Lakshana

b. Consideration of Agni and Koshta in Snehana

c. Indication of Different Matra, Various dose schedules for Shodhanārtha Snehana;

Hraseeyasi, Hrasva, Madhyama and Uttama Mātrā, Ārohana Mātrā

d. Methods of Shodhanārtha Snehana,

e. Anupāna of Sneha

f. Jeerna and Jeeryaman Lakshana

g. Samyak Yoga, Ayoga and Atiyoga of Snehana, Sneha Vyāpat & their management according to Ayurveda & Modern Medicine

h. Diet and regimen during Snehana

Sadyo Sneha: Method of administration, dose fixation and utility

Shamanārtha Snehana, Method of administration, dose fixation and utility

Bronhanarth Senhana: Method of administration, dose fixation and utility

Avapedak Sneha: Method of administration, dose fixation and utility

8. Snehana Kārmukata (mode of action)

9. Special Procedures:

Takradhara, Udvardanam, Putpāka, Aschotana, Anjana, Gandusha, Kavala, Dhoompāna, Udvardana, Utsādana, Udgharshana, Talapothichil

III. Svedana

1. Etymology and Definition of Sveda and Svedana

2. Classifications of Sveda/Svedana

3. General Sweda dravya, Properties of Sweda dravyas, Swedaopag dravyas ,

4. Indications and contraindications of Svedana

5. Ten Types of Niragni Svedana

6. Knowledge of 13 types of Sagni Svedana and Chaturvidh Svedan

7. Detailed Knowledge with their Utility of the following Svedana procedures:

Sankara/Pinda Sveda-Ruksha and Snigdha Sveda

Patrapinda Sveda, Jambir Pinda Sveda, Vāluka Sveda, Churna Pinda Sveda, Kukkutand Pinda Sveda, Shashtika Shalipinda Sveda, Nadi Sveda,

Bashpa Sveda Ksheer dhooma ,Ksheer Seka, Kwath Seka, Avagaha Sveda,Dhanymla Dhara Parisheka Sveda, Pizichil, Upanaha Sveda, Annalepa

8. Local Basti such as Kati Basti, Janu Basti, Greeva Basti and Urobasti
9. General precautions during Sagni Svedana and Methods to protect vital during svedana
10. Samyak Yoga, Ayoga and Atiyoga of Svedana
11. Complications of Svedana and their Management according to Ayurveda & Modern Medicine
12. Diet and management during and after Svedana
13. Parihār Vishaya
14. Svedana Kārmukata (Mode of action)
15. General Knowledge about current Sudation techniques like Sauna bath, Steam bath

IV. Vamana Karma

1. Etymology, definition and importance of Vamana Karma
2. Utility of Vamana Karma in health and disease

1. Indications and Contraindications for Vamana
2. Knowledge of Koshta and Agni
3. General knowledge of Vamana and Vamanopaga drugs; properties, actions, preparations, preservation with special reference to Madanphala, Kutaj, Nimba, Yashti, Vacha
4. Purva Karma of Vamana: Deepan-Pāchana, Abhyantara Snehana and diet
5. Management of one gap day-Abhyanga & Svedana, diet, special Kapha increasing diet
6. Preparation of the patient on Morning of Vamana day
7. Vamaka Yoga, Anupana, fixation of dose and method of administration
8. Administration of Vamanopaga Dravya such as milk, sugarcane juice, Yashtimadhu decoction
9. Lakshana indicating Doshagati during the process
10. Management during Vamana Karma & observations
11. Symptoms of Samyak Yoga, Ayoga and Atiyoga of Vamana Karma
12. Post Vamana management
13. Types of Shuddhi-Hina, Madhya and Pravara
14. Peyadi Samsarjana Karma and Tarpanadi Karma with their specific indications
15. Complication of Vamana and their management with Ayurveda and modern drugs
16. Pariharya Vishaya
17. Vamana Karmukata (Mode of action).

V. Virechana Karma

1. Etymology, definition and importance of Virechana Karma

2. Utility of Virechana Karma in health and disease
3. Indications and Contraindications for Virechana
4. Knowledge of Koshta and Agni
5. Classification of Virechana Drugs, General properties of Virechana dravya
6. General knowledge of single and compound Virechana drugs; properties, actions, preparations, preservation with special reference to Trivrutta, Aragvadha, Eranda, Katuki, Jaipal
7. Purva Karma of Virechana: Deepan- Pachana, Abhyantara Snehana and diet
8. Management of 3 gap days-Abhyanga, Svedana & diet
9. Management on Morning of Virechana day
10. Preparation of Virechana Kalpa, Anupana, dose and method of its administration
11. Method of Virechana Karma and management during Virechana Karma & observations
12. Symptoms of Samyak Yoga, Ayoga and Atiyoga of Virechana Karma
13. Post Virechana management
14. Types of Shuddhi-Hina, Madhya and Pravara and accordingly Samsarjana Karma
15. Complications of Virechana and their management with Ayurveda and modern drugs
16. Pariharya Vishaya
17. Virechana Kārmukatā (Mode of action)

VI. Basti Karma

1. Etymology, definition and importance of Basti as Ardha-Chikitsa
2. Utility of Basti Karma in health and disease
3. Basti Yantra- Putaka & Netra, Detailed study of traditional Basti Yantra and their Doshas
Knowledge of alternative Basti Yantra-enema can, enema syringe, modified plastic/rubber bag for Putaka, modified plastic netra.
4. Classifications of Basti
5. Karma, Kāla and Yoga Basti schedules along with their utility.
6. **Niruha Basti:** Its etymology, synonyms, definition, classifications, subclassifications & indications and contraindications.
 - a. Dose fixation of Niruha Basti according to age
 - b. Contents and Method of preparation of Niruha Basti dravya c. Diet
 - d. Administration of Niruha Basti
 - e. Pratyāgamana Kāla, Post Niruha Basti management
 - f. Samyak Yoga, Ayoga and Atiyoga of Niruha.
 - g. Complication of Niruha Basti and its management according to Ayurved and Modern Medicines
 - h. Pariharya Vishaya and kala
7. **Anuvasana Basti:** Its etymology, synonyms, definition, classifications, subclassifications & indications and contraindications.

- a. Dose fixation of Anuvasan Basti according to age
 - b. Contents and Method of preparation of Anuvasan Basti dravya
 - c. Diet
 - d. Administration of Anuvasan Basti
 - e. Pratyāgamana Kāla, Post Anuvasan Basti management
 - f. Samyak Yoga, Ayoga and Atiyoga of Anuvasana.
 - g. Complication of Anuvasan and its management according to Ayurved and Modern Medicines
 - h. Pariharya Vishaya and kala
8. Basti Kārmukatā (Mode of action).
 9. Knowledge of following types of Basti:
Madhutailika Basti, Erandmuladi Basti, Yāpana Basti, Pichchha Basti, Kshira Basti,
Kshara Basti, Vaitarana Basti, Panchaprasutik Basti, Lekhan Basti, Krumighna Basti, Tiktashir Basti, Ardhamātrika Basti
 10. **Uttara Basti**,: its definition, indications and contraindications, Detailed study of traditional Basti Yantra and their Doshas Knowledge of alternative Basti Yantra
 - a. Preparation of patient,
 - b. Preparation of Trolley for Uttarbasti,
 - c. drug preparation and Fixation of dose,
 - d. method of administration in male and females,
 - e. observations,
 - f. complications and their management

VII. Nasya

1. Etymology, definition, Significance of Nasya Karma.
2. Classifications and sub-classifications
3. Knowledge of general Dravya used for Nasya Karma, Shirovirechan Gana, Shirovirechanopag dravyas
4. Indications and contraindications of Nasya
5. Time of administration of Nasya
6. Dose fixation of different types of Nasya
7. Diet and regimen before and after Nasya Karma
8. Administration of Marsha, Pratimarsha, Avapeedaka, Dhoomapana and Dhuma Nasya
9. Symptoms of Samyak-yoga of Nasya,
10. Complication of Nasya and their management
11. Parihār Vishaya
12. Nasya Karmukata (mode of action)

VIII. Raktamokshana

1. Definition, importance and Types of Raktamokshana

2. General Principles and rules of Raktamokshana
3. Classification of Raktamokshan
4. General Indication and Contra indication of Raktamokshan
5. **Jalaukavacharana:** Knowledge of different types of Jalauka (Leech) , Indications and contraindications of Jalaukavacharana, various types of Jalauka. Method of Application, Samyak Lakshan, Complication of Jalaukavacharana and their management with Ayurveda and Modern medicines.
6. **Pracchāna:** Indications and contraindications of Pracchana. Method of Application, Samyak Lakshan, Complication of Pracchana and their management with Ayurveda and Modern medicines
7. **Sirāvedha:** Indications and contraindications of Siravedha. Method of Application, Samyak Lakshan, Complication of Siravedha and their management with Ayurveda and Modern medicines
8. Knowledge of emergency management of complications such as water & electrolyte imbalance, shock, bleeding per rectal, hematemesis, epistaxis

IX. Physiotherapy

1. Definition, Utility and Importance of Physiotherapy.
2. Basic Knowledge of Static exercise, Infrared, Short wave diathermy, Electromagnetic therapy, Wax bath therapy, Ultrasonic therapy.

PRACTICALS / CLINICAL TRAINING –

Total Duration of 3 Months posting

OPD (for 1-Month): observation of OPD patients, selection of the patients, observation of OPD base Panchakarma procedures

IPD (Panchakarma) and Panchakarma Unit – Observation of different procedures of Panchakarma, Assistance to the procedure under guidance of Panchakarma specialist Under clinical posting, each student has to study and write 15-long Cases and 10 short cases in prescribed format

Long case Paper- minimum 1 Vaman , 1 Virechan, 1Niruha & Anuvasan Basti, 1Nasya, 1 Raktamokshan

Short case paper –Minimum one each of Pinda sweda, Shirodhara, Abhyanga, Netra Tarpan, Bahya Basti, Nadi Sweda etc.

Distribution of Marks

- | | |
|--------------------------------------|----------|
| 1. Practical Record of 25 procedures | 05 Marks |
| 2. Long Procedure | 10 Marks |
| 3. Long Procedure Viva | 05 Marks |
| 4. Short Procedure | 08 Marks |
| 5. Viva on Short Procedure | 02 Marks |
| 6. General Viva-voce | 20 Marks |

Total

50 Marks

Reference Books

1. Charak Samhita with Commentary of Ayurveda Dipika by Chakrapanidatta & Jalpakalpataru by Gangadhara
2. Sushrut Samhita with the Sushruta Nibandha Samgraha Commentary of Dalhana & Nyayachandrika Panjika of Gayadasa on Nidana Sthana
3. Ashtanga Hridaya with Sarvanga Sundara & Ayurveda Rasayana Commentaries
4. Ashtanga Sangraha with Shashilekha Commentaries
5. Ayurvediya Panchakarma Chikitsa Dr Mukundilal Dwivedi
6. Panchakarma Vigyan Dr Haridas Shreedhar Kasture
7. Illustrated Panchakarma Dr.G Srinivasa Acharya
8. Clinical Panchkarma (English) Dr. P.Yadaiah
9. Prayogika Panchkarma (Hindi) Dr. P. Yadaiah
10. Vivida Vyadhiyome Panchkarma (Hindi) Dr. P. Yadaiah
11. The Panchkarma Treatment of Ayurveda with Kerala Specialtie Dr. T.L. Devaraj
12. Panchkarma Therapy Dr. R.H. Singh
13. Ayurveda-Principles and Panchakarma Practice Dr Mandip R. G. & Prof. Gurdip Singh
14. Principles and Practice of Basti Dr. Vasudevan & Dr. L. Mahadevan
15. Panchakarma Sangraha Dr. Manoj Shamkuwar
16. Essential of Panchakarma Therapy Dr.Pulak Kanti Kaur
17. Principles and Practice of Panchakarma Vaidya Vasant Patil
18. Harrison's Principle of Internal Medicine
19. Guyton's Physiology

COURSE OUTCOMES

4.2 PANCHKARMA

- CO1: Understanding basic concepts of Poorva Karma
- CO2: Knowledge of principles and practice of Vamanam
- CO3: Knowledge of principles and practice of Virechanam
- CO4: Knowledge of principles and practice of Vasti
- CO5: Knowledge of principles and practice of Nasyam
- CO5: Knowledge of principles and practice of Raktamokshanam

4.3 SHALYA TANTRA

Definition of Shalya, Shalya Tantra and its importance. Introduction to Shalya Tantra: Historical background and progress made.

- **Target** - Fluency in textual reading and comprehension.
- Preferable targets - Know recent developments and controversies.

Description of Yantra, Shastra, Anushastra: Definition, number, types, uses, Dosha, Guna, Karma. Relevant modern instruments.

- Target - Basic understanding of the concepts of Yantra and Shastra. Acquaintance with commonly used surgical instruments. Knowledge of textual descriptions.
- Preferable targets - Knowledge about currently used surgical instruments, their specifications, procurement sources etc.

Nirjantukarana / Sterilization: Methods, types and its role in surgical practice.

- Target - Basic surgical discipline of maintaining asepsis.
- Preferable targets- Knowledge of recently developed chemicals, instruments for sterilization.

Sangyahan / Anaesthesia: Definition and Types.

- Local anaesthesia** – Drugs, Techniques, Indications, Contraindications, Complications and their Management.
- Regional and General anaesthesia-** Drugs, Techniques, Indications, Contraindications, Complications and their Management.

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Target-Basic knowledge of the drugs and instruments of anaesthesia. To observe the process of induction, monitoring and recovery.

- Preferable targets- Assisting and handling anaesthesia.

Trividha Karma – Purva Karma, Pradhana Karma and Paschat Karma.

- Target- Capability to identify conditions which can affect the outcome of surgery in pre, intra and post- operative period.
- Preferable targets- Experience of handling incidents.

Ashtavidha Shastra Karma - Surgical procedures.

- Targets- Appreciation and comprehension of concepts and indications of different procedures.
- Preferable targets –Hands on experience of surgical procedures.

Yogya - Experimental Surgery.

- Target –Appreciation and comprehension of concepts of Yogya. Idea of patient's safety in experimental training.
- Preferable targets- Hands on training on mannequins.

Marma: Nirukti, types, description and importance.

- Target –Clinical application of concepts of marma.
- Preferable targets- Study of relevance of marma in the light of current anatomical and surgical knowledge.

Kshara and Kshara Karma:

- Nirukti, Pradhanyata, Guna, Dosha, Karma, Prakara, Yogya, Ayogya, Procedure, Upadrava and Chikitsa.**
- Kshara nirmana vidhi, knowledge of Kshara Varti, Taila and Pichu.
- Kshara Sutra – Preparation, Indications, Contraindications and Method of application, Complications and their Management.**
 - Target – Capability to identify and practice the use of kshara, kshara sutra in common clinical conditions.
 - Preferable targets – Broader knowledge of current trends and ongoing researches in kshara application.

Agnikarma: Mahatva, Upakarana, Vidhi, Akrti bheda, Yogya, Ayogya and Upadrava Chikitsa.

Contemporary techniques and tools of Agnikarma.

- Target - Capability to appreciate the clinical indications and comprehend Agnikarma procedure.
- Preferable targets - Hands on experience of use of cautery in surgical practice.

Raktamokshana: Mahatva, Prakara - Siravyadha, Pracchanna, Shringa, Alabu, Jaloukavacharana – Yogya, Ayogya, Procedure, Upadrava and Chikitsa.

- Target- Capability to appreciate and comprehend clinical indications of Jaloukavacharana and other Raktamokshana procedures.
- Preferable targets - Uses of bloodletting in current therapy.

Bandha Vidhi – Prayojana, Dravya, Indications, Contraindications, Prakara, Upadrava, Pichu, Plota, Kavalika and Vikeshika.

- Target- Hands on experience of techniques of bandaging.
- Preferable targets - New generation of bandaging and splintage tools.

Pranasta Shalya and Nirharana Upaya.

- Target – Importance of concepts of Sushruta in the management of Shalya and concerns of patient safety. Identification and management of foreign bodies.
- Preferable targets - Current concepts and diagnostic tools of dealing with foreign bodies.

Fluid, Electrolyte, Acid Base Balance and Nutrition:

- Introduction of physiology of fluids and electrolytes.
 - Dehydration and over hydration.
 - Specific electrolyte loss, Acidosis, Alkalosis, Symptomatology and Management.
 - Electrolyte changes in specific diseases like pyloric stenosis, intestinal obstruction and anuria.
 - Various replacement fluids in surgery, mode of administration and complications.
 - Nutrition.
- Target – Capability to identify and manage fluid and electrolyte imbalance. Ability to administer parenteral fluid.
 - Preferable targets - Advanced techniques of fluid and electrolyte assessment and management.

Rakta Mahatwa, Raktasrava / Haemorrhage: Prakara and Lakshana.

- Raktastambhana – Haemostasis.
- Blood Transfusion –Blood groups, Compatibility, Indications, Contraindications and Complications with Management.
- Component therapy.
 - Target-Knowledge of achieving haemostasis in haemorrhage.
 - Preferable targets - Detailed knowledge of blood bank techniques.

Antibiotics, analgesics, anti-inflammatory and emergency drugs in surgical practice.

- Target – Working knowledge of commonly used drugs.
- Preferable targets - Advanced pharmacological study of the above drugs.

Diagnostic techniques – X-ray, Imaging techniques, Ultrasonography, CAT Scan, MRI, Biopsy / Cytological study.

- Target- Knowledge of proper indications for optimum investigational tools and their interpretation.
- Preferable targets - Capability to work independently in the field of diagnostic techniques.

Part - B

Shat Kriyakala in surgical practice.

- Target- Clinical utility of the concepts.
- Preferable targets - Applied aspects of Kriyakalas in the light of current concepts of pathogenesis.

Nirukti, Nidana, Samprapti, Prakara, Lakshana, Sadhya-asadhyata, Upadrava and Chikitsa of the following disorders.

- Vranashotha - Inflammation
 - Vidhradi - Abscess
 - Pidika - Boils
 - Nadi Vrana - Sinus / Fistulae
 - Vrana Granthi - Keloid / Hypertrophic scar
 - Marmagata - Shock
 - Kotha – Gangrene and Principles of Amputation.
 - Granthi - Cyst
 - Arbuda - Tumour
- Target-Clinical application of the concepts.
 - Preferable targets - Hands on experience of management of different conditions.

Vrana – Nirukti and Prakara

i. Nija Vrana – Nidana, Samprapti, Vrana Vasthu, Prakara, Lakshana, Vrana Pariksha –

Sthana, Vrana Akrti, Srava, Gandha, Vedana. Vrana Avastha- Dustavrana, Shuddha Vrana, Ruhyamana Vrana, Samyak Roodha Vrana, Vrana Sadhya-asadhyata and Vrana Upadrava. **ii.** Vrana Chikitsa – Pathya-apathya and Shashti Upakrama, Vranitagara and Rakshakarma. **iii.** Agantuja Vrana :

- Sadyo Vrana - Traumatic wounds – Nidana, Prakara, Lakshana, Upadrava and Chikitsa.
 - Management of bites and stings. **iv.** Dagdha Vrana – Burns and scalds.
 - Ulcer - Types and their management.
 - Wound healing stages and their management.
 - Pramehapidaka - Diabetic carbuncle and wounds.
- Target - Clinical application of the concepts.
 - Preferable targets - Hands on experience of management of different conditions.

Twak Vikara - Nidana, Samprapti, Lakshana and Chikitsa of Chippa – Paronychia, Kadara – Corn and Kshudra rogas.

- Preferable targets - Hands on experience of management of different conditions.

Manya Vikara – Nidana, Samprapti, Lakshana and Chikitsa of Galaganda – Goitre, Gandamala, Apachi –Lymphadenitis, Pashanagardhabha – diseases of parotid gland.

- Target-Clinical application of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Sira Vikara - Venous disorders – Superficial and Deep venous thrombosis, Haemangioma, Varicose veins - Diagnosis and their Management.

- Target - Clinical application of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Dhamani Vikara - Arterial disorders – Nidana, Samprapti, Lakshana and Chikitsa of Aneurysm, Buerger’s disease, Atherosclerosis, Raynaud’s disease.

- Target - Clinical application of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Snayu Vikara - Diseases of tendons and ligaments – Tennis elbow, Ganglion and their Management.

- Target - Clinical application of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Care of AIDS - HIV and hepatitis infected patients.

Target - *Knowledge of safety precautions.*

- Target - Clinical application of the concepts.

Bhagna – Skeletal injuries: Prakara including pathological fracture, Samanya Lakshana, Upadrava and Chikitsa.

Description of fracture of following bones with Clinical features, Diagnosis, Complications and Management – scapula, clavicle, humerus, radius, ulna, femur, patella, tibia and pelvis bones.

Sandimoksha - Dislocation: Dislocation of following joints with Clinical features, Diagnosis, Complications and Management of shoulder, elbow and hip.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of bone: Aetiopathogenesis, Classification, Clinical features, Diagnosis,

Complications and Management of Congenital anomalies, Osteomyelitis, Cysts, Tumours and Tuberculosis.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Cranio-cerebral injuries: Mechanism, Pathology, Classification, Investigations, Complications and primary management.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Spine: Mechanism, Pathology, Classification, Investigations, Complications and primary management of Tuberculosis, Ankylosing Spondylitis and Disc prolapse.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of breast: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Sthana Vidradhi - Breast abscess and Sthana Arbuda - Breast tumours.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of chest: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Chest injury, Pleural effusion, Pleurisy and Tumours. Target - Clinical utility of the concepts.

- Preferable targets - Hands on experience of management of different conditions.

Diseases of esophagus: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Congenital anomalies, Oesophagitis, Varices, Ulcer and Tumours.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Gulma Roga - Nidana, Prakara, Lakshana, Upadrava and Chikitsa.

Shoola vyadhi - Nidana, Prakara, Lakshana, Upadrava and Chikitsa.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of acute abdomen.

Udara Roga: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Jalodara - Ascites, Chidrodara – Perforation, Peritonitis and Badhagudodara-Intestinal obstruction.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of stomach and duodenum: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Pyloric Stenosis, Peptic Ulcer and Tumours.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of small intestine: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Tuberculosis, Obstruction and Perforation.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of large intestine - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Tuberculosis, Obstruction, Perforation, Tumours, Appendicitis, Crohn's disease and Ulcerative Colitis.

- Target - Clinical utility of the concept.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Rectum and Anal Canal – Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Congenital disorders, Arshas - Haemorrhoids, Parikartika - Fissure-in-ano, Bhagandara - Fistula-in-ano, Guda Vidradi - Anorectal abscesses, Gudabhramsa - Rectal prolapse, Sanniruddaguda - Anal stricture, Incontinence, Rectal Polyp and Tumours.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Abdominal injuries and their management.

- Target - Clinical utility of the concepts.

Preferable targets - Hands on experience of management of different conditions.

Diseases of Liver: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Yakrit Vidhradi - Abscess, Neoplasia, Portal hypertension and Yakritdalyodar –Hepatomegaly.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Gallbladder: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Cholecystitis, Cholelithiasis, Obstructive jaundice and Tumours.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Pancreas: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Pancreatitis, Cysts of Pancreas and Tumours.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Spleen – Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Pleehodara – Splenomegaly and Splenic rupture.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Kidney and Ureters - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Congenital anomalies, Polycystic kidney, Injuries, Perinephric abscess, Calculus and Neoplasms.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Urinary bladder – Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Congenital anomalies, Injuries, Ashmari Vesical Calculus, Cystitis and Neoplasms.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Mutraghata and Mutrakrichra - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management. Retention of urine.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Prostate - Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Prostatitis, Prostatic abscess, Benign Enlargement of Prostate and Carcinoma of Prostate.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Urethra – Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Urethritis, Stricture and Rupture.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Penis: Aetiopathogenesis, Classification, Clinical features, Diagnosis,

Complications and Management of Congenital anomalies, Niruddhaprakasha -Phimosis, Parivartika -Paraphimosis, Avapatika - Prepuceal ulcer, Arbuda- Tumours and Lingarsha Penile Warts.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Diseases of Scrotum and Testis: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Epididymo-orchitis, Epididymal cyst, Scrotal filariasis, Shukrashmari - Seminal calculus, Torsion of testis, Ectopic testis, Undescended testis and Tumours.

Vridhhi Roga: Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Mutravridhhi – Hydrocele.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

Antra Vridhhi – Aetiopathogenesis, Classification, Clinical features, Diagnosis, Complications and Management of Hernia - Inguinal, Femoral, Epigastric, Umbilical, Incisional and rare forms of Hernia.

- Target - Clinical utility of the concepts.
- Preferable targets - Hands on experience of management of different conditions.

PRACTICALS

Content of Practicals:

1. Identification, uses, demonstration of surgical instruments and methods of sterilization.
2. Training of case taking, bed side clinicals and case presentation.
3. Demonstration and Practical training in Anaesthesia.
4. Training to develop skills in following Parasurgical and other procedures
 - i. Kshara Karma
 - ii. Agnikarma
 - iii. Kshara Sutra
 - iv. Raktamokshana
 - v. Application of bandages and splints
 - vi. Catheterization
 - vii. Wound management procedures like Parisheka and Patradana
 - viii. Ryle's tube aspiration
 - ix. Injections -Intramuscular / Intravenous / Subcutaneous / Intradermal
 - x. Incision and drainage of abscess
 - xi. Suturing of open wounds
5. **Observation of following procedures**
 - i. Circumcision
 - ii. Hydrocele
 - iii. Hernial repair
 - iv. Vasectomy
 - v. Haemorrhoidectomy
 - vi. Fistulectomy
 - vii. Fissurectomy
 - viii. Appendectomy
 - ix. Cholecystectomy
6. **Training of Surgical Emergencies and Management.**

Clinical Training (Indoor and Outdoor)

- Shalya (Samanya)
(atleast one month

09 Months

03 Months

in OT)

- Shalya (Kshara and Anushastra Karma)
(atleast one
in OT)

03 Months
month

Trauma)	• Asthi and Sandhi Chikitsa (Orthopaedics and	02 Months
	• Anaesthesia	15 days
	Radiology	15 days

Distribution of Marks

1) Daily records	- 10 Marks	
2) Instruments	- 20 Marks	
3) Short case	- 10 Marks	
4) Long case	- 20 Marks	5) Viva – voce - 40
Marks		
Total	- 100 Marks	

Reference Books

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

19. Arsha Evum Bhagander Mein sutra Avacharan - Vd. Kanak Prasad Vyas
20. Kshara Sutra - Dr. S.N.Pathak
21. Surgical ethics of Ayurveda - Dr. D.N. Pande
22. Bailey and Love's Short Practice of Surgery - Norman.S. Williams, Charles.V. Mann and R.C.G. Russell
23. Clinical methods in surgery - S. Das
24. Textbook of Operative Surgery - S. Das
25. Shalya Vigyan (Sachitra) - Anantram Sharma
26. Anushastra Karma - Dr. D.N. Pande
27. Concept of Vrana in Ayurveda - Dr. Lakshman Singh
28. Significance for Poorva Karma in Surgical Patient - Dr. Lakshman Singh
29. Sangyahan Prakash - Dr. D.N. Pande
30. A concise Text Book of Surgery - S. Das
31. A manual on Clinical Surgery - S. Das
32. A System of Surgical Diagnosis - T.N. Patel
33. A Practical Guide to Operative Surgery - S. Das
34. Drugs and Equipment for Anaesthesia - Arun kumar
35. Manual of Surgical Instruments - M.M. Kapur
36. Ward Procedures - Patel Mansukh. B
37. Recent trends in the management of Arshas / Haemorrhoids - Dr. P. Hemantha Kumar
38. Primary Anaesthesia - Maurice King
39. Synopsis of Anaesthesia - Lee
40. Clinical Anatomy/ Surgical Anatomy - John E.Skandalakis
41. Surgical Instruments of the Hindus - Girindharnath Mukopadyay
42. Outline of Orthopedics - John Crawford Adams and David Hamblen. L
43. Outline of Fracture - John Crawford Adams
44. Recent trends in the management of Bhagandara / Fistula-in-ano - Dr. P. Hemantha Kumar
45. Principles and Practice of Agnikarma - Dr. Anand Kumar and Dr. Kanchan Shekokar
46. Manipal Manual of Surgery - Dr. Rajgopal Shenoy

COURSE OUTCOMES

4.3 SHALYA TANTRA

CO1: The students are made aware of different surgical techniques and its hands on experience on different mannequins and cadavers.

CO2: Management of Fracture and Dislocations through Ayurvedic Principles. Marma is taught in the light of current anatomical and surgical knowledge along with its clinical applications.

CO3: Textual and Practical knowledge of different types of para surgical procedures.

CO4: Diagnosis and Ayurvedic management of Ano-rectal and Urological disorders.

CO5: Role of Ayurveda in the management of different types of cancers and Thyroid diseases

4.4 SHALAKYA TANTRA

NETRA ROGA VIGYAN

I. Introduction

- a) Shalakyatantra nirukti, Parichayam, Ithihasam
- b) Netra rachana shariram (Mandala, Patala, Sandhi, Drushti Vichara) and Netra Kriya Sharira alongwith modern anatomy of Eye.
- c) Eye examination and knowledge of basic instruments/equipments required for examination of Eye.
- d) Netrarogyanam – Samanya Hetu (Nija and agantuja), Purvarupa, Samprapti, Rupa and Chikitsa.
- e) Classification of Netraroga and its importance.

II. Netra Samanya and Vishishta Chikitsa - Kriya Kalpa

- a) Netra and Chakshu swasthya hitkara Dinacharya, Ritucharya, Aahara evam Vihara.
- b) Kriya-kalpa-Seka, Aschyotana, Pindi, Vidalaka, Tarpana, Putapaka, Anjana and importance of Panchkarma in Netra Chikitsa.
- c) Basic fundamentals of Netra Shastra Chikitsa e.g. Purva – Pradhana - Paschat karma, Ama-Pachyaman-Pakvarana shotha, Vranitopasana, Pranashtashalya, & Vranbandhana. Methods and concepts of sterilization, asepsis and antisepsis as per ancient and modern point of view.
- d) Basic applied knowledge of Ashtavidha shastrakarma, agni, kshara, raktamokshana in Nerta rogas.
- e) Essential diagnostic and therapeutic modern pharmacological agents required in Netra Chikitsa

III. Sandhigata Roga(Diseases of junctional areas of eye)

- a) Number of sandhigata rogas, detailed etiology, pathology, clinical features and management of Pooyalasa and Srava Rogas.
- b) Brief Study of krimi granthi, Parvani and Alaji Rogas.
- c) Study of Acute and Chronic Dacryocystitis, Epiphora, Blepharitis including their aetiology, pathology, signs & symptoms, differential diagnosis and medical & surgical management.

IV. Vartmagata Roga(Diseases of Lids)

- a) Number of vartmagata rogas, and detailed knowledge of etiology, pathology, clinical features and management of Anjananamika, Utsangini, Lagana, Vatahata vartma, Pakshma kopa, Sikta vartma, Pothaki, Klinna vartma, Krichhronmeelana and Kukulaka diseases of Vartma.
- b) Brief Knowledge of Vartmarbuda, Utklishta vartma, Nimesh, Pakshmarshata, Vartmarshata
- c) Knowledge of Hordeolum, Ptosis, Trachoma, Trichiasis, Entropion, Ectropion including their Etiology, signs and symptoms differential diagnosis and medical & surgical management.

V. Shuklagata Roga(Diseases of sclera and conjunctiva)

- a) Number of Shuklagata rogas, detailed knowledge of etiology, pathology, clinical features and management of Arma, Arjuna and Shuktika
- b) Brief Knowledge of Sira pidika, Sira jala, Pishtaka, Balasgrathita.
- c) Study of Pterygium, Scleritis, Episcleritis, Sub-Conjunctival Hemorrhage including their Etiology, signs and symptoms, differential diagnosis and medical & surgical management.

VI. Krishnagata Roga (Diseases of cornea and uvea)

- a) Number of krishnagata rogas, detailed knowledge of Etiology, Pathology, Clinical features, differential diagnosis, complications and Management of Savrana /kshata Shukla (Shukra), Avrana shukra (Shukla)
- b) Brief knowledge of Sira shukla, Akshipakatyaya and Ajakajata.
- c) Knowledge of Corneal ulcer, Corneal Opacity, Uveitis, Acute Iridocyclitis, Staphyloma, their aetiology, pathology, symptoms, differential diagnosis, complications and management.

VII. Sarvagata Roga (Diseases effecting all parts of eye)

- a) Number of Sarvagata rogas, detailed knowledge of etiology, pathology, clinical features, complications, differential diagnosis and Management of Abhishyanda, Adhimantha, Hatadhimantha and Shushkakshipaka.
- b) Brief Knowledge of Amloshita, Vata paryaya, Anyato vata, Sashopha & Ashophakshipaka- Pilla roga, Sirotpata and Siraharsha.
- c) Knowledge of Conjunctivitis, Glaucoma, Dry Eye Syndrome including their etiology, pathology, clinical features, differential diagnosis, complications and their management.

VIII. Drishtigata Roga (vision disorders)

- a) Number of Drishtigata rogas detailed knowledge of - etiology, pathology, clinical features, differential diagnosis and management of Timira, Kacha and Linga nasha.
- b) Brief Knowledge of Abhighataja lingnasha, sanimittaja & Annimittaja Lingnasha Doshandhya/Kaphavidagdha drishti, Naktandhya, Ushna vidagdha drishti, Pittavidagdha drishti, Dhumadarshi, Hriswajadya, Gambhirika, Nakulandhya, Nayanabhighata.
- c) Knowledge of Refractive errors, Cataract including their etiology, pathology, clinical features, differential diagnosis, complications and their management.
- d) Study of Eale's disease, Hypertensive & Diabetic Retinopathies, Age related Macular degeneration, Strabismus, Retinitis pigmentosa, Night blindness, Amblyopia, Central serous retinopathy, Optic Neuritis and Optic atrophy

IX. Miscellaneous Diseases

- a) Xerophthalmia and other malnutritional eye disorders.
- b) Knowledge of ocular trauma and their management.
- c) Introduction to Eye bank, Eye donation, Corneal Transplantation
- d) Preventive Ophthalmology and Community Ophthalmology

SHIRA - KARNA- NASA- MUKHA ROGAS

I Samanya Chikitsa

- a) Study of therapeutic procedures like Sveda, Kavala, Gandusa, Dhuma, Murdhni Taila, Nasya, Pratisarana, Karna Purana, karna prakshalana, nasa prakshalana Mukha Lepa.
- b) Ashtavidha shastrakarma and anushastrakarma used in the treatment of Shira, Karna, Nasa evam Mukha Rogas.

II Shiro Roga

- a) Importance and Superiority of Shira.
- b) Number, general etiology, pathology and cardinal features of shiro rogas and kapalgata rogas along with their common line of management/treatment.
- c) Detailed study of Vataja, Pittaja, Kaphaja shirashoola, Suryavarta, Ardhavabhedaka, Khalitya, Palitya.
- d) Brief Knowledge of Raktaja shiraha shoola, Krimija shiraha shoola, Kshayaja shiraha shoola & Sannipataja shiraha shoola, Ananta vata, Indralupta, Darunaka.
- e) Detailed study of Headache, Migraine its differential diagnosis and treatment.

III Karna Roga

- a) Detailed study of Rachana and Kriyasharir of Karna (Ear) & Shraavanendriya as per Ayurvedic and modern view, Examination of Ear along with instruments/equipments required in Ear examination.
- b) Detailed study of etiology, pathology, classification, clinical features and management of diseases of Karna - karna shool, karna nada & shweda, Badhirya, karnastrava, karna pratinaha, pootikarna, karnagoothaka, karnavidradhi.

- c) Brief Knowledge of karna kandu, karnapaka, karnarsha, karnarbuda, krimikaran & karnapali rogas , Karna sandhana (Auroplasty), fundamentals, method and Vaikritpaham
- d) Detailed study of Otagia, ASOM, CSOM, Deafness, wax including their etiology, pathology, clinical features, differential diagnosis, complications and medical & surgical management
- e) Brief Knowledge of Otomycosis, Otosclerosis, Tinnitus, Vertigo , Foreign body in ear and Noise pollution.

IV Nasa Roga

- a) Detailed study of Rachana and Kriyasharir of Nasa (Nose and paranasal sinuses) & Ghranendriya as per Ayurvedic and modern view, Examination of Nose. along with instruments/equipments required in Nose examination.
- b) Detailed study of Pratishyaya, Dushta pratishyaya, Nasanaha, Kshavathu, Nasagata raktapitta & Nasarsha.
- c) Brief Knowledge of Putinasa, Bhranshathu, Peenasa, Apeenasa, Nasarbuda, Nasashotha, Dipta, Nasa Sandhana.
- d) Detailed study of Rhinitis & Sinusitis Epistaxis, Nasal Polyp, DNS, Foreign body including their Etiology, pathology, clinical features differential diagnosis and medical & surgical management.
- e) Brief Knowledge of Nasal trauma, Tumours of nose and Para nasal sinuses.

V Mukha Roga (Diseases of Oral Cavity)

- a) Detailed study of Rachana and Kriyasharir of Mukha Roga adhisthana- oshtha, dantamoola, danta, jivha, talu, gal, sarvasara (Oral cavity) as per Ayurvedic and modern view along with their Basic examination including instruments/equipments required for the examination
- b) Mukha and Danta Swasthya as per ancient and modern concepts including prevention of malignancy of oral cavity.
- c) Number and general aetiology, pathology, cardinal features of Mukha rogas

along with their common line of management/treatment.

Oshtha Roga (Diseases of Lips)

- a) Detailed study of Etiology, pathology, classification, clinical features and

management of - Oshtha prakopa, khandoshtha

- b) Brief Knowledge of Gandalaji, Jalarbuda, Kshataja Oshthaprakopa
- c) Knowledge of cleft lip.

Dant Mula Gata Roga (Diseases of Periodontia)

a) Detailed study of Etiology, pathology, classification, clinical features and management of - Shitada, Dantaveshta, Upakush, Danta Nadi, Danta

Vidrathi, Adhimansa

b) Brief Knowledge of dantapupputaka, Saushira, Mahasaushira, Danta Vaidarbha , Paridara, Vardhana.

c) Detailed study of Etiology, pathology, classification, clinical features and management of Gingivitis, Apical abscess, Periodontitis (Pyorrhoea).

Danta Roga (Dental Diseases)

a) Detailed study of Etiology, pathology, classification, clinical features and management of Daalan, Krimidanta, Dantaharsha, Danta sharkara, Hanumoksha

b) Brief Knowledge of karala, Bhanjanak , Kapalika, Shyava Danta, Danta bheda,

c) Danta chaal, Adhidanta, Danta Utpatana including Jalandhar bandha method and Danta Purna.

d) Knowledge of Dental Caries, Dental Tartar & Tooth extraction.

Jihwa Gata Roga (Diseases of Tongue)

a) Detailed study of Etiology, pathology, classification, clinical features and management of - jivha kantaka (vataja, pittaja and kaphaja)

b) Brief Knowledge of Upajihva, Adhijihva, Alasa.

c) Knowledge of Glossitis, Tongue Tie, Ranula, Benign and Malignant Tumors of tongue.

Talu Roga (Diseases of Palate)

a) Detailed study of Etiology, pathology, classification, clinical features and management of - Gala shundika, Talushosha, Talupaka

b) Brief Knowledge of Talupupputa, Adhrusha, Kacchapa, Talvarbuda, Mamsasanghata.

c) Knowledge of Cleft palate, palatitis, uvulitis and tumours of the palate.

Kantha and Gala gata Roga (Diseases of Pharynx & Larynx)

a) Detailed study of Etiology, pathology, classification, clinical features and management of - Tundikeri, Kantha shaluka, Gilayu, Galaganda, Swrabhedha , Galavidradhi.

- b) Brief Knowledge of Rohini, Galashotha, Kantharbuda, Kanthavidradhi, Galarbuda Galaugham, Vrindam, Ekavrindam, Valaya, balasa , Shataghni, Swaraghna.
- c) Detailed study of Etiology, pathology, classification, clinical features and management of - Pharyngitis, Laryngitis, Tonsillitis & Adenoiditis
- d) Brief Knowledge of foreign body in the throat, Carcinoma of Larynx & Pharynx, Dysphagia Diphtheria & diseases of salivary glands.

Sarvasara Mukha Roga (Generalised mucosal affections of the oral cavity)

- a) Detailed study of Etiology, pathology, classification, clinical features and management of Sarvasar mukhapaka
- b) Brief Knowledge of urdhvaguda, putivaktrata, mukharbuda
- c) Detailed Knowledge of Stomatitis.

VIMiscellaneous

Diseases

National Programme for Prevention and Control of Deafness.

PRACTICAL

Content of Practical

Identification, Uses, Demonstration of surgical/non-surgical equipment/instruments, materials used in shalaky chikitsa. Method of sterilization. Training of case taking, bedside clinics and case presentation.

Training in para- surgical procedures- 1) Kshara karma

- 2) Agnikarma
- 3) Raktamokshana
- 4) Training of ward procedures. Application of bandages, wound management
- 5) Training of minor procedures (ashtavidha)
- 6) Observation of surgical procedures in Shalaky

Clinical Training

04 Months (OPD, IPD OT and kriya kalpa)

- 1) **Distribution of mark** Long Case 30 Marks
- 2) Short Case 20 Marks
- 3) Identification of instruments 10Marks
- quipments,medicines,etc
- 4) Viva – voce 30 Marks
- 5) Daily Record (Case record) 10 Marks

Total

100 Marks

Reference Books:-

- 1. Shalaky Tantra

Dr. Rama Nath Dwivedi

2. Shalakyā Vigyan Choudhary	Dr. Ravindra Chandra
3. Abhinava Netra Chikitsa	Acharya Vishva Nath Dwivedi
4. Netra Chikitsa Vigyan Choudhary	Dr. Ravindra Chandra
5. Netra Roga Chikitsa	Dr. Munje
6. Netra Roga Vigyan	Dr. Hans Raj
7. Parson's Diseases of Eye	
8. Diseases of ENT Log and Turner	
9. Shalakyā Tantra	Shiv Nath Khanna
10. A text book of ophthalmology in Ayurveda	Dr. P.K. Shantha Kumara
11. Shalakyā Kriya Kalpa Vigyan	Prof. K. S. Dhiman

Useful portions of Charak, Sushrut, Vagbhata

COURSE OUTCOMES

4.4 SHALAKYA TANTRA

CO1: In depth knowledge about nethra rogas related to vartma, sandhi, shukla, Krishna, drishti and sarvakshi rogas along with the knowledge of certain conditions from modern medicine. Common conditions related to eye lids, conjunctiva, cornea, lens and retina. Ayurveda treatment principals of these diseases and the line of management.

CO2: In depth knowledge about karna, nasa and shiro rogas along with the knowledge of certain conditions from modern medicine. Common conditions like impacted wax, hearing loss, ASOM and CSOM, allergic rhinitis, DNS, headaches, sinusitis, migraine, hairfall etc.

CO3: In depth knowledge about mukha rogas along with certain modern conditions like gingivitis, periodontitis, tonsillitis, adenoid hypertrophy etc.

CO4: Detailed knowledge about clinical examination of eye and ENT and training, from visual acuity to fundus examination and EAC examination to TFT, endoscopy and audiometry, nose examination and oral cavity examination.

CO5: Detailed knowledge and practical training of the treatment procedures related to eye and ENT like, nasya, tarpana, karna poorana, dhoom

4.5 Research methodology and Medical statistics

Research Methodology

1. Brief historical background of research in Ayurved and contemporary medical science Evidences of researches in ayurvedic classics
2. Etymology, definitions and synonyms (Anveshana, Gaveshana, Prayeshana, Anusandhan and Shodha) of the word Research
3. Research in Ayurved - Scope, need, importance, utility
4. Types of Research (familiarization of the terms)

- a) Pure and Applied
 - b) Qualitative , Quantitative and Mixed Observational and interventional.
5. Research process (Importance of each steps in brief)
 - a) Selection of the topic
 - b) Review of the literature
 - c) Formulation of Hypothesis
 - d) Aims and Objectives
 - e) Materials and methods
 - f) Observations and results
 - g) Methods of communication of Research
 6. Research tools – Role of the pramanas as research tools
 7. The concept and importance of ethics in research
 8. Concept of Evidence Based Medicine and Scientific Writing
 9. Importance of IT in data mining and important research data portals concerned with Ayurved and contemporary medical science (DHARA , PubMed, Ayush Research Portal, Bioinformatics Center, Research Management Informatic System etc.)

Medical-Statistics

1. Definition, scope and importance of the Medical statistics
2. Common statistical terms and notations
 - a. Population
 - b. Sample
 - c. Data
 - d. Variable
 - e. Normal distribution
3. Collection and Presentation of data
 - a. Tabular
 - b. Graphical
 - c. Diagrammatical
4. Measures of location
 - a. Average
 - b. Percentile

Measures of Central Tendency

 - a. Arithmetic mean
 - b. Median
 - c. Mode
5. Variability and its measurement
 - a. Range
 - b. Standard deviation
 - c. Standard error

6. Introduction to probability and test of significance
7. Parametric and non parametric tests
8. Introduction to commonly used statistical soft-wares.

Reference books for Research methodology :

1. Dawson, Catherine, 2002, Practical Research Methods, New Delhi, UBS Publishers' D Interpretation and Uses of Medical Statistics by Leslie E Daly, Geoffrey J Bourke, James MC Gilvray.
2. Research in Ayurveda-M S Baghel
3. research methodology in ayurveda-V.J.Thakar,Gujarat Ayurved University
4. Ayurveda anusandhan paddhati-P.V.Sharma
9. Research methodology methods and statistical techniques- Santosh Gupta. Greenhouse SW.
10. The growth and future of biostatistics: (A view from the 1980s).
Statistics in Medicine 2003; 22:3323–3335.
11. Knapp GR & Miller MC. Clinical epidemiology and Biostatistics, NMS series Antonisamy B, Christopher S & Samuel PP. Biostatistics : Principles and practice
12. Sundara Rao PSS & Richard J. An introduction to Biostatistics, PHI
13. Senn S (1997). Statistical Issues in Drug Development. Chichester: John Wiley & Sons.
14. Methods in Bio-statistics for Medical Students- BK Mahajan
15. Vaidyakeeya Sankhiki Shastra- Dr.S.S.Savrikar
 1. Distributors
 2. Kothari, C.R.,1985, Research Methodology-Methods and Techniques, New Delhi, Wiley Eastern Limited.
 3. Kumar, Ranjit, 2005, Research Methodology-A Step-by-Step Guide for Beginners, (2nd.ed), Singapore, Pearson Education
 4. Students guide to research methodology – Undergraduates. Alexandria Medical Students Association.
 5. Health research methodology. A guide for training in research methods. 2nd edition. Manila, World Health Organization Regional Office for the Western Pacific, 2001.

Reference Books for statistics :

5. Health research methodology. A guide for training in research methods. 2nd edition. Manila, World Health Organization Regional Office for the Western Pacific, 2001.
6. Statistical methods in medical research. P.Armitage (Ed) Oxford Blackwell
7. Statistical methods . Snedecor GW and Cochran, WG
8. Altman, D. G. (1991). Practical statistics for medical research. London: Chapman Principles of Medical Statistics by A. Bradford Hill

COURSE OUTCOMES

4.5 RESEARCH METHODOLOGY AND MEDICAL STATISTICS

CO1: Knowledge about fundamentals of research

CO2: Knowledge about basics of medical statistics.

EVALUATION SCHEME

The theory examination shall have minimum twenty per cent. Short answer questions have maximum mark up to forty per cent and minimum four questions for long explanatory answer having maximum marks up to sixty per cent and these questions shall cover entire syllabus of subject.

The minimum marks required for passing the examination shall be fifty per cent in theory and fifty per cent. In practical or clinical or viva-voce, wherever applicable separately in each subject.

A candidate obtaining seventy-five per cent marks in the subject shall be awarded distinction in the subject.

The supplementary examination shall be held within six months of regular examination and failed students shall be eligible to appear in its supplementary examination, as the case may be.

Each student shall be required to maintain seventy-five per cent attendance in each subject (in theory and practical) for appearing in the examination and in this regard a class attendance card shall be maintained for each student for the different subjects and the Principal shall arrange to obtain the signature of the students, teachers at the end of each course of lectures and practical instructions and send the cards to each Head of the Department for final completion before the commencement of each examination.

In case a student fails to appear in regular examination for cognitive reason, he or she shall appear in supplementary examination as regular students, whose non-appearance in regular examination shall not be treated as an attempt and such students after passing examination shall join the studies with regular students and appear for next professional examination after completion of the required period of study.

The following facts may be taken into consideration in determining class work in the subject-

- (a) Regularity in attendance;
- (b) Periodical tests; and
- (c) Practical work