

Final M.D. Ayurveda

Subject 1. AYURVED SAMHITA & SIDDHANT

Theory- 400 Marks (100 Each)

Practical and Viva-Voce-100 Marks

PAPER-I

100 Marks

CHARAKA

1. Charaka Samhita with Ayurved Dipika commentary by Chakrapani
2. Introduction to all available commentaries on Charak Samhita

PAPER –II

100 Marks

SUSHRUTA & VAGBHATA

1. Sushruta Samhita Sutra sthana and Sharir-Sthana 1st chapter with Nibandha Samgraha commentary by Acharya Dalhana.
2. Ashtang-Hridayam Sutra Sthananam with Sarvanga Sundara commentary by Arun Dutt.
3. Ashtang-Sangraha Sutra Sthananam with Induteeka
4. Introduction to all available commentaries on Sushrut Samhita, Ashtang Hridaya and Ashtang-Sangraha.

PAPER-III

100 Marks

DARSHANIKA SIDDHANTA

Understanding of Indian philosophical principles available in Charak Samhita, Sushrut Samhita, Ashtanga Hridya and Ashtang Samgraha.

1. Analysis of principles specially Chaturvidha Siddhanta, loka-purusha samya, Ayusho Siddhant, Shadpadartha, Praman, Srishti Utpatti, Karana- Karyavada, Tantrayukti, Nyayas (Maxims), Vadamarga, Atmatatva & Manastatva Siddhant.
2. Clinical importance of Satkaryavad, Asatkaryavada, Parmanuvada, Swabhavoparamvada.
3. Practical applicability of principles of Samkhya- Yoga, Nyaya-Vaisheshika, Vedanta and Mimansa Darshan.
4. Introduction to the principles of Charvak, Jain & Bauddha Darshana.

PRAYOGIKA SIDDHANT

1. Comparative study of the Samprapti & Chikitsa Sootra mentioned by Brihatrayee of following disises – Jvara, Raktpitta, Gulma, Prameha, Kushta, Shosha, Unmada, Apasmar, Atisara, Grahni, Vatrakta, Aamvata, Shwasa-Kasa, Pandu-Kamla, Urustambha, Vatavyadhi, Shotha, Udararoga, Yakshma,
2. Critical analysis and applied study of the following concepts – Triguna, Tridosha, Panchamahabhuta, Prakrtisamsaveta & Vikrativishamsamveta, Sharira & Manas Prakruti, Sama-Nirama, Agni, Ojus, Vyadhikshamatva, Vikarvighatbhavabhava, Kalakalmrtyu, Ahara-Vihara, Pathyapathya, Satmyaasatmya, Nidanarthakaroga, Shadavidhakriyakal, Ashtatrika, Shadaupakrama, Daiva-drishta, Punrjanma, Anubandha Chatushtya, (comparative study of above concepts from Brihatrayee, Laghuttaryee with available Sanskrit commentaries)
3. Introduction to Laghuttaryee with available Sanskrit commentaries.

Practical- Viva-voce**100 Marks**

(At list one paper should be published/accepted in journal ,Long Case , topic presentation, Thesis Viva, General Viva, =100)

Reference Books

1. Charak Samhita – Chakrapani commentary.
2. Sushruta Samhita – Dalhana Commentary.
3. Ashtanga Samgraha- Indu Teeka.
4. Ashtanga Hridaya – Sarvangasundara.
5. Vaisheshika Sutra – Prashastapada Bhasya
6. Nyaya Sutra – Vatsyayan Bhasya
7. Ayurvede nyayah
8. Nyayas in Brihatrayee
9. Yoga Sutra – Vyas Bhasya
10. Vedantasara
11. Sarvadarshan Samgraha
12. Bhartiya Darshan – Baldev Upadhyaya
13. Ayurved Darshanam – Acharya Rajkumar Jain
14. Ayurved Darshan Vimarsha – Dr O P Upadhyay
15. Ayurvediy Jeevak Su – Dr O P Upadhyay
16. Padartha Vidnyan –Dr O P Upadhyay
17. Scientific Exploration of Ayurved – Dr Sudhir Kumar.
18. Charak Samhita – Prof. B L Gaur
19. Ashtang Hridaya – Dr T Shri Kumar

2. RACHANA SHAARIRA

Theory – 400 Marks (100 Each)

Practical and Viva-Voce-100 Marks

PAPER- I

100 Marks

GARBHA SHAARIRA

1. Etymology of Garbhavakranti Shaarira, features of Shuka and Shonita, description of Beeja, Beejbhaga, Beejbhagavayava and Garbhotpadaka bhava, Garbha Poshana Krama, Garbhavridhikar Bhavas, Masanumasika Garbhavridhi, Foetal circulation. Explanation of lakshanas occurring in Ritumati, Sadyaha grihita garbha. Yamal garbha, Anasthi garbha.
2. Explanation of Basic Embryology and Systemic Embryology.
3. Knowledge of basic facts of advancement in Anuvamshiki (Genetics) and Garbhaja vikaras (Teratology).

PAPER – II

100 Marks

KOSHTHANGA SIRA DHAMANI SROTAS SHAARIRA

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

PAPER – III

100 Marks

MARMA SHAARIRA EVUM ASTHI SANDHI PESHEE SHAARIRA

- 1) **Marma Shaarira:** - Derivation and definitions of the term Marma and their features , characteristics and number of Marma according to Sushruta. Divisions of Marma on morphological basis (Rachana Bheda), Shadangatvam (Regional), Abhighataja (Prognostic) classification, Trimarma according to Charaka. Knowledge of

'Marmaabhighata', MarmaViddha, Detail study of Individual Marma with their Clinical and Surgical importance. Importance of Marma in Shalyatantra.

- 2) **Asthi Shaarira** :- General introduction and description of Asthi, differences among number of Asthi.Types of Asthi. Detail study of each bone with its ossification & Applied anatomy.
- 3) **Sandhi Shaarira** :- Etymological derivation, description, features, number, types and Applied anatomy of all Sandhis (Joints).
- 4) **Peshee Shaarira** :- Etymological derivation, description, features, number, types and Applied anatomy of all Peshees (Muscles).

PAPER – IV

100 Marks

TANTRA SHAARIRA EVUM ANTAH AND BAHIR SRAVEE GRANTHI SHAARIRA

1. Description of Panchagyanendriya – Ayurved and Modern aspects. (Sensory organs – Eye, Ear, Nose, Tongue and Skin) with their Applied anatomy.
2. Shat Chakras – Location and significance in Yoga. Description of Ida, Pingala, Sushumna Nadi.
3. Anatomy of Brain and Spinal Cord, Peripheral nervous system (explanation of Nerve Plexuses and peripheral nerves, cranial nerves and Automatic nervous system), Cerebro-spinal fluid, dural venous sinuses, Ventricular system of Brain, Blood supply of Brain, Meninges – with Applied Anatomy.
4. Antahsravee Granthi and Bahihsravee Granthi:- Detail study of Endocrine & Exocrine glands – with Applied Anatomy.

PRACTICAL:-

100 Marks

- 1) Dissection of atleast one cadaver during the Final part of the course.
- 2) Trainig of preservation techniques & Embalming.
- 3) Preparation of Soft tissue specimens and models using conventional and current technology like Plastination, Luminal Casting etc. under the guidance of teaching staff and Experts of the relevant fields.
- 4) Preparation of Charts and Models of Rachana Shaarira subject to the individual capacity.
- 5) Observation of MRI, CT Scan, USG procedures, Colour Doppler etc.
- 6) Educational visits to various Museums of other colleges in the medical field.
- 7) Observation of Ward procedures like Lumbar puncture, Tracheostomy, Abdominal paracentesis, Liver biopsy, Venesection, etc. (subject to the availability and opportunities).
- 8) Submission for Publication of at least one Research Article as per M.S.R.

Pattern of Practical Examination

1. Practical record book & log book	-	10 Marks
2. Spotting (Dissected organs and Bones-Joints-Muscles)	-	10 Marks
3. Dissection	-	20 Marks
4. Surface & Radiological Anatomy	-	15 Marks
5. Dissertation Presentation	-	10 Marks
6. Teaching Skills	-	10 Marks
7. Viva- Voce	-	<u>25 Marks</u>
Total	-	<u>100 Marks</u>

Reference Books-

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

3. KRIYA SHARIR

Theory – 400 Marks (100 Each)
Practical and Viva-Voce-100 Marks

Paper- I

100 Marks

DOSA – DHATU – MALA VIJNANA

Contribution of different Ayurveda Samhita in Kriya Sharir

- Theory of Pancamahabhuta
- Principle of Loka-Purusa Samya
- Importance of Samanya – Visesa Principle
- Different views on the composition of Purusa and the importance of Cikitsya Purusa.
- Importance of Gurvadi Guna in Ayurveda
- General description of Tridosa theory
- Mutual relationship between Triguna- Tridosa-Pancamahabhuta-indriya
- Mutual relationship between Rtu-Dosa-Rasa-Guna
- Biological rhythms of Tridosa on the basis of Day-Night-Age-Season and Food intake.
- Role of Dosa in the formation of Prakrti of an individual.
- Role of Dosa in Health and Disease.
- **Vata Dosa:** General locations (Sthana), general attributes (guna) and general functions (Samanya Karma). Five subdivisions of Vata with their specific locations, specific properties, and specific functions (Prana, Udana, Samana, Vyana, Apana)
- **Pitta Dosa:** General locations (Sthana), general attributes (Guna) and general functions (Samanya Karma). Five subdivisions of Pitta with their specific locations, specific properties, and specific functions (Pacaka, Ranjaka, Alocaka, Bhrajaka, Sadhaka). Similarities and differences between Agni and Pitta.
- **Kapha Dosa:** General locations (Sthana), general attributes (Guna) and general functions (Karma) of Kapha.). Five subdivisions of Kapha with their specific locations, specific properties and specific functions (Bodhaka, Avalambaka, Kledaka, Tarpaka, Slesaka).
- Applied physiology of Tridosa Principle: Kriyakala, Dosa Vrddhi-Dosa Ksaya.
- **Dhatu Posana:** Process of nourishment of Dhatu. Description of various theories of Dhatu Posana (Ksira-Dadhi, Kedari-Kulya, Khale Kapota etc).
- **Dhatu:** General introduction and definition of Dhatu. Formation, Definition (Nirukti), Distribution , Attributes, quantity, classification, Pancabhautika composition and Functions of all seven Dhatus in detail: Rasa, Rakta, Mamsa, Meda, Asthi, Majja, Sukra.

- Applied physiology of Dhatu: Manifestations of Ksaya and Vriddhi of each Dhatu. Description of Dhatu Pradosaja Vikara.
- Description of Asraya and Asrayi kind of relationship between Dosa and Dhatu.
- Description of the characteristic features of Astavidha Sara. Description of Rasavaha, Raktavaha, Mamsavaha, Medovaha, Asthivaha, Majjavaha and Sukravaha Srotamsi.
- **Ojas:** Definition, locations, synonyms, Formation, Distribution, Properties, Quantity, Classification and Functions of Ojas. Description of Vyadhiksamitva. Bala Vrddhikara Bhava. Classification of Bala. Relation between Slesma, Bala and Ojas.
- Applied physiology of Ojas: Etiological factors and manifestations of Ojaksaya, Visramsas and Vyapat. Physiological and clinical significance of Ojas.
- **Upadhatu:** General introduction and Definition of the term 'Upadhatu'. Formation, Nourishment, Quantity, Properties, Distribution and functions of each Upadhatu.
- **Stanya:** Characteristic features and methods of assessing Suddha and Dusita Stanya, Manifestations of Vrddhi and Ksaya of Stanya.
- **Artava:** Characteristic features of Suddha and Dusita Artava. Differences between Raja and Artava, Physiology of Artavavaha Srotamsi.
- Study of Tvak
- **Physiology of Mala** – Definition of the term 'Mala'. Definition, Formation, Properties, Quantity and Functions of Purisa, Mutra. Manifestations of Vrddhi and Kshaya of Purisa and Mutra.
- **Sveda** – Definition, Formation, Properties, Quantity and Functions of svedavaha Srotamsi. Formation of Sveda. Manifestations of Vrddhi and Ksaya of Sveda.
- **Dhatumala** – Definition, Formation, Properties, Quantity, Classification and Functions of each Dhatumala.

Paper – II

100 Marks

PRAKRTI EVAM SATTVA VIJNANA

- **Deha-Prakrti:** Various definitions and synonyms of the term 'Prakrti'. Factors influencing the Prakrti. Classification of Deha-Prakrti. Characteristic features of the individuals belonging to each kind of Deha-Prakrti. Recent advances in understanding the Prakrti.
- **Manas Prakrti:** Types of Manas Prakrti with their characteristic features and its Practical implication, Properties of Satwa, Rajas, Tamas and their effect on mind.
- **Pancajnanendriya:** Physiological description of Pancajnanendriya and Physiology of perception of Sabda, Sparsa, Rupa, Rasa, Gandha. Indriya-panca-pancaka; Physiological description of Karmendriya.
- **Manas** – Definition, location (sthana), Properties, Functions and Objects of Manas.

- **Atma** - Definition, Properties of Atma. Difference between Paramatma and Jivatma; Characteristic features of Atma.
- **Buddhi** – Location, types, Functions of buddhi; Physiology of Dhl, Dhrti and Smrti.
- **Nidra** – Definition of Nidra, Classification of Nidra. Tandra, physiological and clinical significance of Nidra; Svapnotpatti and Svapnabheda.
- Physiology of special senses
- Physiology of Intelligence, Memory, Learning and Motivation.
- Physiology of sleep.
- Physiology of speech and articulation.
- Physiology of Pain and temperature.

Paper- III

100 Marks

KOSTHANGA KRIYA VIJNANA

- Ahara: Definition and significance of Ahara. Classification of Ahara. Ahara- Vidhi-vidhana. Asta aharavidhi visesayatana, Aharaparinamakara bhava.
- Aharpachana: Ahara Paka Prakriya, Description of Annavaha Srotas. Description of Avasthapaka and Nishthapaka. Role of dosha in Aharapaka. Sara and Kitta Vibhajana. Absorption of Sara. Utpatti and Udeeran of Vata-Pitta-Kapha.
- Definition of the term Kostha. Physiological classification of Kostha and the characteristics of each kind of kostha.
- Agni: Description of the importance of Agni. Classification of Agni. Locations, Properties and functions of Jātharāgni, Bhūtāgni, and Dhātvagni.
- Applied Physiology of Agni in Kriyā Śārīra and Cikitsā.
- Description of the aetiology and features of annavaha Srotodusti. Applied physiology of Annavaha Srotās: Arocaka, Ajīrna, Atīsāra, Grahanī, Chardi, Parināma Śūla Agnimāndya.
- Description of the process of digestion of fats, carbohydrates and proteins in human gastrointestinal tract. Different digestive juices, their enzymes and their mechanisms of action. Functions of Salivary glands, Stomach, Pancreas, Small intestine, Liver and large intestine in the process of digestion and absorption.
- Movements of the gut (deglutition, peristalsis, defecation etc.) and their control. Role of neuro-endocrine mechanisms in the process of digestion and absorption. Enteric nervous systems.
- Applied Physiology of gastrointestinal tract: Vomiting, Diarrhoea, Malabsorption etc.
- Recent advances related to the gut microbes and their role in health and disease.
- Introduction to biochemical structure, properties and classification of proteins, fats and carbohydrates.
- Description of the processes involved in the metabolism of proteins, fats and carbohydrates.

- Vitamins: Sources, daily requirement and functions. Physiological basis of signs and symptoms of hypo and hyper- vitaminosis.

Paper – IV

100 Marks

MODERN PHYSIOLOGY AND ITS APPLIED ASPECT

General Physiology:

- Definition and mechanisms of maintenance of Homeostasis. Cell as the living unit of the body. Membrane Physiology. Transportation of various substances across cell membrane. Resting membrane potentials and action potentials. The internal environment. Genetic code, its expression and regulation of gene expression.

Physiology of Neuro-Immune-Endocrine Mechanisms:

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

Cardiovascular physiology, Respiratory physiology and Blood:

- Physiology of Cardio-vascular system: Functional anatomy of cardiovascular system. Cardiac cycle. Heart sounds. Regulation of cardiac output and venous return. Physiological basis of ECG. Heart-rate and its regulation. Arterial pulse. Systemic arterial blood pressure and its control. Regional circulations. Physiology of lymphatic circulation.
- Physiology of Respiratory system: Functional anatomy of respiratory system. Ventilation. Mechanism of respiration. Exchange and transportation of gases. Neural

and chemical control of respiration. Spirometry and lung function tests. Artificial respiration.

- Functions of Haemopoetic system: Composition and functions of blood and blood cells. Haemopoiesis- (Stages and development of RBCs, WBCs and Platelets); Introduction to bone marrow: composition and functions of bone marrow. Structure and functions of haemoglobin, mechanism of blood clotting, study of platelets. Physiological basis of blood groups. Principles of blood transfusion, plasma proteins- synthesis and functions. Applied physiology: Anaemia, Jaundice.

Musculoskeletal Physiology:

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

Physiology of Excretion:

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

Physiology during special states:

- Space Physiology
- Exercise Physiology
- Physiology of high altitude and deep sea
- Physiology of Yoga
- Physiological response to environmental changes
- Physiological response to Vega Vidharana (Holding Natural urges)

Learners should be well versed with the following instruments-

- Physiograph, Computerised spirometry, Biochemical Analyzer, Pulse oxymeter, ELISA Reader, Hematology Analyzer, Tread mill etc.

Bridge areas including recent advances:

- Recent studies in biorhythms.
- Recent advances in Neuro- immune-Endocrine physiology.
- Recent advances in understanding the Prakrti. Brief description related to some of the recent studies exploring the genetic / biochemical / haematological / electrophysiological basis for prakrti. Introduction to the recent tools to assess prakrti (questionnaires and software.)
- Recent advances in tissue engineering and stem cell research.

PRACTICAL

100 Marks

Ayurvedic practicals

- Assessment of Prakrti
- Assessment of Sara
- Assessment of Dosa Vrddhi Ksaya Laksana
- Assessment of Dhatu Vrddhi – Ksaya Laksana
- Assessment of Agni
- Assessment of Kostha
- Assessment of Sarira Bala through Vyayama Sakti
- Mutra Pariksa
- Nadi Pariksa
- Anguli Pramana
- Assessment of Satmya

Hematology

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

URINE EXAMINATION

Physical, Chemical and microscopic examination

- Specific gravity and reaction of urine
- Detecting the presence of Albumin in urine
- Detecting the presence of Sugar in urine
- Detecting the presence of Ketone bodies in urine
- Detecting the presence of Bile salts and bile pigments in urine
- Detecting the presence of pus cell, casts etc. in urine.

Cardio-Vascular system

- Clinical methods of examining cardiovascular system

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

Respiratory system

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

Nervous System

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

Requirements to be fulfilled before final examination

- At least 10 theory classes for First Prof. BAMS Students
- Participation and presentation of papers in at least 2 National / International Seminars.
- Publication / acceptance of at least 1 research paper / article in a scholarly journal.

Practical

100 Marks

Marks Distribution

• Practical Record Book	-	05
• Ayurvedic Practical	-	10
• Modern Practical	-	10
• Assesment of Teaching skill	-	10
• Project Work	-	10
• Presentation of Thesis	-	15
• Viva Voce	-	<u>40</u>
Total Marks	-	100

Reference Books

- | | | |
|--------------------------|---|------------------|
| • Ayurvediya Kriyasharir | - | Ranjit rai Desai |
| • Kayachikitsa Parichaya | - | C. Dwarikanath |
| • Prakrit Agni Vigyan | - | C. Dwarikanath |

- Sharir Kriya Vigyan - Shiv Charan Dhyani
- Abhinava Sharir Kriya Vigyana - Acharya Priyavrata
Sharma
- Dosha Dhatu Mala Vigyana - Shankar Gangadhar Vaidya
- Prakrita Dosha Vigyana - Acharya Niranjana Dev
- Tridosha Vigyana - Shri Upendranath Das
- Sharira Tatva Darshana - Hirlekar Shastri
- Prakrita Agni Vigyana - Niranjana Dev
- Deha Dhatvagni Vigyana - Vd. Pt. Haridatt Shastri
- Sharir Kriya Vigyana (Part 1 – 2) - Acharya Purnachandra Jain
- Sharir Kriya Vigyana - Shri Moreswar Dutt. Vd.
- Sharir Kriya Vijnana (Part 1 and 2) - Nandini Dhargalkar
- Dosha Dhatu Mala Vigyana - Basant Kumar Shrimal
- Abhinava Sharir Kriya Vigyana - Dr. Shiv Kumar Gaur
- Pragyogik Kriya Sharir - Acharya P. C. Jain
- Kaya Chikitsa Parichaya - Dr. C. Dwarkanath
- Concept of Agni - Vd. Bhagwan Das
- Purush Vichaya - Acharya V. J. Thakar
- Kriya Sharir - Prof. Yogesh Chandra Mishra
- Sharir Kriya Vigyana - Prof. Jayaram Yadav & Dr. Sunil Verma
- Basic Principles of Kriya- Sharir -
(A treatise on Ayurvedic Physiology) - Dr. Srikant Kumar Panda
- Sharir Kriya – Part I & Part II - Dr. Ranade, Dr. Deshpande & Dr. Chobhe
- Human Physiology in Ayurveda - Dr Kishor Patwardhan
- Sharirkriya Vignyan Practical Hand Book -Dr.Ranade, Dr.Chobhe, Dr. Deshpande
- Sharir Kriya Part 1 - Dr.R.R.Deshpande, Dr.Wavhal
- Sharir Kriya Part 2 - Dr.R.R.Deshpande, Dr.Wavhal
- Textbook of Physiology - Gyton & Hall
- Review of Medical Physiology - William Ganong
- Essentials of Medical Physiology - Sembulingam K.
- Concise Medical Physiology - Chaudhari, Sujit.K.
- Fundamental of Anatomy and Physiology - Martini
- Principals of Anatomy and Physiology - Tortora & Grabowski
- Human Physiology - Richards, Pocock
- Samson Wrights Applied Physiology, Keele, Neil, joels
- Brainstem Control of Wakefulness And Sleep - Steriade, Mirce
- An introduction to Human Physiology - Green, J.h.
- Ancient Indian Medicine - Kutumbiah P.
- Biographical History of Indian Medicine - Srikanthamurthy K R
- Ayurveda Kriya Sharira - Yogesh Chandra Mishra

- Textbook of Medical Physiology - Indu Khurana
- Tridosha Theory - Subrahmanya Shastri
- Statistics in Medicine - K. Syamalan
- Prayogika Sharir Kriya -Prof. M.S.Meena & Dr. Mahendra Prasad

Important journals to refer:

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

Recent Research Papers in Kriya Sharir / Physiology to refer

4. DRAVYAGUNA VIGYAN

Theory- 400 Marks (100 Each)

Practical and Viva-Voce- 100 Marks

Paper-1

100 Marks

NAMARUPA VIGYANA (AYURVEDA & MODERN PHARMACOGNOSY)

Part – A:

50 Marks

1. Importance of Namagyana of Dravya, origin of Namarupagyana of Aushadhi in Veda, etymological derivation of various names and synonyms of Aushadhi.
2. Rupagyana in relation to Aushadhi.
3. Basonym and Synonyms of dravyas (Aushadha and Ahara) mentioned in Vedic compendia, Brihatrayee, Bhavaprakasha and Rajanighantu.
4. Distinguishing morphological characteristic features (Swaroop) of medicinal plants listed in Ayurvedic Pharmacopeia of India (API).
5. Knowledge of Anukta dravya (Extra-pharmacopial drugs) with regards to Namarupa.
6. Sandigdha dravya (Controversial drugs) vinischaya.

Part – B:

50 Marks

1. Pharmacognostical study of different parts of the plant with reference to Macroscopic and Microscopic study and Qualitative and Quantitative analysis like foreign matter, extractive (Water and alcohol), ash value, acid insoluble ash and TLC separation).
2. Methods of drug Standardization and Quality control
3. Knowledge of biodiversity, endangered medicinal species.
4. Knowledge of TKDL, Introduction to relevant portions of following Acts-Drugs and Cosmetic Act, Drugs & Magic Remedies Act, FSSA, AFA, Wildlife & Biodiversity Acts & Intellectual Property Right (IPR) and Regulations pertaining to Import and Export of Ayurvedic drugs.
5. Knowledge of tissue culture techniques.
6. Knowledge of Genetically Modified Plants.
7. Knowledge of advances in cultivations of medicinal plants.

Paper –II

100 Marks

GUNA KARMA VIGYAN (AYURVEDIC & MODERN PHARMACOLOGY)

Part – A:

50 Marks

1. Fundamental principles of drug action in Ayurveda

2. Detailed study of rasa-guna- virya- vipaka-prabhava and karma with their applied aspects and views of commentators (Chakrapanidatta, Dalhana, Arunadatta, Hemadri and Indu) on them.
3. Comprehensive study of karma as defined in Brihatrayee & Laghutrayee.
4. Detailed study of Guna and Karma of dravyas listed in API and Bhavaprakasha Nighantu along with current research review.
5. Detailed study of aharadravya, ahara varga and kritanna varga described in Brihatrayee and various nighantus.
6. Knowledge of guna and karma of anukta dravya.

Part – B:

50 Marks

1. Fundamental principles of General pharmacology.
2. Modern pharmacological principles and knowledge of drugs acting on various systems.
3. Basic knowledge on experimental pharmacology for the evaluation of – analgesic, antipyretic, anti inflammatory, anti diabetic, anti hypertensive, hypo lipidemic, anti ulcer, cardio protective, hepatoprotective, diuretics, adaptogens, CNS activities, anti microbial and antimycotic activities.
4. Studies on changes occurring in purification of poisonous plants drugs.

PAPER –III

100 Marks

PRAYOGAVIGYANA (PHARMACOTHERAPEUTICS / CLINICAL PHARMACOLOGY)

Part – A:

75 Marks

1. Bhaishajya Prayoga Siddhant [Principles of drug administration] – Bhaishajya Marga (routes of drug administration), Vividha Kalpana (dosage forms), Principles of Yoga Vijnan (compounding), Matra (dosage), Anupana (vehicle), Aushadha Sevanakal, (schedules of drug administration), Sevankal avadhi (duration of drug administration), Pathyapathya (Dos' & Don'ts), Complete Prescription writing (Samagra Vyavastha patra).)
2. Amayika prayoga (therapeutic uses) of important plants described in Brihatrayee, Chakradutta, Yoga ratnakara and Bhavaprakasha.
3. Samyoga- Viruddha Siddhanta and its importance with examples.

Part – B:

25 Marks

1. Knowledge of Pharmaco-vigilance in Ayurveda & modern medicine.
2. Adverse drug reactions & Drug interaction of medicinal plants.
3. Knowledge of clinical pharmacology and clinical drug research as per GCP guidelines.
4. Knowledge of Pharmacogenomics.

NIGHANTU & YOGA VIGYANA (MATERIA MEDICA & FORMULATIONS)**Part- A:****75 Marks**

1. Etymology of Nighantu, their relevance, utility and salient features.
2. Details of the following Nighantus with regards to author's name, period and content-Paryaya ratnamala, Dhanvantari nighantu, Hridayadipika nighantu, Ashtanga nighantu, Rajanighantu, Siddhamantra nighantu, Bhavaprakasha nighantu, Madanpala nighantu, Rajavallabha nighantu, Madhava Dravyaguna, Kaiyadeva nighantu, Shodhala nighantu, Saligram nighantu, Nighantu ratnakara, Nighantu adharsha and Priya nighantu.
3. Detailed study of Ekala Aushadha Kalpana (manufacturing of dosage forms of single drugs) mentioned in Sharangadhara samhita and Ayurvedic Formulary of India (AFI).

Part- B**25 Marks**

1. General awareness on Aharayogi (Nutraceuticals), Soundarya prasdana (cosmoceuticals), Food additives, Excipients etc.
2. Knowledge of plant extracts, coloring and flavoring agents and preservatives.
3. Knowledge of Pharmacopies of India different countries- e.g. API, BHP.
4. Knowledge of important scientific publications of various Departments & ministries of Govt. of India- Like department of AYUSH, CCRAS, RAV, ICMR, CSIR etc.

Syllabus of the Practical training of Part two M.D. (Ayu.) – Dravyaguna**1. Study tours:**

Field identification of medicinal plants through at least five local Dravyaguna study tours. Within the state and one study tour out of state and preparation of minimum 50 **herbarium sheets** along with prayojyanga (raw drug). Field visit should also include demonstration of Cultivation practices of important medicinal plants.

2. Evaluation of Crude drugs:

Macro- and micro-scopic methods of examining three drugs of each of different useful parts of plants, including their powders.

3. Phytochemical evaluation of raw material:

Qualitative and Quantitative analysis like foreign matter, extractive (water and alcohol), ash value, acid insoluble ash and TLC separation of various parts of minimum two plants of Ayurvedic Pharmacopoeia of India.

4. Pharmacology:

- Rasa nirdharana by Taste Threshold method of minimum one drug for each of rasas.

- Observation of animal experimentation models (both in vitro and in vivo) for any five pharmacological activities cited in paper II.

5. Practical training –

a) Posting for minimum one month in each of the following units –

- Quality control laboratory of nearest pharmacy/institution for crude drug identification, adulterants and substitutes & understanding standardization techniques.
- Experimental pharmacology laboratory for developing skills in animal experimentation.

b) Regular clinical training in the Teaching hospital for submission of record of Ekala Aushadhi Prayoga (Single drug trial/ Clinico-pharmacological studies.) & Adverse drug reactions (ADR).

6. Dissertation

A Dissertation, as per the approval of Departmental Research Committee/Competent Committee for the purpose, be prepared under the guidance of approved supervisor in Dravyaguna and submitted 6 months before the final examination. The approval of Dissertation shall be pre-requisite for appearing in the final examinations.

7. Post Graduate Scholar is expected to present minimum two scientific papers in National/international Seminars during the course of study.

8. Post Graduate Scholar is expected to publish / get accepted atleast one paper in journal as per PG regulations under the supervision of guide.

Pattern of Practical Examination-

100 Marks

1. Herbarium	- 5 Marks
2. Pharmacognosy practical record	- 5 Marks
3. Pharmacology practical record	- 5 Marks
4. Clinical records record	- 5 Marks
5. Practical examination (Identification of green and dry raw drugs, Microscopic examination, Ekala aushadha pariksha	- 30 Marks
6. Thesis Presentation	- 10 Marks
7. Viva voce	- 40 Marks

Reference Books-

1. Rigvedasya Aushadhi Suktam - Sayana Bhashya Sahitam
2. Relevent portions of classical texts of Charak, Sushrut and Vagbhata
3. All available Nighantus
4. Dhanwantari Nighantu Rajnighantu Sahit
5. Sharngadhar Samhita
6. Yogaratnakar

7. Sharngadhar Samhita
8. Yogaratnakar
9. Dravyaguna Vigyanam - Yadavji Trikamji Acharya
10. Dravyaguna Vigyanam - Acharya Priyavrat Sharma
11. Aushadhiguna Vigyanam - Pt. vishwanath Dwivedi
12. Kriyatmak Aushadh Parichaya Vigyan - Pt. vishwanath Dwivedi
13. Abhinav Buti Darpana - Roopalal Vaishya
14. Aushadhagunadharm Shastra - Pt. Gangadhar Shastri Gune
15. Bhavprakash Nighantu - Dr.K.C.Chunekar
- Vedon Main DravyagunaShastra - Vishvanath Dvivedi
- Kriyatmak Aushadhi Parichay Vigyana - Vishvanath Dvivedi
- Kriyatmak Aushadhi Parichay Vigyana - Vishvanath Dvivedi
- Nighantu Adarsha Purvardha & Uttarardha - Bapalal Vaidya
- Unani Dravyaguna Adarsha - Hakim Dalijit Singh
- Ayurved ki Aushadhiyan Aur Unka Vargikaran - Vishvanath Dvivedi
- Aushadhi Vigyan Shastra - Vishvanath Dvivedi
- Glossary of vegetable drugs in Bruhatrayi - Thakar Balwant Sing & Chunekar
- Some contravertial drug in Indian Medicine - Dr.Bapalal Vaidya
16. Books on Dravyaguna by contemporary authors
17. Books on Pharmacognosy,
18. Books on General , Experimental & Clinical Pharmacology.
19. Ayurvedic Pharmacopia of India & other pharmacopias of the world
20. Indian Pharmacopia
21. All the classical texts related to medicinal plants.
22. All the scientific publications on medicinal plants
23. Journals on medicinal plants
24. Different Floras

*

5. RASA SHASTRA AND BHAISHAJYA KALPANA

**Theory – 400 Marks (100 Each)
Practical and Viva-Voce-100 Marks**

Paper I

100 Marks

RASASHASTRA

Part A

1. History and Chronological evolution of Rasashastra, Concept of Raseshwara darshan. Fundamental Principles of Rasashastra, Technical terminologies (Paribhasha) used in Rasa shastra.
2. Detailed knowledge of ancient and contemporary Yantropakarana and their accessories used in aushadhikaran and their contemporary modification such as Yantras, mushas, putas, Koshtis, bhrashtis, muffle furnaces and other heating appliances, ovens, driers etc. used in manufacturing of Rasaushadhis in small scale and large scale, along with their applications.
3. Study of Samskara, Role of Agni (Heat), Jala (Water) and other dravas (Liquids), Kala (Season), Patra (Container) etc. and their significance in Aushadhikarana.
4. Concept of Bhavana, Study of Mardana and its significance and knowledge of ancient and contemporary grinding techniques.
5. Detailed knowledge of different procedures of Shodhana, Jarana, Murchana and Marana, Concept of Puta, definition, types and specifications of different Putas. Significance of different Putas in relation to Bhasmikanana and therapeutic efficacy of dravya under process. Bhasma pariksha vidhi and its significance in relation to contemporary testing procedures. Amritikaran and Lohitikarana.
6. Detailed knowledge of Satva and Druti, Satva shodhan, mrudukaran and Maran of Satva, its significance, in relation to therapeutic efficacy of dravya under process.
7. Concept of Pratinidhi (Substitute) dravya and discussion on controversial drugs.

PART – B

1. Detailed ancient and contemporary knowledge of Parada and its compounds with reference to source, occurrence, physico-chemical characterization, graahya-agraahyatva, Parada dosha, Parada gati, Parada shodhan, Study of Ashta sanskara, Ashtadasha sanskara etc., Hingulottha Parada. Concept of Parada jaran, moorcchana, bandhan, pakshaccheda and marana etc. Therapeutic properties and uses of Parada.
2. Detailed ancient and contemporary knowledge with Geochemical / mineralogical / biological identification, source, occurrence, physico-chemical characterization, graahya-agraahytva, shodhan, Maranadi vidhi and therapeutic properties and uses of dravyas etc. included in Maharasa, Uparasa, Sadharana rasa, Dhatu, Upadhatu, Ratna, Uparatna, Visha, Upavisha, Sudha varga, Lavana varga, Kshara varga, Sikata varga and other miscellaneous drugs used in Rasashastra.

3. Detailed knowledge of manufacturing, pharmacopeial standards, storage, shelf life, therapeutic efficacy, dose, anupana, vikarashanti upaya and development of technology with Standard Operating Procedures of processing, standardization, quality control of following Bhasmas and Pishtis

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

Dravaka – Shankha Dravaka

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

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

Paper II

100 Marks

BHAISHAJYA KALPANA

Part – A

1. History and chronological evolution of Bhaishajya Kalpana, Concept of Bhashaja and Aushadh, fundamental principles of Bhaishajya kalpana. Technical terminologies (Paribhasha) used in Bhaishajya Kalpana.
2. Classical and Contemporary concepts of collection, Storage, Saviryata Avadhi and Preservation methods of different fresh and dry Aushadhi dravyas and their graahya-agraahyatva. Knowledge about Good collection and storage practices (GCP and GSP) as per WHO and NMPB guidelines.
3. Detailed knowledge of routes of drug administration, Aushadha matra, Posology, Anupana, Sahapana, Aushadha Sevana Kala, Sevan Avadhi, Pathya, Apathya.
4. Detailed knowledge of manufacturing, standardization, quality control, pharmacopeial standards, storage, shelf life and development of innovative technology with Standard Operating Procedures of following dosage forms.

- i) Panchavidha Kashaya, Churna, Rasakriya, Ghana, Avaleha, Pramathya, Mantha, Panaka, Sarkara, Kshirapaka, Ushnodaka, Aushadha Siddha Udaka, Arka, Satva, Kshara, Lavana, Masi, Gutika, Vatika, Modaka, Guggulu and Varti etc.
- ii) Sneha Kalpana: Concept of Accha sneha and Sneha pravicharana and Murchhana. Sneha paka, types of sneha paka and Sneha siddhi lakshana, Avartana. Sneha kalpa karmukata (Pharmacokinetics and dynamics of sneha kalpa). Role of sneha in relation to absorption of drug.
- iii) Kritanna and Bhesaja Siddha Anna Kalpana, Shuka and shmbi Dhanya Kalpana, Dugdha, Dadhi and Takra Vikar and Mansarasadi Krutanna Kalpana, Aharopayogi Varga, Concept of medicinal and functional food, dietary supplements and nutraceuticals etc.
- iv) Sandhana kalpana: Madya varga and Shukta varga. Asava yoni. Alcoholic and acidic fermentation. Sandhana kalpa karmukata (Pharmacokinetics and dynamics). Advances in fermentation technology. Knowledge of regulations in relation to alcoholic drug preparations.
- v) Bahya Prayogarthi Kalpana: Lepa, Upanaha, Udvartan, Avachurnana / Avadhulana, Abhyanga, Dhupana, Malahara.
- vi) Mukha, karna, Nasa, Netropachararthi Kalpana:
- vii) Basti Kalpana: Basti Yantra Nirmana, Types of basti. Anuvasana and Asthapana basti. Karma, Kala and Yoga basti etc. Basti Kalpa (Madhutailika, Piccha basti etc.), Comparison of Asthapana and Anuvasana basti with evacuation and retention enema.

Part – B

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

1. Methods of Expression and Extraction: Maceration, percolation, distillation, infusion and decoction. Knowledge about Filtration techniques.
2. Drying, open and closed air drying, freeze drying, vacuum drying and other drying methods pharmaceutical excipients.
3. **Liquids:** Clarified liquid, Syrup, Elixir.
4. **Solid dosage Forms: Powders:** Size reduction, Separation techniques, particle size determination, Principles of mixing.
Tablets: Methods of tableting, Suppositories, Pessaries and Capsules, Sustained release dosage forms.
5. **Semisolid dosage forms-** Emulsions, Suspensions, Creams and Ointments, Sterilization of Ophthalmic preparations.
6. An introduction to various cosmetic preparations such as Toiletries, Shampoo, Shaving creams, Hair oils, Face Powders (Talcum powders). Vanishing creams, lotions and Moisturisers, Face pack, Deodorants and Perfumes.
7. Study of classical texts with special emphasis on Chakradatta, Sharangadhara Samhita, Bhaishajya Ratnavali, Bhava Prakasha, Yogarajnakara, relevant portions of Brihatrayi, Ayurvedic Pharmacopeia of India, Ayurvedic Formulary of India.

RASA CHIKITSA & AUSHADHA YOGA VIGYANA**PART – A**

1. Rasachikitsa, Kshetrikaran, Rasajirna, Lohajirna, Ashuddha, Apakva, Avidhi Rasadravya Sevanajanya Vikara evam Vikara shanti upaya (Management and knowledge of untoward effects of inappropriately processed and administered drugs).
2. Detailed knowledge of Aushadhi patha Nischiti and Sanyojan (Formulation design and composition), Dose, Anupana and Method of administration, therapeutic efficacy and uses (indications and contra- indications), probable mode of action etc. of the following Aushadhi Yogas
 - a. **Kharaliya Rasa:** Shwasa kuthara Rasa, Tribhuvana kirti Rasa, Higuleshwara Rasa, Ananda bhairava Rasa, Maha Lakshmilasa Rasa, Vasnata kusumakara Rasa, Vasanta malti Rasa, Brihat vata chintamani Rasa, Laghu suta shekhar Rasa, Suta Shekhara Rasa, Ram ban Rasa, Chandra Kala Rasa, Yogendra Rasa, Hridyarnava rasa, Grahani kapata Rasa, Garbha pala Rasa, Jalodarari Rasa, Mrityunjaya Rasa, Madhumalini vasanta Rasa, Arsha kuthara Rasa, Krimi mudgara Rasa, Suchika bharana Rasa, Tri netra Rasa, Smruti sagara Rasa, Vata gajankusha Rasa, Agni kumar Rasa, Ekangavir Rasa, Kama dugha Rasa, Purna chandrodaya Rasa, Pratap lankeshwara Rasa, Maha vata vidhwansaka Rasa, Kasturi bhairava Rasa, Ashwa kanchuki Rasa, Gulma kuthara Rasa, Maha jwarankusha Rasa, Chandra mrita Rasa, Kapha ketu Rasa, Prabhakara Vati, Pravala Panchamrita, Gandhaka Rasayana, Chaturbhuj rasa, Navajivan rasa, Shonitargal rasa, Raktapitta kulakandan rasa, Amavatari Rasa, Kravyada Rasa, Garbha chintamani Rasa, Chintamani Rasa, Trilokya chintamani Rasa, Pradarantaka Rasa, Vangeshwara Rasa, Brihat Vangeshwara Rasa, Shwasakasa Chintamani Rasa, Arogya vardhini Vati, Chandra prabha Vati, Agni tundi vati, Shankha Vati.
 - b. **Kupipakva Rasa:** Rasa Sindura, Makaradhwaja, Sidha makaradhwaja, Samira pannaga Swarnarajvangeshvar, Malla sindura, Rasa karpura, Rasa pushpa, Manikya Rasa.
 - c. **Parpati Rasa:** Rasa Parpati, Loha Parpati, Tamra Parpati, Suwarna Parpati, Gagana Parpati, Vijay Parpati, Panchamrit Parpati, Shwet Parpati, Bola Parpati
 - d. **Pottali Rasa:** Rasagarbha pottali, Hemagarbha Pottali, Mallagarbha pottali, Hiranyagarbha pottali, Shankagarbha pottali, Lokanatha rasa, Mriganka Pottali
 - e. **Loha evam Mandura Kalpa:** Ayaskriti, Loha Rasayana, Amla pittantaka loha, Chandanadi loha, Dhatri loha, Navayasa loha, Putapakva vishama jwarantaka loha, Shilajatwadi loha, Tapyadi loha, Saptamrita loha, Pradarantaka loha,

Rohitaka loha. Punarnava Mandura, Shatavari Mandura, Triphala Mandura, Mandura Vataka etc.

- f. Knowledge of Essential Ayurvedic drug list as prescribed by Dep. Of AYUSH (Govt. Of India) and its significance.

Part B

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

- a. **Panchavidha Kashayas and their Upakalpa:** Ardraka swarasa, Tulasi swarasa, Vasa putapaka, Nimba kalka, Rasona kalka, Kulattha kwath, Punarnavasthaka kwatha, Rasna saptaka kwatha, Dhanyak hima, Sarivadi hima, Panchakola phanta, Tandulodaka, Mustadi pramathya, Kharjuradi mantha, Shadanga paniya, Laksha rasa, Arjuna kshirapaka, Rasona kshirapaka, Chinchana panaka, Candana panaka, Banapsha sharkara, Nimbu sharkara, Amrita satva, Ardraka satva, Ajamoda arka, Yavanyadi arka.
- b. **Kritanna and Bhesaja Siddha Ahara Kalpana:** Yavagu, (Krita and Akrita), Ashtaguna manda, Laja manda, Peya, Vilepi, Krishara, Yusha, Mudga yusha, Kulattha yusha, Saptamushtika yusha, Khada, Kambalika, Raga, Shadava, Mamsarasa, Veshavara, Dugdha Vikara – Piyush, Kilata, Kshirashka, Hyaiyangavina, Morata, Santanika, Dadhi and Dadhi Vikara, Katvar Dadhi, Dadhi Mastu, Takra, Ghola, Udasvita, Mathita, Chhacchika etc.
- c. **Churna:** Sitopaladi Churna, Talisadi Churna, Triphala Churna, Hingvashtaka Churna, Avipattikara Churna, Swadishta Virechana Churna, Bhaskar Lavana Churna, Sudarshana Churna, Maha Sudarshana Churna, Gandharva Haritaki Churna, Pushyanuga Churna, Ajamodadi Churna, Hingvadi Churna, Eladi Churna, Dadimashtaka Churna, Trikatu Churna, Vaishwanara Churna, Gangadhara Churna, Jati phaladi Churna, Narayana Churna etc.
- d. **Gutika:** Arogya vardhani vati, Chandra prabha vati, Chitrakadi Gutika, Sanjivani Vati, Lasunadi vati, Lavangadi Vati, Vyoshadi vati, Khadiradi Vati, Kankayana Vati, Abhayadi modaka, Marichyadi gutika, Amalakyadi gutika, Samshamini Vati, Kutaja Ghana vati, Shiva Gutika, Eladi Vati, Kasturyadi Gutika, Arshoghni Vati.
- e. **Guggulu:** Yogaraja Guggulu, Maha Yogaraja Guggulu, Trayodashanga Guggulu, Kanchanara Guggulu, Rasnadi Guggulu, Triphala Guggulu, Simhanada Guggulu, Gokshuradi Guggulu, Kaishora Guggulu, Panchatikta Guggulu, Amritadi Guggulu, Vatari Guggulu, Lakshadi Guggulu, Abha Guggulu, Navaka Guggulu, Nava Karshika Guggulu.
- f. **Sneha Kalpa**
- g. **Sneha Moorchhana – Ghrita Murchana, Taila Murchhana**

- h. **Siddha Ghrita** - Shatavari Ghrita, Jatyadi Ghrita, Phala Ghrita, Dadimadi Ghrita, Kshirashatpala Ghrita, Mahatriphala Ghrita, Dhanvantari Ghrita, Amritaprasha Ghrita, Kalyanaka Ghrita, Brahmi Ghrita, Changeri Ghrita, Panchatikta Ghrita, Sukumara Ghrita, Panchagavya Ghrita.
- i. **Siddha Taila** - Maha Narayana Taila, Maha Masha Taila, Baja Taila, Nirgundi Taila, Shadbindu Taila, Vishagarbha Taila, Sahacharadi Taila, Jatyadi Taila, Apamarga Kshara Taila, Tuvaraka Taila, Kshirabala Taila (Avartita), Lakshadi Taila, Anu Taila, Kumkumadi Taila, Hingutriguna Taila, Kottumchukadi Taila, Prasariyadi Taila, Dhanwantari Taila, Balashwagandhadi Taila, Balaguduchyadi Taila, Nilibhringyadi Taila, BrihadSaindhavadi Taila, Irimedadi Taila, Chandanadi Taila, Panchaguna taila, Arka Taila, Pinda Taila, Kasisadya Taila.
- j. **Rasakriya, Avaleha, Khanda etc.:** Darvi Rasakriya, Vasa Avaleha, Brahma rasayana, Chyavanprasha Avaleha, Kushmanda Avaleha, Dadima Avaleha, Bilvadi avaleha, Kantakaryavaleha, Haridra Khanda, Narikela Khanda, Saubhagya shunthi paka, Amrita Bhallataka, Kamsa Haritaki, Chitraka Haritaki, Vyaghri Haritaki, Bahushala Guda, Kalyana Guda.
- k. **Sandhana Kalpa:** Lodhrasava, Kumaryasava, Ushirasava, Chandanasava, Kanakasava, Sarivadyasava, Pippalyasava, Lohasava, Vasakasava, Kutajarishta, Draksharishta, Raktamitrarka, Dashamularishta, Abhayarishta, Amritarishta, Ashokarishta, Sarasvatarishta, Arjunarishta, Khadirarishta, Ashwagandha Arishta, Vidangarishta, Takrarishta, Drakshasava, Mahadrakshasava, Mritasanjivani sura, Maireya, Varuni, Sidhu, Kanji, Dhanyamla, Madhu Shukta, Pindasava.
- l. **Any Kalpa:** Phala varti, Chandrodaya varti, Arka lavana, Narikela lavana, Triphala masi, Apamarga kshara, Snuhi kshara, Ksharasutra, Atasi upanaha, Sarjarasa malahara, Gandhaka malahara, Sindhuradi Malahara, Shatadhouta Ghrita, Sahasra Dhouta Ghrita, Siktha taila, Dashanga lepa, Doshaghna lepa, Bhallataka taila patina, Jyotishmati Taila, Bakuchi Taila, Dashanga dhupa, Arshoghna dhupa, Nishadi Netra bindu, Madhutailika Basti, Piccha Basti, Yapanas Basti.

PAPER – IV

100 Marks

PHARMACOLOGY AND PHARMACY MANAGEMENT

PART – A

1. General Pharmacology:
 - a. Principles of Pharmacology, Pharmacodynamics & Pharmacokinetics: Absorption, distribution, Metabolism & excretion, mechanism of action, dose determination and dose response, structure activity relationship.
 - b. Routes of drug administration
 - c. Factors modifying drug effect, Bioavailability and Bioequivalence, drug interactions, Adverse drug reaction and Drug toxicity.

- d. Preclinical evaluation: Experimental pharmacology [Bioassay, In vitro, In vivo, Cell line studies], Animal ethics.
2. Clinical pharmacology: Evaluation of New Chemical Entity – Phases and methods of clinical research. Ethics involved in human research.
3. Elemental constituents of human body such as Iron, Copper, Zinc, calcium, Manganese etc. and its physiological importance. Deficiencies and excess of various elements.
4. Toxicity of heavy metals and chelation therapy.
5. Knowledge of toxicity and pharmacological activities of herbo-mineral compounds.
6. Detailed knowledge of Pharmacovigilance – National and International Scenario. Pharmacovigilance of Ayurvedic Drugs.

Part B

1. Scope and evolution of pharmacy. Information resources in pharmacy and pharmaceutical Science.
2. Pharmaceutical formulation designing and dosage form design (Pre-formulation).
3. Packaging materials and Labeling.
4. Management of pharmacy, Store and inventory management, Personnel management, Good Manufacturing Practices related to Ayurvedic drug industry.
5. Pharmaceutical Marketing, Product release and withdrawals.
6. Hospital, Dispensing and Community pharmacy.
7. Patenting and Intellectual Property Rights.
8. Laws Governing Ayurvedic drugs.
 - i. Relevant regulatory provisions of Ayurvedic drugs in Drug and Cosmetics Act – 1940 and Rules – 1945
 - ii. Laws pertaining to Drugs and Magic remedies (Objectionable Advertisement) Act – 1954.
 - iii. Prevention of Food Adulteration (PFA) act.
 - iv. Food Standards and Safety Act – 2006
 - v. Laws pertaining to Narcotics
 - vi. Factory and Pharmacy Acts
 - vii. Consumer Protection Act – 1986
 - viii. Knowledge of Good Clinical Practices and Inspection Manual prescribed by Dept. of AUYUSH, Govt. of India.
9. Regulatory Affairs related to International Trade and Practices of Ayurvedic Drugs.
10. Introduction to Ayurvedic Pharmacopoeia of India, Ayurvedic Formulary of India.
11. Introduction to Indian Pharmacopoeia, British and United States Pharmacopoeia, Pharmacopoeial Codex.
12. Introduction to Traditional Knowledge Digital Library

Practicals:-

- Minimum 150 Practical are to be performed covering all the dosage forms.

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

Pattern of Practical Examination

100 Marks

Duration of the practical: 2 days

- | | |
|--|-------------------|
| 1. Identification of the specimen: | 10 Marks |
| 2. Drug Processing | 30 Marks |
| i. Major Practicals: 2 (1 Rasashastra and 1 Bhaishajya Kalpana). | 10x2=20 |
| ii. Minor Practicals: 2 (1 Rasashastra and 1 Bhaishajya Kalpana). | 5x2=10 |
| 3. Drug testing and Analysis | 10 Marks |
| i. Rasaushadhi - 1 | |
| ii. Kashthaushadhi – 1 | |
| 4. Power Point Presentation on dissertation work: 15 Minutes | - 10 Marks |
| 5. A Demo Lecture on any subject topic: 10 Minutes. | - 10 Marks |
| 6. Documentation | - 15 Marks |
| i. Journals (Practical Records) of minimum 150 practicals from Rasa Shastra, Bhaishajya Kalpana and Drug Analysis. | |
| ii. Reports of the Visits. | |
| iii. Case Records | |
| 7. Viva Voce examination | 15 Marks |

Reference Books:-

1. Rasahridaya Tantra
2. Rasarnava
3. Rasaratna Samuccahaya
4. Ayurved Prakasha
5. Rasendrachudamani
6. Rasendra Chintamani
7. Rasatarangini
8. Rasaprakasha Sudhakar
9. Rasamitra
10. Rasa Chananshu : CCRAS Publication
11. Sharangadhara Samhita

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

51. Bhasma Vigyaniam
52. Kupipakva Vigyaniam
53. Anupana Manjari

*

6.AGADA TANTRA EVUM VIDHIVAIKYA

Theory – 400 Marks (100 Each)

Practical and Viva-Voce-100 Mark

Paper-I

100 Marks

AGADA TANTRA (AYURVEDIC AND CONTEMPORARY TOXICOLOGY)

Part- A

1. Agada Tantra, its sequential development during Veda kala, Samhita kala, Samgraha kala and Adhunik kala.
2. Definition of Visha, properties of visha and its comparison with madya and oja, visha samprapti, visha prabhava, visha-vega, vegantara and visha karmukata (toxicodynamic and toxicokinetic study).
3. Descriptive and comparative study of Upavisha in unison with Contemporary Toxicology.
4. Examination of poisons as per Contemporary and Ayurvedic Methods.
5. Detailed study of the following:
 - Visha and Upavisha – Arka, Snuhi, Langali, Karaveera, Gunja, Ahiphena, Dhatura, Bhallataka, Vatsanabha, Kupeelu, Jayapala, Bang, Tobacco, Parthenium historiferous, Chitraka Eranda, Digitalis, Cerebra Odollum etc.
 - Acids and Alkalis – Sulphuric acid, Hydrochloric acid, Nitric acid, Hydrocyanic acid, Oxalic acid, Carbolic acid, Formic acid and alkalis etc.
 - Asphyxiants – Carbon Monoxide, Carbon dioxide, Hydrogen sulphide etc.
 - Antihistamines, Cocaine Hallucinogens – LSD Sedatives and Hypnotics – Barbiturates
 - Petroleum – Kerosene Poisoning Organo phosphorous compounds- Aluminium phosphate, Zinc phosphide etc.
 - i. Nonmetallic poisons – Phosphorous, iodine etc.
 - ii. Metallic poisoning – Arsenic, Mercury, Lead, Copper, Zinc, Tin, Radiation meals etc.
6. Study of Jangama visha and their sources (Animal poisoning and Zoonotic Diseases). Descriptive study of snakes according to ancient and contemporary knowledge. Causes of Snake bite and its types. Composition of snake venom and its

pharmacological actions. Signs and symptoms of envenomation and its prognostic signs. Clinical features of Vrischika (scorpion), Luta (spider), Grihagodhika (Lizard), Mushaka (rats), Alarka (dogs), Makshika and Mashaka (mosquitoes) and their pathologic manifestations including their role in the manifestation of communicable diseases.

7. Shankaa visha and its management. Visha sankat.

Part – B

1. Garavisha and Dushi visha, their varieties, signs, symptoms and management with contemporary relevance. Detailed study of Allergies including allergic manifestations in the eyes, nose, lungs and skin.
2. Detailed study of Madya visha and substances acting on the nervous system; substance abuse. (Diagnosis, Management and De-addiction).
3. Detailed study of the contemporary knowledge about vishajanya Janpadodhvansaniya roga (community health problems due to poisons – Environmental pollution, water pollution, soil pollution, air pollution, Industrial pollutions etc. their features and management according to ancient and recent concepts.
4. Concept of Virudha aahara, Aahara visha and Satmyasatmyata in contemporary and Ayurvedic views.
5. Conceptual study:- Drug interactions and incompatibility, Pharmacovigilance.

PAPER – II

100 Marks

VISHA CHIKITSA VIGYAN (MANAGEMENT OF POISONING)

Part – A

1. Fundamental Principles for treatment of poisoning
2. General and specific treatment of different types of Sthavara visha.
3. General and specific treatment of different types of Jangama visha (animal poisons, insect poisons, snake bites and other zoonotic diseases).
4. Emergency medical management of poisoning including preparation, administration and complications of antivenoms/antisera.
5. Chaturvimsati upakarma (24 management procedures).
6. Management of Garavisha and Dushivisha. Treatment of Allergies including allergic Manifestations in the eyes, nose, lungs and skin.

Part – B

1. Diagnosis and Management of Drug induced Toxicity.

2. Management of the toxic manifestations caused by the contact poisons (paduka, vasthra, abharana, mukhalepa – vishabadha etc.)
3. Management of food poisoning.
4. Death due to poisoning, Duty of physician in poisoning, in cases of suspected poisoning. Post mortem findings in poisoning.
5. Extra- corporeal techniques (dialysis etc) for removal of poisons.

PAPER – III

100 Marks

VYAVAHARA AYURVEDA EVAM VIDHI VAIDYAKA

Part - A

1. Definition of Vyavahara Ayurveda , its evolution in ancient and Contemporary periods.
2. Personal identity and its medico – legal aspects.
3. Death and its medico-legal aspects (Medical Thanatology).
4. Asphyxial deaths and its medico-legal importance.
5. Death due to starvation, heat and cold , lightening and electricity.
6. Suspended Animation.
7. Medico-legal autopsy.
8. Injuries due to explosions, chemical and nuclear warfare.
9. Medico-legal aspects of injuries and wounds.
10. Impotence and sterility- Its medico-legal aspects. Regulations of Artificial Insemination. Medico-legal aspects of surrogate motherhood.
11. Sexual offences and perversions.
12. Medico-legal aspects of virginity, pregnancy, delivery, abortion, infanticide and legitimacy with related acts.

Part – B

1. Indian Penal Code, Criminal procedure code and study of related acts like Indian Evidence Act, Pre Natal Diagnostic Test Act, Nursing Home Act, Human Organ Transplantation Act, Drugs and Cosmetic Act 1940, Narcotic drugs and Psychotropic substances Act 1985, Pharmacy Act 1948, Drugs and Magical Remedies (Objectionable Advertisements) Act 1954, Medicinal and Toilet Preparations Act 1955 and Anatomy Act etc. Any related act enacted by the government from time to time.
2. Courts and Legal procedures.
3. Forensic Science Laboratory.

4. Medico legal aspects of mental illness.
5. Duties and privileges of physician.
6. Structure of Central Council of Indian Medicine, its jurisdiction and functions. Code and Conducts as per the CCIM, Rules and Regulations there under.
7. Respective State Council of Indian Medicine, its structure, power, voluntary duties.
8. Doctor- patient relationship.
9. Rights and privileges of patients; Euthanasia.
10. Professional secrecy and privileged communication.
11. Professional negligence and malpractice.
12. Indemnity Insurance Scheme.
13. Consumer Protection Act related to medical practice.
14. Ethics as in classics. Types of physicians and methods of identification, Pranabhisara and Rogabhisara Physicians, qualities of physician, responsibilities of Physicians, Chaturvidha vaidya vriti, duties of physicians towards patients, Vaidya sadvritam, Apujya Vaidya who is accepting fees, relationship with females.

PAPER – IV

100 Marks

AUSHADHA YOGA VIGYAN

Part – A

1. Pharmaco-dynamics of different formulations used in Agadatantra.
2. Study of pharmacology and usage of antidotes as per the Ayurvedic and Contemporary science.
3. Fundamentals of pharmaceuticals according to Ayurvedic and contemporary point of view.
4. Chemical, analytical, laboratory examination of poisons and suspicious substance.

Part-B

1. Introduction of different instruments /equipments used in the examination of poisons.
2. Introduction to Clinical toxicology.
3. Introduction to Experimental toxicology.
4. Introduction to Toxic – genomics.
5. Survey and study of the traditional and folklore vishachikitsa sampradaya.

Content of Practical/Demonstration

1. Identification of specimens models and equipments of toxicological and jurisprudence importance.
2. Practical training in postmortem examination (10 cases)
3. Medico-legal cases (20 cases)
4. Chemical Identification of various acids, alkalies, alcohols – Hydrochloric acid, Nitric acid, Sulphuric acid, Ascorbic acid, Sodium Hydroxide and Potassium Hydroxide
5. Detection of minerals Copper, Mercury, Lead, Arsenic and their compounds.
6. Physical and chemical analysis of Dattura, Karaveera, Vatsanabha, Jayapala, Arka and Bhallataka with Microscopy, powder microscopy, TLC, solvent extraction, detection of Phenol, tannins etc. (10 studies)
7. Detection of human blood, hair, semen and other biological secretions of Forensic importance
8. As per MSR, at least one paper to be published/accepted in a peer reviewed journal.
9. **Clinical Postings**
 - a. Regular clinical postings in the Agadatantra OPD / IPD.
 - b. Modern medical hospitals – 2 weeks
(For emergency management of poisoning).
10. **Other Postings**
 - a. Postmortem postings - 2 weeks
 - b. Court postings - 1 week

Visit to

1. Forensic Laboratory
2. Anti snake serum manufacturing Unit (Optional).

Pattern of practical examination

- | | |
|---|------------|
| 1. Postmortem /medico-legal case record and clinical record | - 10 Marks |
| 2. Clinical case presentation. | - 30 Marks |
| 3. Spotting related to Visha, Upavisha and others poisonous drugs | - 10 Marks |
| 4. Thesis presentation | - 25 Marks |
| 5. Viva-voce | - 25 Marks |

Total

100 Marks

Reference Books:-

1. Useful Portion of Charak-Sushrut-Vagbhata
2. Dravyaguna Vigyan - Acharya Yadavji
3. Aushadhigunadharm Shastra - Pt Visvanath Dvivedi
4. Kriyatmat Aushada parichaya vigyan - Pt Visvanath Dvivedi
5. Ayurvedic Vyadhi Vigyan - Acharya Yadavji Trikamji

6. Madhavanidan with Madhukosha commentary
7. Sharangadhara Samhita
8. Yogaratnakara
9. Aushadigunadharm Shastra - Pt Gangadhara Shastri Gune
10. Rasendracintamani
11. Rasaratna samuchhaya
12. Vishavigyan - Dr. Krishna Kumar
13. Related matter of Kautilya Artha Shastra
14. Harmekhlatantra
15. Anupana manjari
16. Ayurvedprakash
17. System of clinical Medicine - Savil
18. Forensic Pharmacy - B.M. Mhithai
19. Hand book of Forensic Medicine and toxicology - Dr. P.V. Chadha
20. Viva Forensic Medicine and toxicology - L.C. Gupta
21. Forensic Medicine and Ethics - J.P. Narena
22. Modi's Medical Jurispudence and Toxicology
23. The essentials of forensic medicine and toxicology - Dr.K.S. Narayan Reddy
24. Medical Laws and Ethics - Dr. H.S. Mehta
25. M.R.K. Krishnan's Handbook of Forensic Medicine
26. Text book of Medical Jurispudence and Toxicology - Dr.C.K. Parikh
27. Atlas of Forensic Medicine - Dr. Tomio Watenbe
28. Medico legal Post Mortems (Atlas) - Dr. Parikh and others
29. Text book of Forensic Medicine and Toxicology - Dr.V.V. Pillay
30. Text book of Forensic Medicine and Toxicology - Dr. Karmakar
31. Text book of Forensic Medicine and Toxicology - Dr. Singhal
32. Text book of Forensic Medicine and Toxicology - Dr. Krishnan Vij
33. Forensic Pathology - Dr. Bernard Knight
34. Text book of Forensic Medicine Toxicology - Lyon's
35. Pocket picture guide to Forensic Medicine - Gower's Medical Publication
36. Forensic Medicine - Simpson Knight
37. Taylor's Principles and Practical of Medical Jurispudence - J and A Churchis
38. Doctor and law - Singhal
39. Forensic Medicine Under Indian System of Medicine (Ayurveda) - U.N. Prasad
40. Medicine Harrison's Principal of Internal Medicine
41. Agad Tantra - Dr. Shekhar Namboodri
42. Modern Medical Toxicology - Dr.V.V. Pillay
43. Critical Care toxicology - Bruent Wallace
44. Diagnosis and Management of common poisoning - Agarwal wali
45. Colour Atlas of Forensic Medicine - Govindaiah
46. Guidelines of poisons - W.H.O.

47. Doctors patients relationships - Dr. Lavekar
48. Bhavaprakasha.
49. Vishavaidya Jyotsnika—English translation By VPSV Ayurveda college, Kottakkal.
50. Lakshnamritham
51. Toxicology, Ayurvedic perspective - VPSV Ayurveda college,
Kottakkal
52. Text book of Agadatantra - Edited by Dr. Huparikar,
- Dr. Joglekar
53. Agadatantra ki Pathyapustaka - Edited by Dr. Huparikar
- Dr. Joglekar
54. Vyavahar Ayurveda Vigyanam - Dr. Indramohan Jha
(Sachchan)
55. Forensic Medicine - Dr. B. Umadathan
56. Visha Chikitsa - Dr. M. Balakrishnan Nair
57. Park Text book of Preventive and Social Medicine. - K. Park
58. Environmental Science and Biotechnology - Theory and Practice – A.G.
Murukesan & C. Rajakumari
59. Veterinary Toxicology - Dr. Satish K Gargi
60. Guide to Drinking Water Quality (3 Volumes) - WHO Publication
61. A short Text Book of Medical Entomology - H.S. Bhatti, R. Sehgal,
- R.C. Mahajan.

7. SWASTHAVRITTA AND YOGA

Theory – 400 Marks (100 Each)
Practical and Viva-Voce- 100 Marks
100 Marks

PAPER I

VAIYAKTIKA SWAATHAVRITTAM SADVRITTAM CHA (PERSONAL HYGIENE AND MORAL CONDUCT)

PART A

50 Marks

1. Concept of holistic health according to Ayurveda. Parameters of Health.
2. Spectrum of health, Iceberg phenomenon of diseases, dimensions of health.
3. Dinacharya – Detailed accounts by Charaka, Sushruta, Vagbhata and Bhavamishra.
4. Probable Physiologic effect of Dinacharya procedures- Ayurved and Modern view.
5. Ratricharya – Bhavamishra and other classics.
6. Ritucharya – Classical description by Charaka, Sushruta, Vagbhata, BhelaSamhita and Bhavamishra.

7. Ritus prevalent in various Indian states.
8. Ritu, Day and night pattern in various countries.
9. Shodhana Schedule for Ritusandhis.
10. Concept of Vegas, types and the importance of vegadharana in swasthyarakshan.
11. Sadvritta – As per Charaka, Sushruta and Vagbhata.
12. Prajnaparadha – Causes, Effects and Solution.
13. AcharaRasayana, Nityarasayana.
14. Rasayana procedures for Swastha
15. Vajeekarana for Swastha.
16. Mental Health and the role of Ayurveda in it.
17. Principles of Health Education.
18. Genetics in Ayurveda and Modern Science.

PART B

50 Marks

1. Principles of Trayopasthambha.
2. Details of Ahara, Nidra, Brahmacharya
3. Ahara – Classical food items in Charaka, Sushruta, Vagbhata and Sharangadhara.
4. Aharavargas and comparison with today's food items.
5. Staple diet of various States of India.
6. Staple diet of various countries in correlation with their climate.
7. Principles of Ayurvedic Dietetics and Modern view of nutrition. Balanced diet for healthy adult, adolescent, elderly people, pregnant ladies and lactating mothers.
8. Food intervention in malnutrition, under nutrition, over nutrition and Life style related diseases viz.Sthoulya, Hridroga, Madhumeha, SandhigataVataVikara.
9. Rules of food intake according to Charaka, Sushruta and Vagbhata.
10. Pros and Cons of vegetarian and non vegetarian foods.
11. Viriddhahara – Classical and modern day examples.

PAPER II

100 Marks

SAMAJIKA SWASTHAVRITAM (COMMUNITY HEALTH)

PART A

50 Marks

1. Concept of community health.
2. Concept of Prevention according to Ayurveda.
3. Concept of Prevention according to Modern medicine. Levels of prevention. Stages of intervention.
4. Web of causation of diseases, Multifactorial causation.
5. Natural History of diseases.

6. Medical Entomology- Arthropods of Medical importance and their control measures.
7. Primary knowledge of parasites in relation to communicable diseases.
8. Old age problems in community. Role of Ayurveda in Geriatrics.
9. Care of the disabled. Palliative Health Care.
10. Life Style disorders (Non Communicable diseases) in community and the role of Ayurveda in them.
11. Disinfection practices for the community – Modern and Ayurvedic.
12. Immunization programmes. Possible contribution of Ayurveda.

PART B

50 Marks

1. Ecology and community health.
2. Environment and community health (Bhumi, Jala, VayuShuddhikarana, Prakasha, Shabda). Natural & Man made Radiations.
3. Effect of Pollution and Global Warming on Health
4. Housing – W.H.O Standards. Design of Aaturalaya(hospital), Sutikagara, Kumaragara, Panchakarmagara and Mahanasa (Kitchen)
5. Methods of Disposal of Wastes- Refuse&Sewage. Methods of Sewage disposal in sewerred and unsewerred areas.
6. Occupational Health. Ergonomics. Role of Ayurveda in Occupational health.
7. School Health Services and possible contribution of Ayurveda.
8. Demography and Family Planning. National Population Policy.
9. Family welfare, RCH Programme and the role of Ayurveda in it.
10. Health tourism. Ayurvedic Resort and wellness Management- Panchakarma and allied procedures.
11. Medical Sociology.

PAPER III

100 Marks

SAMKRAMAKA ROGA PRATISHEDHAM EVAM SWASTHYAPRASHASANAM
(EPIDEMIOLOGY AND HEALTH ADMINISTRATION)

PART A

50 Marks

1. Modern Concept of Epidemiology.
2. Disease Surveillance.
3. Critical evaluation of Janapadodhwamsa.
4. Epidemiology of different Communicable diseases in detail.
5. General investigations for Communicable diseases
6. Investigation and control of Epidemics
7. Sexually Transmitted Diseases and their control
8. Ayurvedic view of SamkramakaRogas.
9. Epidemiological studies in relation to Diet and Life Style.

10. Host Defenses.
11. Vyadhikshamatva – Modern and Ayurvedic concepts.

PART B

50 Marks

1. Health advice to travellers.
2. Isolation ward in Hospital.
3. Bio medical waste management
4. National Health Programmes. Contribution of Ayurveda in National Health Programmes.
5. AYUSH, NRHM, administration, functions and programmes. Role of Ayurved in Rural and Urban Health Mission.
6. Central, State and District Health administration including Panchayat Raj System.
7. National Health Policy and Role of Ayurved in it.
8. National and international Health Agencies and their current activities.
9. Disaster management and Preparedness
10. Statistics related with Infectious diseases at International, National and State levels
11. Vital Statistics

PAPER IV

100 Marks

YOGA

PART A

50 Marks

1. History and evolution of Yoga
2. Different Schools of Yoga
3. Concept of Rajayoga
4. Ashtanga yoga philosophy of Patanjali including the yogasutras.
5. Hathayoga – according to Hathayogapradeepika, GherandaSamhita and Shivsamhita.
6. Karmayoga – Philosophy according to Bhagavad Gita.
7. Mantrayoga, Layayoga, Jnanayoga and Bhaktiyoga.
8. Physiological effect of Yoga on Body and mind – Ancient and modern concepts.

PART B

50 Marks

1. Concept of Sthula, Sukshma and Karana Shariras
2. Concept of Panchakoshas
3. Concept of Shad chakras and kundalini
4. Shad Kriyas- Classification, procedure and their effects.
5. Interventions of Yogic practices in the following diseases – Diabetes, Hypertension, Cardiovascular disorders, Obesity, Piles, Irritable Bowel Syndrome, Skin diseases viz. Eczema, Psoriasis, Stress Disorders, Eye disorders, Musculoskeletal disorders, Mental retardation, Depression, Neurosis, Sexual Dysfunction, Uterine Disorders, Cancer, Asthma and Upper respiratory diseases.

6. Yoga in Ayurveda – Concept of moksha, Tools for Moksha, Naishtikichikitsa, TatvaSmriti, Satyabudhhi, YoginamBalamAishwaram (Charaka Samhita Sharirasthana chapter 1 & 5)
7. Introduction to Nisargopachara, Basic Principles of Western School of Nature Cure and Indian School of Nature Cure – PanchabhutaUpasana and its therapeutic utility.
8. Different types of Massage and their therapeutic effects

Practical Exam

100 Marks

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

2. Practical Demonstration of Yoga

a. Aasanas (26)

1. Swastikasan
2. Gomukhasan,
3. Ushtrasan,
4. Kukuttasan,
5. Uttankurmasan,
6. Dhanurasan,
7. Matsyendrasan,
8. Mayurasan,
9. Bhadrasan,
10. Sinhasan,
11. Sarvangasan,
12. Shirshasan,
13. Pavanmuktasan,
14. Bhujangasan,
15. SuptaVajrasan,
16. Katichakrasan,
17. Siddhasan,
18. Padmasan,
19. Trikonasana,
20. Paschimatanasan,
21. Vajrasan,
22. Shavasan,
23. Makarasan,
24. Uttanpadasana
25. Setubandhasana
26. Tadasana

& Suryanamaskara

Knowledge of different props for yogasanas (if possible)

b. Pranayama

1. Nadishudhhi- Anulom, VilomPranayam,
2. Suryabhedini,
3. Ujjayi,
4. Sheetali,
5. Sitkari
6. Bhasrika,
7. Bhramari,

c. Mudra

1. Viparitarani
2. Yoga Mudra
3. Maha Mudra
4. Brahma Mudra
5. Ashwini Mudra

d. Bandha

- 1) Jalandhara, Uddiyana, mulabandha

e. Meditational Practices

- f. **Shuddhikriya** – JalaNeti, Sutra Neti, JalaDhauti, Kapalbhathi, Tratak Basti, Nauli, vastradhauti (if possible), shankhprakashana (if possible)

3. Practical Demonstration of Naturopathy procedures.

1. Mruttika Patti
2. Pada and Hasta Snana
3. Bashpasnana (Steam bath)
4. Awagahana (Immersion bath)
5. Prishtasnana (Spinal bath)
6. Katisnana (Hip bath)
7. Alternate hot and cold bath
8. Observe Jacuzzi and whirlpool bath at available places.

4. Long case sheets for Pathya, Apathya, Aushadhi (if needed), and Yoga advice to:

1. Non communicable diseases 20 (Proforma attached as Annexure 'A' / 'E')
2. Communicable diseases 10 (Proforma attached as Annexure 'B')
3. GarbhiniParicharya05 (Proforma attached as Annexure 'C')
4. Mal Nutrition treatment cases 05 (Proforma attached as Annexure 'D')
5. Case studies of Immunization cases 10 (Proforma attached as Annexure 'F')

5. Departmental Practicals

1. Dantadhawana – 2
2. Anjana – 2
3. Nasya – 2
4. Gandusha – 2
5. Kavala – 2
6. Dhoompana – DhumavartiNirmanana – 2

6. **Educational Visits-** The brief report of each visit (Minimum 10 compulsory) should be written by student in a journal (Duly signed by the Supervisor and HOD)

- 1) Water Purification Centre,
- 2) Milk Dairy,
- 3) Industry,
- 4) Leprosy centre,
- 5) T.B. Centre,
- 6) Yoga Centre,
- 7) Naturopathy Centre,
- 8) Primary Health Centre,
- 9) Disposal of Waste Unit,
- 10) Sewage Disposal Unit,
- 11) Hospital Disinfection – Fumigation,
- 12) Govt. Psychiatric Hospital,
- 13) Isolation Hospital,
- 14) Anti Retroviral Treatment Centre,
- 15) District / Civil Hospital

7. **Field Work**

1. Active Participation in various National Health Programmes
2. Community Health Survey
3. School Health Check-up (minimum 100 students)

8. **Departmental duties :** Regular attendance as- Duty in OPD and IPD with regard to Pathyapathya, Yoga and Nisargopachar.

1. Museum Development
2. Yoga training for self, Swastha and patients.
3. Departmental Seminars
4. Research Journal / Article Reviews
5. Submit minimum 1 paper in journal/magazine as per MSR.
6. Practical knowledge of AharaDravya&Adulteration of Food
7. Proper planning, beginning,completion of Dissertation work under the supervisor
8. Micro Teaching (Training to take Lectures and Practicals of UG). Minimum 10.
9. Weekly minimum 5 hours Library attendance
10. Daily diary- Log book

Format of Practical / Oral Examination

Heading of Practicals

1. Daily work book-Log book

-100 Marks

- **05**

2. Case Record Sheets	-	30
a. One Long Case (Pathya-Apathya advice)	-	10
b. Two Short Cases(10x2) (Yoga and naturopathy advice each)	-	20
3. Spots on nstrument/Equipment/Medicine/Solve a a Problem(10 Spots x1)-		10
4. Dissertation Presentation	-	25
5. Viva Voce	-	30

Reference Books:-

1. Relevant portions of Charak, Sushruta, Vagbhata (AshtangHrudaya), Ashtang
2. Samgraha, Sarangadhara, Bhavaprakasha, Madhavanidan&Yogaratanakara, Bhela
3. Samhita with the respective commentaries
4. SwasthavrittaSamuchaya –VaidyaPt.RajesvarDuttaShastri
5. SwasthavrittaSamuchaya – VaidyaPt.RajesvarDuttaShastri
6. SwasthyaVignyana – Dr.B.G.Ghanekarshastri
7. Swasthavritta – Dr. Shivkumar Gaud
8. Swasthavrittavigyan – Dr.Ramharsha Singh.
9. Swasthavrittam – Dr. Bramhanand Tripathi
10. SwasthaVigyan – Dr. MukundswaroopVerma
11. AyurvediyaHitopdesha – Vd.RanjitRai Desai
12. AyurvediyaSwasthvrittam – Vd.Jalukar
13. Swasthavritta – Vd.Sakad
14. Patanjalyogadarshan,
15. HathayogPradipika – Swatmaramyogendra (Kaivalyadhama)
16. GherandSamhita
17. Shiva samhita – Kaivalyadhama
18. Yoga and Ayurveda – Dr. Rajkumar Jain
19. Patanjalyogasutra – Karambelkar,
20. Patanjalyogadrashanarthatbharatiyamanasshastra – Kolhatkar
21. YogikChikitsa – ShriKedarnath Gupta
22. SachitraYogasanDarshika – Dr.indramohanJha
23. Yogadeepika – Shri B.K.S. Iyengar
24. Positive Health – Dr.L.P.Gupta
25. Yoga and Yogikchikitsa – Ramharsha Singh
26. The Foundation of Contempary Yoga – R.H.Singh
27. YogasidhantaevumSadhna – H.S.Datar
28. Light on Yoga - Shri B.K.S. Iyengar
29. Light on Pranayama - Shri B.K.S. Iyengar
30. Light on Patanjalyogasutra - Shri B.K.S. Iyengar
31. Biogenic Secretes of Food In Ayurveda – Dr.L.P.Gupta
32. Preventive and Social medicine – J.K.Park
33. Community Medicine – Baride and Kulkarni.

34. Preventive and Social medicine – Mahajan
35. Preventive and Social medicine – B.N.Ghosh
36. Preventive and Social medicine – Gupta
37. JanasankhyashikshasidhantaevamUpadeysa – S.C.Seel
38. Health and Family welfare – T.L.Devraj
39. Text book of Swasthavritta – Dr.Ranade, Dr. Bobade, Dr.Deshpande
40. Bio-Statistics – B.K. Mahajan
41. Reddy's comprehensive Guide to Swasthavritta – Dr.P.Sudhakar Reddy
42. Swasthavrittavidnyan – Dr.MangalaGauri
43. Swasthavrittavigyan – Vd. Patrikar Vijay
44. Swasthavritta – Vd Yashwant Patil and Vd. Vhawal
45. Food and nutrition – Swaminathan
46. Yoga and Nisargopachar- Vd. Prama Joshi
47. Yoga a Gem for Women (English and Hindi) – Geeta S Iyengar
48. Asana Pranayam Mudra Bandha – Swami SatyanandaSaraswati
49. The science of Yoga – Dhirendra Brahmachari
50. Prakrutik Chikitsa Vigyan – Verma
51. Prakrutika Chikitsa – Kedarnath Gupta
52. Prakrutik Chikitsa Vidhi – Sharan Prasad

Annexure 'A'

PROFORMA

(Non – Communicable Disease case)

A. General Information :

1. Name of the Patient: 2. Age :Yrs.
3. Sex : Male/Female: 4.Religion : 5. Date of Admission:
6. Address :
7. Occupation : 8. Education :
9. Per Capita income :Rupees 10. Socio economic class (Modified.....)

B. Present illness :

1. Chief complaints (Chronological order) :

C. History of past illness :

1. Similar complaints in past:
2. Any other significant history :

D. History of illness in Family :

1. Type : 2. Composition :
3. Similar illness in family : Yes/no If yes, give details :

E. Life Style and personal history :

1. Occupation : Manual Work /Table Work/ Field work/ Administration / Any other (Specify).
2. Muscular exertion (occupational / domestic etc.) Minimum / Moderate / Heavy.
3. Exercise: Nil / Walking / Running / Jogging/ Cycling / Swimming/ Weight Lifting/
Anyother specify

4. Mental Stress & Strain : Occupational/ domestic/ any other specify
 Hobby, Recreation :
5. **Diet :**
- Veg / Non Veg / Mixed
 - Total calorie intakecalorie /day adequate / inadequate/ excess.
 - Fat : adequate / inadequate/ excess Vegetable / Animal fats Predominantly saturated / unsaturated
 - Spice & Hot foods (Specify).
 - Regularity in taking meals
 - Type of diet : balanced /Non balanced (Give reason)
6. Sleep and rest : adequate / inadequate
7. **Habits & addictions :**
- Smoking: Yes /No / Past Smoker If Yes : Type /duration / quantity/ frequency.....
 - Alcohol : Yes / No / Past Alcoholic If Yes : Type /duration /quantity /frequency.....
 - Any Other : Specify, give details.
- F. General Examinations:**.....
- G. Systemic Examination :**RS/CVS/CNS/PA :
- H. Diagnosis :**i. Provisional :ii. Differential :.....
- I. Investigations :** Investigation done :
- Any further investigations required:
- J. Final Diagnosis :**
- K. Management :**Drug therapy (give details):Diet modification: Health Education / Life Style modification :
- Follow up :
- L. Prevention & Control Measures** Primary Prevention :
- Secondary Prevention : Tertiary Prevention :
- Sign.of Student : Sign.of Supervisor : Date:-

Annexure 'B'
PROFORMA
(Communicable Disease case)

A. General Information :

- Name of the Patient: 2. Age :Yrs.
- Sex : Male/Female: 4. Date of Admission :
- Address :
- Locality : Urban – Slum / Non – Slum / Rural / Other (Specify)
- Duration of Stay in the Locality ;(years/months)

8. Hospital Registration No..... 9. Date of Admission :
10. Religion/Caste:..... 11. Education:12. Occupation:
13. Type of Family : 14. Total No. of Family Members:
15. Total Family income:16. Per Capita income per month :.....Rs.
17. Socio-economic Status (As per classification) :

B. Chief Complaints (In Chronological Order)

- 1.....
- 2.....

C. H/O Present illness :D. H/O Past illness:

- i. Similar complaints in past : ii. Any other significant history :

E. History of illness in the family:.....

- F. Personal History** a. Dietary : b. Immunization :
- c. Habits :

G. Environmental history (Pertinent to the route of transmission)

- i) Water Supply ii) Excreta Disposal iii) Drainage iv) Cattle v) Pet animals, Poultry vi) Housing condition vii) Over Crowding viii) insect nuisance ix) Courtyard of house etc.

H. Epidemiological information (Backward tracing of index case.)

- i. Any similar case in the family / neighborhood / School / Place of recreation / any other Specify li. History of attending to similar case – if yes, when ?
- iii. History of visiting any unaccustomed place if yes, When ?
- iv. Total contacts V. High risk contacts.....

I) Provisional Diagnosis (with justification in brief)

J) Differential Diagnosis :

.....

.....

K) Investigation Done :

- a. If yes,reports & your comments
- b. Other investigations required (with reason) if any

L) Final Diagnosis :

M) Management of Patients : 1 Chemotherapy / Other drugs (Specify with name, dose schedule , route of administration, duration of treatments and precautions if any)

2. Diet modification 3. Personal Hygiene 4. Health Education
5. Any other (Specify) 6. Follow up :

N) Preventive & Control Measures at a). Family Level i. Chemoprophylaxis

- ii. Immunization (Active / Passive) iii. Personal Hygiene (specify)
- iv. Chemical disinfections of (Specify) Concentration, quantity, technique, contact period, way of disposal of disinfected material.
- v. Follow upvi. Care of Contacts

b. Community Level i. General Intervention measures..... ii. Specific measures against the illness

iii. Any other (Specify)

C. National Level

National Health Programme for control / Eradication of the disease or related health programmes.

Sign.of Student: Sign.of Supervisor: Date :-

Annexure 'C'
PROFORMA
(Ante-natal case)

A. General Information :

1) . Date of Examination :..... 2) Name: 3) Age :Yrs
4) ANC Registered : Yes/ No If yes, place/date/month of registration
5) Education of ptOccupation of pt6) Education of Husband..... Occupation of Husband.....7) No of family members
Total family incomeRs/month. 8) Socio-economic class(as per Modifiedclassification). 9) Address :

B) Complaints – if any :

C) Menstrual History : Menarche, cycles-day/month, regularity, flow etc. L.M.P
.....E.D.D.....

D) Obstetric History : GestationalAge (wks)Type of Delivery
Hosp./Home.....Conducted byBaby alive/stillborn/abortion.....
Live birthintervalUse of contraceptives(specify).....
1 2.....

E) Family History :.....

F) Past History : Hypertension/Diabetes/S.T.D./T.B./Leprosy etc.

G) Personal History : Bowel/Bladder/Sleep/Appetite/Habits/Addictions etc.
Immunization status : Tetanus toxoid / Any other (specify)a) For current pregnancy..... b) For previous pregnancy.....Nutritional status (based on calorie Intake, other nutrients, anthropometry etc.).....

H) General Examination :

- HeightCms./ Wt.kgs,/TPR / B.Pmm of Hg
- Pallor/Icterus/ Cyanosis/Oedema/ Lyphadenopathy. any other (specify)
- Cleanliness of: Skin/ Nails/Hair/Clothes/Eyes/Ears/Nose/Oral Cavity/breasts & Nipples etc.

I) P/A Examination:

- Ht. of uterus/presentation and lie of foetus / Head-floating or engaged /foetal movements/FHS/ Any other (specify)

J) Systemic Examination: RS/CVS/CNS

K) Investigations: - Urine:Albumin/sugar/microscopic/culture.

- Hb % Blood grouping & cross matching /VDRL/HIV/Blood Sugar

- Any other (specify)

L) Clinical impression :

- Whether high risk ? If yes, mention the risk factors.

M) Advice to the Patient and Management : Immunization/Diet/Supplementary nutrition/personal hygiene/preparation for motherhood/drugs given (if any) / Warning signals/follow up visits.

- Whether the patient/family members are availing services from Anganwadi /Other Community Health Centre/ Private Health Agency? If Yes – Give details
- Give details of referral in high risk cases

Follow up :

Findings & Re Marks (including advice)

During subsequent visits (mention the date of visits)

O) Comments :

Sign.of Student: Sign.of Supervisor : Date :

Annexure 'D'

PROFORMA

MALNUTRITION CASE (UNDER FIVE YEARS AGE)

A. General Information :

- Date of Examination :
- Name of the informer & his/her relationship with the child (case)
- Name of the child : 2. Date of birth:..... 3. Age: 4. Sex:
- Caste/ Religion : 6. Address :
- Whether the child is attending Balwadi/ Nursery etc.
- Father Mother
- Name : II. Age : III. Education :
- Occupation : V. Income :
- I. Total number of family members and family composition II. Total family income Rupees per month III. Per capita IncomeRupees per month IV. Socio economic Status as perclassification

B) Complaints (if any) :

C) History of Present illness :

D) History of Past illness (if any) :

E) Family history :

F) Birth history of the case :

- Place of delivery: Home/Hospital/Other (Specify)
- Delivery conducted by untrained or trained Dai /Nurse / Doctor etc.
- Type of delivery: FTND/ Pre mature/ SFD/Assisted delivery etc.

iv. Congenital anomaly: if any give details.

G) Anthropometry i. Weight:Kgs. ii. HeightCms. iii. Chest CircumferenceCms. iv. Head CircumferenceCms. V. Mid arm CircumferenceCms.

H) Immunization History

i. B.C.G./OPV/ DPT/Measles/Any other give details
ii. Immunization card available: yes/ No.

I) Dietary History

i. Breast feeding: Yes/ No a. If yes: Only breast feed or weaning started
b. If weaned : Age at weaning, type of weaning food etc.
c. If not breast feed: At what age breast feed stopped? (give reason if any).....
ii. a. Total calorie intake Calorie / day. b. Total Protein intakegram/day
iii. Calorie/ Protein deficient if any: Yes/No If yes mention percent of deficient
iv. Any other nutritional deficiency (Specify)

J) General Examination: 1) Built, nourishment & general appearance, 2) TPR, 3) Pallor, 4) Icterus, 5) Cyanosis 6) Lymphadenopathy, 7) Oedema, 8) Dehydration, 9) Eyes, 10) Ears, 11) Face, Nose, Lips & Tongue 12) Teeth gums oral cavity 13) Skin, nails hair, 14) Rachitic changes 15) Any other (specify)

K) Systemic Examination: RS/ CVS/PA/CNS/Gonads

L) Milestones of growth & development: Physical / Psychological/ Motor / intellectual/ behavioral/ Social Milestones: Normal/ Augmented / Delayed

M) Provisional diagnosis / Differential Diagnosis:

N) Investigations:

O) Diagnosis:

P) Management, Advise and comments:

Sign.of Student:Sign.of Supervisor: Date:

Annexure 'E'

PROFORMA

PATHYAAPATHYA, RUTUSHODHAN, YOGA ADVICE TO PATIENTS OF ATTACHED HOSPITAL.

A. General Information:-

1) Sr. No. 2) Name of the Patient:
3) Address :
4) OPD No. : IPD No. 5) Diagnosis:
6) Date of Advice:

B) Advice given

a) Pathya – Apathya i. Ahara: ii. Vihara:
b) RutuShodhanUpakarma : c) Yogopachar:

C) Date of follow up:

D) Remarks:

.....
.....

Sign.of Student:Sign.of Supervisor: Date:

Annexure 'F'
PROFORMA

CASE STUDIES – IMMUNIZATION CASE RECORD

- 1) Name of Child or Mother : 2) Age : 3) Sex :
4) Address :
5) Date of Birth 6) Name of Vaccine given : 6) Type of
Vaccine : 7) Dose : 8) Route of Administration :
9) Site of Administration : 10) Instructions to Mother :

Sign.of Student:Sign.of Supervisor: Date:

*

8. ROGA NIDANA

Theory- 400 Marks (100 Each)

Practical and Viva-Voce – 100 Marks

PAPER-I

100 Marks

FUNDAMENTAL PRINCIPLES OF ROGANIDANA

PART A

50 Marks

1. Paribhasha (Definitions): comprehensive definitions of Technical Terminologies such as: Roga, Nidana, Vikriti, Vijnana, Purvarupa, Rupa, Upashaya, Samprapti, Arishtha, Upadrava, Dosha, Dushya, Vyadhi, Vyadhi avastha, Ama, Kieda, Srotas, Srotodushti, Srotovaigunya, Avarana, Prajnyaparadha etc.
2. Concept and Pathological implications of Tridosha. 63 permutations and combination of Tridosha. Leena and Stambhita Dosha. Cause and importance of Tridosha in manifestation of Samprapti.
3. Concept of Rakta as a Chaturtha Dosha. Importance of Rakta in the manifestation of diseases.
4. Concept of Ashrayashrayi bhava and its applied utility.
5. Different types of Dosha Gati.

6. Causative factors and practical utility of movement of Doshas from Kostha to Shakha and Shakha to Kostha. Concept of Ashayapakarsha.
7. Trayo roga marga, their diseases and clinical importance of Roga Marga.
8. Concept and classification of Avarana, its role in pathogenesis, mode of diagnosis of Avarana and its importance in chikitsa sutra.
9. Applied aspect of Dhatu Poshana Krama and Dhatu Samvahana. Concept of Marga and Sthanastha Dhatus.
10. Concept and applied aspects of Doshapaka and Dhatupaka.
11. Fundamental and applied aspect of Dhatu, Upadhatu and Mala. Diseases developed due to their vitiation (pradoshajanya vikara).
12. Concept and applied aspects of Srotas, their importance in health and diseased conditions. Concepts and applied aspects of Sroto Dushti and Khavaigunya. Understanding the various srotas which are not included in classical list of srotas but enumerated while describing the samprapti of diseases.
13. Description of Dosha-Dushya-Sammurchhana, Concept of Prakriti Sama Samaveta and Vikriti Vishama Samaveta Sammurchhana. Importance of Dosha-Dushya-Sammurchhana in Diagnosis and treatment.
14. Concept of Vikara vighata bhavabhava prativisesha.

PART B

50 Marks

1. Concept of Agni and its role in manifestation of health and disease.
2. Concept and pathogenesis of Ama. Contemporary interpretation of Ama and its role in pathogenesis.
3. Sama, Nirama stages of Dosha, Dhatu and Mala.
4. Understanding Samprapti of Santarpanottha and Apatarpanottha Vyadhi.
5. Detailed classification of diseases as described in Ayurveda. Knowledge of ICD, DSM and other systems of classification of diseases.
6. Detailed understanding of Nidan Panchaka with their classification and clinical importance.
7. Nidanakaratra of contemporary food items and lifestyle.
8. Relation between 'Hetu & Lakshana' and 'Samprapti & Lakshana'.
9. Explanation and applied aspects of Kriyakala and its utility in diagnosis and treatment.
10. Importance of Upadrava, Arishta and Sadhyasadyata and Udarka.
11. Natural History of the Diseases, concept of vyadhisankara in Ayurveda.

PAPER – II

100 Marks

ROGA VIJNANA

PART A

50 Marks

- Comprehensive knowledge of diseases mentioned in Samhitas.

- Knowledge of classical Samprapti of following diseases with interpretation of Nidana Panchaka including Upadrava, Arishta and Sadhyasadyata and Chikitsa Sutra. Knowledge of commonly occurring diseases of the respective systems mentioned in contemporary medicine.
1. Diseases of Pranavaha srotas- Kasa – Shwasa – Hikka – Urahkshata – Shosha – Rajyakshma and common clinical entities like Pneumonia, Pleural effusion, Bronchitis, Bronchiectasis, Pulmonary Tuberculosis, Bronchial Asthma.
 2. Diseases of Annavaaha- Pureeshavaha Srotas- Agnimandya – Ajirna – Aruchi- Chhardi, Amlapitta- Shoola, Grahani – Gulma- Udara Roga –Vibandha, Atisara – Pravahika along with Various clinical presentations. Common clinical entities like Peptic Ulcer, Irritable Bowel Syndrome, Diarrhoea, Dysentery, Constipation, ulcerative colitis. Nutritional disorders.
 3. Diseases of Udakavaha Srotas- Trishna, Daha and knowledge of water and electrolyte imbalance disorders.
 4. Diseases of Rasavaha Srotas – Jwara. Common clinical entities like various types of Fever- Malaria, Typhoid, viral fevers. Pandu, Amavata, Hridroga, Shotha and common clinical entities like Anaemia & its Classification, Rheumatic fever, Rheumatoid Arthritis, Angina, Ischaemic Heart Disease, Hypertension, Myocardial Infarction, Congestive cardiac failure. Endocrinal disorders.
 5. Diseases of Raktavaha Srotas- Kamala – Raktapitta – Vatarakta – Kroshtukaseersha – Shitapitta – Maha Kushta – Visarpa – Shwitra and Kshudra Kushta and common clinical entities like jaundice, hepatitis, bleeding disorders, Gout, Thrombo Angitis Obliterans (TAO), Deep Vein Thrombosis (DVT), Leukaemia, Thalessemia, Sickle cell Anaemia. Introduction to Urticaria, Psoriasis, Eczema, Pemphigus, Herpes.
 6. Diseases of Mansavaha srotas- Introduction to Granthi, Arbuda, Galaganda and Arsha. All types neoplasia.

PART B

50 Marks

1. Diseases of Medovaha srotas- Sthoulya – Karshya – Prameha and common clinical entities like Obesity and Diabetes Mellitus.
2. Diseases of Asthi – Majjavaha srotas – Sandhigataavata, Introduction to Asthi- majjaparipaka, Asthigata Vidaradhi and common clinical entities like Osteo- Arthritis, Osteomyelitis, Osteoporosis.
3. Vatavyadhi-Akshepaka – Apatanaka – Ardita - Pakshaghata – Gridhrasi – Viswachi, Avabahuka, Manyasthambha – Katigraha- Pangutwa- Khanja-Khalwee and common clinical entities like Hemiplagia, Parkinson’s disease, Lumbago- Sciatica syndrome, Bell’s Palsy, Ankylosing Spondylitis, Motor Neuron Disease and other commonly occurring neurological diseases.
4. Diseases of Sukravaha srotas- Klaihya and Vandhyatva and understanding of male and female Infertility, Impotence.

5. Diseases of Mutravahasrotas – Mutrakrichha, Mutraghata, Ashmari, common clinical entities like Urinary Tract Infection, Urolithiasis, Nephropathies & Renal failure.
6. Diseases of Swedavaha srotas-knowledge of khalitya, Palitya and Cosmetology.
7. Diseases of Manovaha Srotas – Vishada, Udvega, Bhaya, Bhrama, Anidra, Mada, Murchha, Sanyasa, Apasmara, Unmada, Atatwabhinivesha and common clinical entities like Depression, Anxiety neurosis, Phobia, Personality disorders.
8. Indriya Pradoshaja Vikara.
9. Jara janya Vyadhi: Common Geriatric disorders.
10. Concept and tools for the study of Anukta Vyadhi- unexplained and newly emerging diseases such as AIDS, Dengue, Chickungunia, H1N1, Leptospirosis, Metabolic syndrome etc.
11. Understanding the concept of karmaja vyadhi.

PAPER – III

100 Marks

PARIKSHA VIJNANA [Clinical Examination And Laboratory Diagnostics]

Part A

50 Marks

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

Part B

50 Marks

1. Ayurvedic interpretation of all relevant findings of modern clinical examinations.
2. Understanding of diagnostic procedures in medical emergencies.
3. Concept of good clinical practice in Ayurveda and modern medicine.
4. Knowledge of standard clinical laboratory set up.
5. Knowledge of Ancillary common laboratory investigations for diagnosis of diseases, their methods, normal and abnormal values, factors influencing values & clinical significance as mentioned in practical syllabus.
6. Importance of Bio markers and their utility in clinical researches.
7. Update Knowledge of emerging diagnostic tools and technologies.
8. Knowledge of various Ayurvedic diagnostic softwares/programmes available.

9. Avayava Pariksha – Radio – imaging Techniques, Sonological Techniques, ECG, EEG etc and their clinical interpretation.

PAPER – IV

100 Marks

VIKRITI VIJNANA AND JIVANU VIJNANA

[GENERAL PATHOLOGY, PARASITOLOGY AND MICROBIOLOGY]

Part A

50 Marks

1. Introduction to general pathology .
2. Cell injury and cellular adaptations.
3. Immunopathology including amyloidosis. The concept of Ojas vis-à-vis Bala, Anurjata, Asatmya, Hypersensitivity.
4. concept of Shotha ; Inflammation, oedema and healing.
5. Derangement of Homeostasis and Hemodynamic disorders.
6. General character and classification of Neoplasia.
7. Concept of genetic diseases and Bija dosha.

Part B

50 Marks

1. Upasargjanya Vyadhi (Communicable diseases)- Romantika –Measles, Chickenpox Upadamsha – Phirang and introduction to Syphilis, AIDS, Leprosy, Tuberculosis
2. Detail study of Krimi Vigyanam with classification and diseases caused.
3. Concept of Snayuka, Shleepada and introduction to Filariasis and classification, mode of infection, life cycle and diseases caused by common parasites.
4. Concept and applied aspects of Janapadodhvasa and Environmental diseases.
5. Knowledge of common Bacteria, Virus, Fungi and their classification with their disease processes, Nutrition requirements, media and methods for culture and sensitivity.

PRACTICAL DEMONSTRATION AND HANDS ON EXPERIENCE:-

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

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

BEDSIDE PRACTICAL / CLINICAL METHODS

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

PATTERN OF EXAMINATION

- As per MSR, at least one paper to be published / accepted in a peer reviewed Journal.

Practicals:	-	100 Marks
1. Observation Diary	-	05 Marks
2. Laboratory record	-	05 Marks
3. Short Case (including Case Record)	-	10 Marks
4. Long Case (including Case Record)	-	15 Marks
5. Laboratory Work	-	15 Marks
6. Thesis Presentation	-	20 Marks

7. Teaching aptitude (audio-visual presentation)	-	05 Marks
8. Viva Voce	-	25 Marks

REFERENCE BOOKS

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

33. Text Book of Parasitology - Ramnik Sood
34. Clinical Pathology and Bacteriology - S.P. Gupta
35. A Text Book of Microbiology - Ananthanarayana, PANIKAR

*

9. PRASUTI TANTRA – STREE ROGA

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

PAPER – I

100 Marks

GARBHAGARBHINI VIGYANA

1. Applied Anatomy of female Genito urinary system, Pelvis and Pelvic floor. Pelvic assessment and foetal skull.
2. Physiology, Neuro endocrinology and Pathology of puberty and Neuroendocrine control of menstrual cycle. Artava, Rituchakra, Streebija, Pumbija.
3. Garbha Sambhava samaagri, Garbhadharana, Pre-conceptual counseling and care , Pumsavana, Garbhasya shad dhatvatmakata, Garbhavakranti, Matrijadi bhava, Garbha vriddhi, role of Panchamahabhuta in the formation and development of foetus. Garbhasya avayavotpatti, Fundamentals of reproduction – gamatogenesis, Fertilization, Implantation and early development of human embryo.
4. Apari, Garbhodaka Jarayu, Nabhinadi. Placenta, amniotic fluid, membranes and umbilical cord – their formation, structure, Functions and abnormalities. Garbha – Poshana, Garbha shareekriya vaishishtyam, Garbha lingotpatti, Garbha varnotpatti, Garbhasya masanumasika vriddhi. Foetal physiology, circulation, Foetal growth and development.
5. Bija – Bijabhaga – Bijabhagavayava janya garbhanga vikrithi. Genetics, Birth defects and other teratologic abnormalities.
6. Garbhini nidana, sapekshanidana, Garbhakalina matrigata parivartana, lakshana, Dauhrida. Diagnosis and differential diagnosis of pregnancy, anatomical and physiological changes during pregnancy, Endocrinology related to pregnancy, Immunology of pregnancy.
7. Garbhiniparicharya, Masanumasika Pathya Apathya evum Garbha upaghatakara bhava. Ante Natal care, examination investigations and management.
8. Garbhasankhya nirnay, Bahu apatyata, Multiple pregnancy.
9. Garbhavyapada – causes, clinical features, complications, management and treatment of Garbhasrava and Garbhapada, Upavishtaka, Nagodara /

Upashushka, Lina Garbha, Goodagarbha, Jarayu Dosha, Antarmrita garbha, Garbha shosha, Garbha kshaya, Bhutahrta garbha, Raktagulma. Abortions, I.U.G.R, Intrauterine Foetal death, Ectopic pregnancy, gestational trophoblastic diseases.

10. Garbhini vyapada – nidana panchaka and chikitsa of garbhini vyapad. Early recognition, differential diagnosis and prompt management of pregnancy complications, Emesis and Hyperemesis gravidarium, Anaemia, Pregnancy Induced Hypertension, Pre-eclampsia, Eclampsia, Antepartum hemorrhage, Rh-incompatibility. Management of pregnancies complicated by medical, surgical or Gynecological disorders in consultation with the concerned specialties by team approach.
 - a. Pyrexia, Heart disease, Diabetes mellitus, Liver disorders, Respiratory diseases, Renal diseases, Epilepsy, Hypertensive disorders.
 - b. Fibroids, Ovarian tumors, Genital prolapse.Infections in pregnancy: Toxoplasmosis, Viral infections, Tuberculosis, UTI, Rubella, CMV, Hepatitis-B, Herpes, Syphilis and other Sexually Transmitted Infections including HIV etc., Prevention of mother to child transmission of HIV infection (PMTCT).
11. Jataharini relate to garbhini avastha
12. Evaluation of Foetal and Maternal health in complicated pregnancies by making use of diagnostic modalities.
13. Prenatal diagnosis of foetal abnormalities and appropriate care. PNDT Act and its Implications.
14. **Panchakarma and Yoga in Prasuti tantra**
Vishesh adhyayana of –

Ashtanga Hriday Sharira	-	Adhyaya 1 st (Garbhavkranti)
Sushruta Samhita Sharira	-	Adhyaya 3 rd (Garbhavkranti)
Charak Samhita Sharira	-	Adhyaya 8 th (Jatisutriya)

PAPER – II

100 Marks

PRASAVA – VIGYANA

Prakrit Prasava

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

Prasava vyapad

1. Etiopathogenesis, clinical features, prevention and management of Garbhasanga, vilambita prasava, Mudhagarbha and Aparasanga.
 - a. Prolonged labour.
 - b. Cephalo pelvic disproportions
 - c. Malpresentations
 - d. Obstructed labour
 - e. Methods of Induction and Augmentation of labour.
2. Complications of different stages of labour
3. Obstetric management of high risk Pregnancies- Pre eclampsia, Eclampsia, Diabetes, cardiac diseases, Asthma, Epilepsy, Ante partum haemorrhage, Preterm & Premature rupture of membranes, Preterm and Post term delivery, Multiple pregnancy, IUGR & HIV –AIDS
4. Still birth- diagnosis, complications and management.
5. Foetal distress

Jatamatra / Navajata Shishu paricharya

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

Sutika Vigyana

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

Obstetric Shock and management

1. Raktadhana: blood transfusion and replacement of blood constituents.
2. Management of fluid and electrolyte imbalance in obstetrics.
Drugs used in obstetric practice, indications/contra indications, doses and side effects. (Modern and Ayurvedic)
Recent studies and advancement in the field of Prasuti Tantra.

Vishesha Adhyayana of –

Ashtanga Hridaya Sharira Sthana 2nd Adhyaya – Garbha vyapad

Sushruta Samhita Nidana Sthana 8th Adhyaya – Mudhagarbha nidana

Sushruta Samhita Chikitsa Sthana 15th Adhyaya – Mudhagarbha Chikitsa

PAPER – III

100 Marks

STREE ROGA VIGYANA

1. **Disorders of menstruation and female reproductive system.**

- a. Congenital malformations of female genital tract.
 - b. Artava dushti, Artava vridhi, Artava kshaya, Asrigdara, Anartava, and Kashtartava.
 - c. Genital infections including sexually transmitted infections.
 - d. Abnormal vaginal discharges.
 - e. Arsha, Yonikanda, Granthi, Arbuda.
 - f. Abnormal uterine bleeding, Endometriosis, fibroid uterus, Adenomyosis, Polycystic ovarian syndrome and neoplasia of female genital organs.
 - g. Endocrinological disorders affecting female reproductive system.
 - h. Somaroga.
2. **Detailed Study of Yoni Vyapada mentioned by different Acharyas with their commentaries and all possible correlations with modern gynecological diseases.**
3. **Bandhyatva**
 - a. Hetu, Bheda, Pariksha, and Chikitsa.
 - b. Detailed study of causative factors, Investigations with recent advances in management of infertility, Adoption law.
4. **Stanaroga**
Detailed study of Stanashotha, Stanakilaka and Stanavidradhi, stana granthi, Stanarbuda.
Fibrodenoma, Fibroadenosis breast, Aberation in the normal development and Involution of breast (ANDI)
Examination of breast, diagnosis and differential diagnosis of breast lump.
5. **Measures of contraception**
 - a. Ayurvedic view of Garbha nirodha and Garbhapatkara yogas.
 - b. Temporary Contraception
 - c. National Health programme to improve maternal and child health, Social Obstetrics and Vital Statistics (maternal and perinatal and morbidity).
6. **Sthanik chikitsa**
Detailed study of Pichu, Varti, Dhupan, Dhavana, Parisheka, lepa, kalkadharana, Uttarabasti, Agnikarma and Kshara Karma.
7. **Rajo Nirvritti** - Climacteric and menopause.
- Geriatric health care
8. Study of modern diagnostic techniques and investigations.
 9. Drugs used in obstetric practice, indications/contra indications, doses and side effects.
 10. (Modern and Ayurvedic)
 11. Panchakarma & Yoga in streeroga
 12. Recent studies and advancement in the field of Stree Roga.
 13. **Vishesha Adhyayana of –**

Charaka Samhita Chikitsa Sthana – 30th Adhyaya – Yonivyapad Chikitsa
Sushruta Samhita Uttara Tantra – 38th Adhyaya – Yonivyapad Pratishedha
Kashyapa Samhita Kalpa Sthana – Shatapushpa Shatavari, Lashuna kalpa Adhyaya

PAPER – IV

100 MARKS

PRASUTI TANTRA- STREE ROGA- SHALYA KARMA

General principles of Gynecological and Obstetrical Surgeries. Suturing, suture materials, sterilization, autoclaving etc, Analgesia and Anaesthesia in Obstetrical and Gynaecological operative procedures.

Operative Obstetrics

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

Dilation and evacuation, Hysterotomy, Provision of safe abortion services –selection of cases, techniques and management of complications, septic abortion, criminal abortion, MTP Act.

Cervical encirclage.

Instrumental delivery (Forceps, vacuum extraction), Episiotomy, perineal tear repair, Caesarean Section, Manual removal of Placenta, Caesarean Hysterectomy.

Operative Gynaecology

Selection of cases, technique and management of complications of minor and major gynaecological procedures.

Dilatation and Curretage, Cervical cauterization.

Polypectomy, Myomectomy, Cystectomy, Oophorectomy. Marsupilisation, punch biopsy, endometrial biopsy.

Surgical sterilization procedures.

Hysterectomy.

Surgical procedures for genital prolapse.

Surgical management of benign genital neoplasm.

Recent advances in Gynaecology and Obstetrics – Diagnostic and therapeutics

Shock and its management, Blood Transfusion, Fluid and electrolyte imbalance, Fluid therapy.

Record keeping, ethical and legal issues involved in Obstetrics and Gynaecology.

Medico-legal aspects – ethics, communication and counseling in Obstetrics and Gynaecology

Emergency care in Obstetrics and Gynaecology.

Content of Practical

1. Practical training to conduct.

- Normal and Complicated deliveries
- Assisted/ Instrumental deliveries
- Caesarean Section
- Neonatal resuscitation

2. Practical knowledge of garbhini paricharya, sutika pricharya and masaanumasik garbha Vriddhi.
3. Practical training to perform Obstetrical and Gynaecological Surgeries.
4. Practical training to provide Family Welfare/ Planning services, safe abortion methods along with surgical sterilization.
5. Practical knowledge and practice of all relevant equipment, Procdures, complications, Emergencies with their management.
6. Practical knowledge of Yogasanas and pranayam useful in Stree Roga and Prasuti Tantra.
7. Practical knowledge of Panchakarma and Sthanik Chikitsa used in Stree Roga and Prasuti Tantra.
8. Practical knowledge of recent advances in Gynaecology and Obstetrics.

Pattern of Practical Examination

100 Marks

- | | |
|---|------------|
| 1. Practical Recird Book | - 10 Marks |
| 2. Bed side examination | |
| Short Case | - 10 Marks |
| Long Case | - 20 Marks |
| 3. Identification of the Instruments/X-ray/ USG plate | - 10 Marks |
| 4. Thesis Presentation | - 25 Marks |
| 5. Viva Voce | - 25 Marks |

Reference Books-

1. Related matter from all the Samhitas and their commentaries.
2. Prasuti Tantra evum Stree Roga by - Prof Tewari P V
3. Concepts of Gynaecology - Dr Nirmala G Joshi
4. Prasuti Tantra - Prof. M. Dwivedi
5. Stree Roga Vigyan - Dr VNK Usha
6. Navya Prasuti Vigyan - Dr Pooja Bharadwaja
7. Text book of Gynaecology - Berek and Novak.
8. Text book of Obstetrics - Williams
9. Text book of Obstetrics - D C Dutta
10. Text book of Gynaecology - D C Dutta
11. Gabbe's normal and problem pregnancies.
12. Human Embryology by Sandler.
13. Jeffcoat's principles of Gynaecology
14. Te linde's Gynaecological surgery.

*

10. KAUMARBHRITYA-BALA ROGA

Theory- 400 Marks (100 Each)

Practical and Viva-Voce – 100 Marks

PAPER – I

100 Marks

BIJA, GARBHA VIGYANIYA (HUMAN GENETICS, EMBRYOLOGY)

Part A

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

2. Human genetics

Basic concepts:

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

Pathogenesis

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

Part B

1. Garbha, Garbhawastha, sperm, ovum, spermatogenesis, Oogenesis, structure of ovum.
2. Sperm in the male genital tract, sperm in the female genital tract, activation and capacitation of sperm.
3. Garbha Masanumasika Vriddhi evam Vikasa (Ayurvedic and modern concepts of Embryo and Fetal development)
 - First week of development

- Second week of development
 - Third week of development
 - Fourth to eighth week of development
 - Development from third month till birth.
4. Formation of Prakriti and their assessment in Bala, Kumara, Yauvana. Pathya-Apathya according to Prakruti.
 5. Apra (Placenta) Apra Nirmana (Formation of Placenta), Apra Karya (Functions of placenta); Apra Vikara (Placental abnormalities).
 6. Nabhinadi (Umbilical Cord).
 7. Formation and features of umbilical cord.
 8. Garbha Poshana (Nutrition) from conception to birth.
 9. Yamala Garbha (twins).
 10. Garbha Vriddhikara Bhavas.
 11. Garbhopaghata Bhavas, Effect of maternal illness, medication and diet over fetus.
 12. Perinatal Care and Perinatal complications
 13. Scientific study of Jataharini
 14. Prenatal diagnosis.
 15. Samanya Janmajata Vikara (Common congenital anomalies of different systems):
Causative Factors (Beeja, Atamakarma, Ashaya, Kala etc.) Sahaja Hridaya Vikara (Congenital Cardiac Disorders) Jalashirshaka (Hydrocephalus), Spina bifida, Meningocele, Meningomyelocele, Khandaoushtha (cleft lip), Khanda-Talu (cleft palate), Sanniruddha Guda (Anal stricture / imperforated anus), Pada-Vikriti (Talipes equinovarus and valgus), Tracheoesophageal Fistula (TOF), Pyloric Stenosis.

PAPER-II

100 Marks

NAVAJATA SHISHU VIGYANA EVAM POSHANA

PART –A

1. Navajata Shishu Paribhasha, Varghikarana.
2. Navajata Shishu Paricharya evam Prana-Pratyagamana.
3. Samanya Navajata Shishu Paricharya (General Neonatal Care-Labour room onwards).
4. Samanya purva evam Samanya pashchat Jata Shishu Paricharya (Management of preterm, post term and IUGR newborn).
5. Prasava Kalina Abhighataja Vyadhi (Birth injuries): Upashirshaka (Caput Succedaneum, cephalohematoma), Bhagna (Fractures), Mastishkantargata Raktasrava (ICH, IVH, Subdural hemorrhage).
6. Navajata Shishu Parikshana (Examination of new born): Ayu Parikshana (including Lakshanadhyaya) Modern approach of Neonatal Examination including assessment of gestational age.
7. Kumaragara.

PART- B

1. Navajata Shishu Vyadhi (Early neonatal disorders): Hypothermia, Shwasavarodha (Asphyxia Neonatorum/ Respiratory distress), Ulvaka (Aspiration pneumonia), Rakta vishamayata (Neonatal septicemia), Kamala (Neonatal Jaundice), Akshepaka (Neonatal convulsion), Pandu (Anemia), Atisara (Diarrhea), Asamyak Nabhinala kartanajanya vyadhi.
2. Navajata Kshudra Vikara (Minor neonatal ailments): Chhardi (Vomiting), Vibandha(constipation), Udara shula (Infantile colic), Puya Sphota (Pyoderma), Shishu Netrabhishyanda (Ophthalmia neonatorum).
3. Sadyojatasya Atyayika Chikitsa (Management of neonatal emergencies): Shock, Fluid and electrolyte imbalance, convulsion, Hemorrhagic diseases of Newborn etc.
4. Procedures: Shiro-Pichu, Abhyanga, Parisheka, Pralepa, Garbhodaka Vamana(stomach wash), Ashchytana, Neonatal resuscitation, Collection of Blood sample, Intravenous canalization, Umbilical vein catheterization, Bone marrow aspiration, Phototherapy, Naso-Gastric tube insertion, Urethral catheterization, Exchange blood transfusion, Thoracocentesis, Bone marrow infusion, Lumbar puncture.

PAPER – III

100 Marks

BALROGA (PEDIATRIC DISORDERS)

PART – A

1. Disorders of Pranvaha Srotas (Respiratory disorders)- Kasa (Cough), Shwasa (Respiratory distress Syndrome), Tamaka Shwasa (Childhood Asthma), Bronchiolitis, Shvasanaka Jwara (Pneumonia- bacterial, viral etc) Rajyakshma (Tuberculosis), Vaksha-Puyata (Pyothorax), Vaksha Vata-Purnata (Pneumothorax).
2. Disorders of Annavaha Srotas (Gastrointestinal disorders): Jwara (Fever), Chhardi (Vomiting) Ajirna (Indigestion), Kshiralsaka, Atisara (Diarrhea), Pravahika, Vibandha (Constipation, Udarshula (Pain in abdomen), Guda bhamsha (Rectal prolapse).
3. Disorders of Rasa evam Raktavaha Srotas (Hematological and circulatory disorders): Pandu (Anemia) and Raktapitta (Bleeding disorders), Vishishta Hridroga (Specific Cardiac diseases), Hypertension, Leukemia.
4. Disorders of Mansavaha Srotas: Myopathies
5. Disorders of Mutravaha srotas (disorders of Urinary System): Vrikkshotha (Glomerulonephritis and nephrotic syndrome), Mutrakrichra (Dysuria), Mutraghata (Anuria).
6. Disorders of Vataavaha Sansthana (disorders of Nervous system) : Apasmara (Epilepsy), Mastulunga-Kshaya, Mastishka-Shotha (Encephalitis), Mastishkavrana-Shotha (Meningitis).

7. Disorders of Manovaha Srotas: Breath holding spell, Shayya mutra (Bed wetting), Autism, ADHD (Attention Deficit and hyperactive disorders), Learning Disability, Mental retardation, Temper tantrum, Pica.

PART –B

1. Antahsravi evam Chayapachayajanya Vyadhi (Endocrine and Metabolic disorders).
2. Kuposhanjanya Vyadhi (Nutritional disorders): Karshya-Phakka-Balshosha-Parigarbhika (PEM and allied disorders), Deficiency disorders of Vitamins, minerals and trace elements, Hypervitaminosis.
3. Krimi evam Aupsargika Vyadhi (Infestations and Infections): Krimi (Giardiasis and intestinal helminthiasis, Amoebiasis) Common bacterial, viral infections with special reference to vaccine-preventable diseases: Rohini (Diphtheria), Whooping cough, Aptanaka (Tetanus including neonatal tetanus), Romantika (Measles), Karnamula Shotha (Mumps), Rubella, Masurika (Chickenpox), Antrika Jwara (Typhoid and Paratyphoid), Viral Hepatitis, Vishama Jwara (Malaria), Kala-azar, Dengu fever, HIV (AIDS), Poliomyelitis, Chickengunia.
4. Tvak Vikara (Skin disorders): Ahiputana (Napkin Rashes), Shakuni (Impetigo), Sidhma, Pama, Vicharchika, Charmadal (Infantile atopic dermatitis), Gudakutta.
5. Anya Vyadhi (Miscellaneous disorders): Jalodara (Ascites), Gandamala, Apachi (Cervical lymphadenitis), Kukunakadi Akshi Roga, Hodgkin & non-Hodgkin Lymphoma, Abnormal growth patterns, Short stature, Niruddha prakasha (Phimosis), Paridagdha Chhavi, Utpullika.
6. Sanghata- Bala Pravrita Vyadhi (damstra): Dog bite, Snake bite, Scorpion bite etc.
7. Atyayika Balarog Prabandhana (Pediatric emergency management): Shock and Anaphylaxis, Fluid and electrolyte management, Drowning, Foreign body aspiration, Status epilepticus, Acute hemorrhage, Acute renal failure, Febrile convulsion, Status asthmaticus, Burn, Acute Poisoning
8. Balagraha: Scientific study of Bala Graha and its management.

PAPER-IV

100 Marks

**BALAPOSHANA, SAMVARDHANA (NUTRITION, GROWTH AND DEVELOPMENT) AND
RECENT ADVANCES IN KAUMARBHRITYA**

Part A

50 Marks

1. Growth and development – Mile stones of growth and development and its pathological consideration in children.
2. Child psychology and its implication on personality development.
3. Common adolescent health problems and its management.
4. Management of pediatric disabilities and rehabilitation.
5. Nutrition:
 - A. Navjata Shishu Ahara (Neonatal feeding):

Specific feeding methodology as per Ayurveda and recent advances. Fluid, milk and calory requirement for the newborn, feeding technique for the preterm baby.

Stanyotpatti and Prasruti (physiology of Lactation), Stanya Sanghatana (Composition of breast milk), Stana Sampat (Characteristics of normal breast), Stanya Sampat evam Mahatva (Properties & importance of breast milk), Stanya-Piyusha(Colostrum); Stanya-Pana-Vidhi (Method for breast milk feeding), Stanyakshaya / Stanyanasha (Inadequate/ absence of breast milk), Stanya parikshana (Examination of breast milk), Stanyabhava Pathya Vyavastha (Alternative feeding in absence of breast milk), Total Parenteral Nutrition.

Stanyadosha (Vitiation of Breast milk), Stanya Shodhana (Purification of breast milk), Stanya Janana and Vardhanopakrama (Methods to enhance breast milk).

Dhatri (Wet nurse): Dhatri Guna and Dosha (Characteristics of Wet nurse), Concept of Breast Milk Banking.

Lehana (Elucturies).

B. Bala-Poshana (Child Nutrition):

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

6. Concept of immunity and immune enhancing measures with special reference to suvarna prashana.

Part B

1. Significant contributions of Kashyapa samhita, Arogya raksha Kalpadrum and other texts / treatises of Ayurveda such as Harita Samhita in the field of Kaumarbhritya including relevant parts from Brihatrai
2. Panchakarma: Principles of Panchakarma, and their application in pediatric practice.
3. Update knowledge of clinical pediatrics including recent researches in Kaumarbhritya.
4. Fundamentals of Hospital Management with special emphases on Pediatrics.
5. Navajata Shishu Kaksha Prabandhana (Nursery management; Nursery plan, Staff pattern, medical records.), Neonatal Intensive Care Unit, Visankramanikarana (sterilization), Knowledge of equipments used in nursery.
6. Drug and Doses in Pediatrics.
7. Scientific study of Bala Graha and its management.
8. Life Style disorders and its management – Obesity, computer vision syndrome etc.

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

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

Pattern of practical examination:

100 Marks

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

Reference Books

1. Kashyapa Samhita Complete Hindi translation by Satyapal Vidhyalankara English translation by Prof. Premvati Tiwari
2. Principles & Practice of Pediatrics in Ayurveda: CHS Shastry.
3. Child Health Care in Ayurveda: Abhimanyu Kumar
4. Ayurvedic concepts of human Embryology: Abhimanyu Kumar
5. Kaumarbhritya by Prof. D.N. Mishra
6. Kaumarbhritya Ke Antargata Balgraho Ka Kramika Evam Vaigyanika Adhyana by Prof. Chanchal Sharma
7. Notes on Kaumarbhritya-by Dr. Dinesh K S
8. Pran – Pratyagamanam- by Dr.B.M Singh
9. Ayurveda Dwara Matra Evam Shishu Paricharya by Dr. K S Patel, V K Kori & Rajgopal S

10. Kaumarbhritya related references from Charaka Samhita, Sushruta Samhita, Harita Samhita, Ashtang Sangrah, Ashtang Hridayam 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. Human Embryology by Inderbeer Singh
17. Human Genetics by Gangane.

*

11. KAYACHIKITSA

Theory – 400 Marks (100 Each)

Practical and Viva-Voce – 100 Marks

PAPER – I

100 Marks

FUNDAMENTALS OF KAYACHIKITSA

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

PAPER – II

100 Marks

SAMANYA ROGA CHIKITSA

Nidana/ Chikitsa including Nidana Parivarjana, Pathya, Apathya, Chikitsa siddhanta, Shamana, Shodhana, Panchakarma, Rasayana and Atyayika Chikitsa (Anupana, Drug/Non-

drug) as per Ayurvedic and conventional therapeutics of following Srotogata vyadhi including Kshaya, Vriddhi srotodushti janya vyadis such as:

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

PAPER – III

100 Marks

VISHISHTA ROGA CHIKITSA

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

1. Vata-Vyadhi:- Pakshavadha, Ekangvata Ardhanga Vata, Sarvanga Vata, Ananta Vata, Gata Vata, Gridhrasi, Ardita, Akshepaka, Apatantraka, Vishvachi, Avabahuka, Avarana, Urustambha.
Musculoskeletal disorders: Myopathies, Muscular dystrophies, Lumbago
Neurological disorders: Neurodegenerative disorders like Alzheimer's, Parkinsonism, CVA, Neuropathies, Facial palsy, G B Syndrome, Motor Neuron Diseases, Epilepsy, Sciatica.

2. Sankramakroga: Sheetala, Masoorika, Updansha, Phiranga, Gonorrhoea, Chancroids, Syphilis.
3. Manasa vyadhi:- Unmada, Apasmara, Atatvabhinivesha, Mada, Moorcha, Sanyasa. Common psychiatric disorders: Classification of psychiatric ailments. Disorders of thought like Schizophrenia. Disorders of Mood like Mania, Depression. Neurosis, personality disorders, psychosexual disorders.
4. Metabolic disorders: Gout, Dyslipidaemia, Atherosclerosis, Metabolic Syndrome.
5. Endocrinal disorders: Disorders of Pituitary, Thyroid, Adrenal Medulla, Reproductive hormones.
6. Parasitic/Infective/ Communicable disorders: Shlipada, Filariasis, Vishama Jvara, Malaria, Manthara Jwara, Enteric Fever, Dengue, Chickenpox, Measles, Influenza, Kalaazar, Mumps, Rabies, Poliomyelitis, Plague, Meningitis, Encephalitis, Chikungunya, HIV/AIDs, Common worm infestations.
7. Neoplastic disorders and their management strategies. Role of ayurvedic medicines in cancer care including palliative care.
8. Autoimmune diseases: Myopathies, Rheumatic fever, SLE.
9. Common poisonings and their management like Insecticide/ Pesticide poisoning, Snake poisoning, Vegetable and chemical poisoning, Substance abuse.
10. Janapadodhvamsa Vikara:- Environmental diseases Causes, impact on human health and their management.
11. Ashtonindhataya Prusha and their clinical relevance.

PAPER – IV

100 Marks

ADVANCES IN KAYACHIKITSA

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

1. Hospital management strategies, Infrastructure, use of IT technology, essential manpower, equipment, Patient care, management and coordination with contemporary health institutions and field institutions.
2. National Health Campaigns of AYUSH and components under NRHM.
3. Clinical Research in Kayachikitsa and its application in clinical medicines as per new evidence base in different systemic disorders.
4. New emerging health challenges and ayurvedic medicines: Chikungunya, HIV/AIDs, Swineflu, Chickenflu, Dengue, Restless leg syndrome, Sick building syndrome, Fibromyalgia.
5. Role of Ayurveda in immune-protection, immune-modulation and in management of other allergies and immunological disorders.
6. Indications and importance of Organ transplantation, Ethical and legal issues involved.
7. Knowledge of Geriatric care and terminal care medicine.

8. Basic knowledge of Gene therapy, Stem cell therapy, Genetic modeling and chromosomal disorders in different disease conditions.
9. Radio isotopes, disease and tumor markers in diagnosis and assessment of therapy.
10. Scope and methods of independent and collaborative research in kayachikitsa.
11. Disaster management strategies.
12. Application of advances in Rasayana and Vajikarana therapies.
13. Application of emerging trends in Panchakarma in medical management.
14. Physical medication and rehabilitation.

PRACTICALS -

100 Marks

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

Publication of One Scientific paper based on Thesis Research preferably in indexed journal is essential. Should have taken minimum 20 Theory and Practical classes of BAMS in concerned subject.

Clinical Ability Evaluation -60 Marks based on

- | | | |
|--|---|-----------|
| 1. Case records of 40 IPD Patients in Detail | - | 10 Marks |
| 2. Long case History-1: | - | 20 Marks |
| 3. Short Case history-1: | - | 10 Marks |
| 4. Medical procedures demonstration | - | 20 Marks |
| 5. Academic Competence evaluation- 40 Marks based on: | | |
| a. Viva | - | 30 Marks |
| b. Teaching and communication skills/ Thesis presentation in PPT /: | | 10 Marks. |

Reference Books:

- | | |
|---|----------------------------------|
| 1. Relevant portions of Brihatrayi and Laghutrayi with commentaries | |
| 2. Cikitsadarsha | - Pandit Rajeshvar Dutta Shastri |
| 3. Kayachikitsa | - Ramaraksha Pathak |
| 4. Rog Pariksha Vidhi | - Priyavrat Sharma |
| 5. Panchakarma Vigyan | - Haridas Sridhar Kasture |
| 6. Ayurvediya Nidana – Chikitsa Siddhanta | - Prof. R.H.Singh |
| 7. Kayachikitsa Vol. 1 and 2 | - Prof. R.H. Singh |
| 8. The Holistic Principles of Ayurvedic Medicine | - Prof. R.H. Singh |
| 9. Essentials of Kayachikitsa – II, Vol. 1 | - Dr. Aruna |
| 10. Kayachikitsa Vol. I-IV | - Prof. Ajay Kumar |
| 11. Panchakarma Therapy | - Prof. R.H. Singh |
| 12. Panchakarma Illustrated | - Prof. G.Shrinivasa Acharya |
| 13. Practice of Ayurvedic Medicine (Kayachikitsa) | - Prof.A.K.Tripathi |
| 14. Nidanachikitsa Hastamalaka | - Prof.R.R.Desai |
| 15. Clinical Methods in Ayurveda | - Prof. K.R. Srikantamurthy |
| 16. Aushadhi Gunadharm Shastra | - Gangadhar Shastri Gune |
| 17. Introduction to Kayachikitsa | - Prof. C. Dwarakanath |

- | | |
|---|------------------------|
| 18. Samprapti lakshnanayoh Sambandhah | - Prof.Sadashiv Sharma |
| 19. Nidana Panchak | - Prof.S.C.Dhyani |
| 20. Kayachikitsa | - Prof.S.C.Dhyani |
| 21. Davidson's Principles and Practice of Medicine. | |
| 22. API Text book of Medicine | |
| 23. Harrison's Text Book of Medicine. | |
| 24. Cecil Text Book of Medicine. | |
| 25. Relevant texts of concerned subjects. | |

*

12. MANOVIGYAN AVUM MANASAROGA

Theory- 400 Marks (100 Each)

Practical and Viva-Voce – 100 Marks

PAPER – I

100 Marks

MANOVYAPARA EVAM MANOVIGYANAM

1. Prachya – arvachya matanusara Mano vighyanasya Bhutavidyayah, Amnusha tatha Grahadinam parichaya, setihasa.
2. Prachya arvachya matanusara Manasah Nirupanam- Concept of Manas from Ayurved and modern perspective.
3. Vividha darshananusara Manasah varnanam:- Concept of mind in various philosophies.
4. Manasah Svarupam – Structure of mind, Manasah Sthanam- Location of mind, Manovishayah- Objects of mind, Manogunah (Anutva and Ekatva) – Attributes of mind Minuteness and oneness, Manasah Ubhayatmakatvam-Duality of Manas, Manasah Dravyatvam Karanatvam cha- mind as a substance and tool, Manasah Karanadravyatvam-mind as causative substance, Manodoshah- (Rajas and Tamas), Manasah Bhoutikatvam- Elemental nature of manas Introduction to concept of Buddhi and Ahamkara – intellect and ego, Manasah Ahamkarikatvam –origin of mind from ego (samkhya), Manasah Annamayatvam- Relationship between food and mind, Manasah trigunatmakatvam (Sattva, Rajas, Tamas)- mind and the three major attributes, Manasah jadatvam- inertia of mind, Manasah dhatutvam-mind as a component of living being, Manasah Karma- Actions of Manas.
5. Manovyapara Nirupanam
6. Manovyapare Pranodana sadhaka Bodhakadi Doshanam Sambandhah-Relation of humoral fractions such as Prana, Udana, Sadhaka- Bodhaka in the activity of Manas, Concept of Ojas and Manas

7. Katham prakopayanti ManoDoshah sharir Doshan?- How does manasika Doshas aggravate sharirika Doshas?
8. Indriya panchapanchakam- five factors in relation to the mental faculties.
9. Gyanendriyanam vishayah- the objects of sense faculties.
10. Gyanotpatti prakriyayam Manaso pradhanyam- Importance of Mansas in cognitive process.
11. Indriyarthagrahananantaram Manasah vyapara avum gyanotpattou manaso dayitvam- Action of Manas in cognition after reception by respective Indriya.
12. Knowledge of Dirgha Shashkuli nyaya, Alata-chakra nyaya, Vichi-taranga nyaya, Kadamba-mukula nyaya.
13. Shabda-sparsha-rupa-rasa-gandhanam grahakam manah, tasya mahatvam cha – Manas as conductor of sense objects and its importance.
14. Vayuh indriyanam udyojakah tatha Manasah preranam –Vayu as stimulator of indriya and initiator of manas.
15. Vakpravrittou Manasah yogadanam- Role of Manas in production of speech.
16. Pratisharire Manasah bhinatvam – concept of individuality of mind.
17. Chikitsya purushah- treatable person (living being).
18. Atma nirupanam- description of Atma, Sukshma sharirasya varnanam- description of subtle body, Atma manasoh sambhandhah- relation between Manas and Atma.
19. Antah karana chatusthaya (the four internal faculties).
20. Importance of Dhi, Dhriti and Smriti- importance of intellect, retention power and memory.
21. Role of manas in achieving Tri eshana and Chaturvidha Purushartha/chatur varga- role of manas in attaining the pursuits and four goals of life.
22. Concept of Satyabuddhi, Ritambhara Pragya and Upadha- concept of true and false knowledge.
23. Concept of Punarjanma, Purvajanmakrita karma, Karmaphala.
24. Manovaha Srotasam Parichaya- Introduction of Manovaha srotas(channels of mind)
25. Manovaha, Samgyavaha, Buddhivaha, Chetanavaha, Chetovaha, Vatavaha, Raktavaha adi upayukta Srotasam Manasroge varnanam- Description of Manovaha, Sangyavaha, Buddhivaha, Chetanavaha, Vatavaha, Raktavaha srotas etc in relation to Manasroga
26. Shatchakra nirupanam.
27. Sattvasara purusha-person with mental excellence.
28. Nidravichara- Concept of sleep, Swapna vichara- Concept of dream, Tandravichara- Concept of drowsiness.
29. Concept of manasprakriti – mental temperament, Concept of Manasa bhava in Shareerika prakriti.
30. Manasroge Manovigyane cha upayukta Paribhashika shabdanam vishleshanam technical terms used in psychology and psychiatry

31. Manas roge upayukta Samhitanam satika adhyayanam- study of portions of treatises useful in psychiatry along with their commentary.
32. Arvachina mano vighyanasya adhishtana siddhantah, mastishka karmanam sthapanam cha-Fundamentals of modern psychology and functions of brain.
33. Applied Neuro-anatomy and physiology, Neurotransmitters, Psychoneuro immune endocrinology.
34. Manasah swabhavika pratirodhah – Defence mechanism of mind.
35. Shishu manas-shastra, vikasatmaka Manas-shastra-Shishu, Bala, Kumarah, Proudah, Vriddhah cha- Essential elements of psychology, developmental psychology: child, adolescence, adult and aged.
36. Bhava, Sheela, Buddhi, Smriti, Prerakatva adinam gyanam- Concept of Mood, behaviour, attitude, emotions, intelligence, memory, motivation, perception etc.
37. Manas Swasthya Evam Manoroganam Paribhasha – Definition of mental Health and psychiatric disorders.
38. Manasrogvigyansya mahatvam, phalam, prayojanam, prabhavashcha

PAPER – II

100 Marks

MANOVAIKARIKI EVAM BHUTAVIDYA

1. Manovega, Mano vikarah, Mano Dosha, Mana Sahrirayoh paraspara anuvaidhayitvam mutual symbiosis of sharir and manas, Manasah chanchalatvam, Manaso vyadhinam ashrayatvam, Manasrogeshu Doshanam paraspara anubandhah, Manasvyadhi utpattou sharir Doshanam vikarakarivam , Indriyadinam hinamithyatiyogah. Prajnaparadha, Purva janma krita karma tatha Papa karmasya rogkarakatvam, Adharmasya Achararasayana upekshanasya cha rogkarakatvam.

Bhutavidya – Definition and scope with applied aspects: Divergent views

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

Manovikriti- Psychopathology

1. Bijapradosha and Kulaja bhava in manas roga – Genetics and hereditary factors in Psychiatry.
2. Manas roganam prachya arvachina matanusarena vargikaranam

3. Classification of manas rogas yatha kevalamanas, manas sharir, shariramanasika, agantuja adayah
4. Understanding of Parapsychology and its role in overt psychiatric disorders.
5. Recent ICD and DSM classification.

Manas Rogi pariksha vidhi-Psychiatric examination

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

PAPER – III

100 Marks

MANAS ROGA CHIKITSA

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

1. Unmada (Psychosis)- Nija, Agantuja Unmada, Bhutonmada, Vishaja Unmada, Sutikonmada, Smaronmada, Tattvonmada- Paronoia, Mano dukhaja Unmada –Stress related disorders.
2. Apasmara- seizure disorders
3. Apatantraka – hysterical convulsions
4. Tandavaroga – Chorea
5. Yoshapasmara – conversion disorders
6. Atatvabhinivesha- Obsessive compulsive disorders
7. Vishada- Depressive illness
8. Gadodvega – Hypochondriasis.
9. Mada, Murchha, Sanyasa- sensorial disorders
10. Madatyaya, Panatyaya (Panavibhrama, Paramada, Panajirna) – Substance abuse disorders.

11. Nidra vikara(Sleep disorders), Klama, Tandra, Glani.
12. Bhrama, Vibhrama – Delusional disorders.
13. Chittodvega – Generalized Anxiety disorders.
14. Smriti vikara (memory disorders)
15. Manasika klaibya, Sushrutokta Napumsakata
16. Manasa Dosh Vikara- Kama, Krodha, Lobha, Moha, Irshya, Bhaya, Mana, Mada, Dambha, Ahamkara, Harsha, Matsarya, Iccha, Dvesha.
17. Mood and affective disorders – major depressive disorders, mania and their possible Ayurveda co-relates.
18. Schizophrenia
19. Personality disorders
20. Behavioural disorders
21. Organic mental disorders
22. Post traumatic stress disorders
23. Psycho sexual disorders
24. Eating disorders
25. Somatoform and dissociative disorders
26. Senile psychiatric disorders – Demantia Alzhiemer's disease, Parkinsonism, Menopause, Andropause and their possible Ayurveda co-relates.
27. Adhi- Vyadhi Roganam Manasika Prabhava Chikitsa Cha –Psychosomatic disorder Bhayaja and Shokaja Atisara, Kamaja and Shokaja Jwara, Tamakashwasa, Prameha, Amlapitta, Parinamashula, Grahani, Uccha Raktachapa(Hypertension), Shula (pain disorders), Twak Vikara.
28. Jirna- Asadhya Sopadrava Vyadhinam vivechanam – Mental problems in chronic incurable diseases like AIDS, Cancer etc.
29. Mano prakriti vikara – psychopathic personality.
30. Jivana Shaili Tatha mano sammarda janya rogah – Life style and stress related disorders.
31. Shishu tatha Kumara Manoroga – Child and adolescent psychiatry.
32. Jadata, Buddhimandya, Adhyayana Akshamata – Mental deficiency, mentally challenged and learning disabilities.
33. Achara vaikalya – Conduct disorders
34. Manobhava vikara – Emotional disorders
35. Cerebral palsy, infantile autism, Attention Deficit Hyperactive disorders, Tourette's disorder with their possible Ayurveda co-relates.
36. Preventive aspects in Manas Roga – Achara Rasayana, Sadvritta, Shodhana, Rasayana and Vajikarana
37. Manas Roganam Samanya Vishesha Chikitsa Siddhantanam Varnanam,- Daiva Vyapashraya, Yukti Vyapashraya, Sattvavajaya, Adravyabhuta Chikitsa Upayah.
38. Sattvavajaya Chikitsa: Its application and techniques viz. Dhi, Dhairya, Atma Janya, Kula Janya, Kala Janya, Desha Janya, Bala Janya, Samadhi, Santwana, Ashwasana,

- Ayurveda Psycho shock therapy viz. Trasana, Bhayadarshana, Adbhuta Darshana, Vismarana, Vismapana and Pratidvandwi Bhava with their scientific basis.
39. Role of Rasayana, Medhya Rasayana, Achara Rasayana and Vajikarana in Manasa Roga
 40. Pathyapathya in Manasa Roga.
 41. Manas Rogopayogi Vividha Aushadheenam Vivechanam: Ekamulika (Single drug), Panchavidha Kashaya Kalpana, Rasa Rasayana etc.
 42. Brihatrayee, Yogaratnakara, Sharngadhara, Gadanigraha, Bhavaprakasha, Sahasrayogaukta vividha yoganam vivechanam: Brahmi, Mandukaparni, Vacha, Jatamansi, Yashtimadhu, Shankhapushpi, Kushmanda, Ashwagandha, Kushtha, Tagara, Guduchi, Jyotishmati, Srikhandadichurna, Saraswatachurna etc. Swarna, Swarnamakshika Bhasma, Rajata, Pravala, Mukta, Manahshila, Krishna Chaturmukha Rasa, Krishnachaturbhuj Rasa, Brihatvatachintamani Rasa, Vata kulantaka Rasa, Manasmitra vataka, Smritisagar Rasa, Unmada gajakesari Rasa, Apatantrakari vati, Kumarakalyana Rasa etc. Kalyanaka ghrita, Brahmi ghrita, Mahapanchagavya ghrita, Mahapaishachika ghrita, Mahabhutarava ghrita, Kushmanda ghrita, Purana ghrita, Panchagavya ghrita etc.
 43. Saraswatarishta, Ashwagandharishta, Chittachandirasava etc.
 44. Himasagara taila, Tungadrumadi taila, Gandharaja taila, Brahmi taila, Sidharthaka agada etc.
 45. Dhupa, Nasya, Lepa, Anjana yogas useful in Manas Roga.
 46. Folk Medicine in Manasa Roga.
 47. Mano Bheshaja vinyanam – Essentials of Psycho pharmacology, knowledge of Biological and Pharmacological Therapies in the Management of Various Psychiatric diseases such as hypnotics, sedatives, anxiolytics, mood stabilizer/elevators, antidepressants, antipsychotics, anticonvulsants, Electro-convulsive therapy(ECT) and its applied aspects.
 48. Psychological aspects of Disaster Management- Apada evam Manovigyan.

PAPER –IV

100 Marks

MANASA ROGI ANYA CHIKITSA EVAM YOGA

Panchakarma

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

Yoga

Manovigyana sandharbhe yogasya vaishishtyam, Yogashastrasya upayogita mahatvam cha- Importance of Yoga in manovigyana. Importance of Yogashastra and its application in manovigyana.

1. Yogasya darshanika svarupagyanasahitam tasya astanganam samichinam Gyanam knowledge of Ashtangayoga and its applicability.
2. Ayurveda drishtya yoga adhyayanasya upayogita, Ayurveda shastre pratipaditah yogasya siddhantah.
3. Satvavajaye gyana-bhakti-karma yoganam manasa roge vivechanam-Hatha yogascha Description of Satyavijaya, Gyan, Karm and bhakti Yoga. Hathyoga and manasvighyan.
4. Role of Shatkarma – Kapalabhati, Trataka etc. in Manasa Roga.
5. Naishthiki chikitsa in Manasa Roga.
6. Therapeutic potential of Yoga, Psycho biological effects of Yoga, Spiritual therapy and Yoga.
7. Pranayama and contemporary yoga practice in Manas Roga.

Other allied therapeutic Procedures:

Various methods of psychotherapy and counselling techniques, transactional analysis, behavioural therapy, psycho analysis.

Swapna Samvahana chikitsa –Hypnotherapy-Past life Regression and Age Regression Therapy in Manasa Roga.

Knowledge of psychiatric emergency and their management.

Knowledge of surgical intervention in Manasa Roga

Recent advances and updates in concepts, drugs and therapeutic procedures in Manasa Roga.

Content of the Practicals

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

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

Visit to Mental Hospitals

Pattern of Practical Examination	-	100 Marks
1. Practical Record Book	-	10 Marks
2. Bed side examination		
a. Short Case	-	10 Marks
b. Long Case	-	25 Marks
3. Assessment of Scales and inventories (Ayurveda and Conventional)	-	10 Marks
4. Thesis Presentation (PPT)	-	25 Marks
5. Viva-voce	-	20 Marks

Reference Books-

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

- | | |
|--|-----------------------------|
| 24. Sahassrayoga | - Nishteswar and Vaidyanath |
| 25. Ayurveda and the Mind | - David Frawley |
| 26. Manasa Roga Vijnana | - Balakrishna |
| 27. Comprehensive Textbook of Psychiatry | - Kaplan and Sadock's |
| 28. Psychiatry for medical students | - Robert J Waldinger |
| 29. Introductions to Psychology | - Morgan / King. |

*

13. RASAYANA & VAJIKARANA

Theory- 400 Marks (100 Each)

Practical and Viva-Voce- 100 Marks

PAPER – I

100 Marks

CONCEPT & PRACTICE OF RASAYANA

1. Basic fundamentals and concepts of Rasayana

- a) Derivation, definition and synonyms of Rasayana
- b) Classification of Rasayana
- c) Understanding rasayana in perspective of:
 - Neutraceutical action
 - Immunomodulation
 - Oxygen free radicals & Antioxidant activity.
 - Adaptogens.
 - Cell regenerative activity
 - Genoprotective activity
 - Micronutrients
 - Anabolic activity
- d) Interpretation of different types of Rasayana
- e) Prakriti-Guna /character wise Rasayana
- f) Sara wise rasayana
- g) Dhatu specific rasayana
- h) Indriyanusararasayana like netryya, hridya, tvacchya etc.
- i) Srotas wise rasayana
- j) Rasayana for specific occupation.
- k) Season wise rasayana
- l) Molecular biology in relation to rasayana
 - Human genome project
 - Genetics and Gene therapy
 - Stem cell theories

- m) Introduction to Bioinformatics
 - n) Concept of Bala, types of bala, vriddhikshayahetu
 - o) Knowledge of measures to improve bala
 - p) Concept of ojas. Types of ojas. Ojo-vriddhi-kshaya-karabhava.
 - q) Ojodustiprakara, hetu,samprapti and their management
 - r) Immunology
 - Immune system & components
 - Knowledge of immune mechanisms
 - Immune disorders
 - Rasayana as immunomodulator
 - Rasayana- immune specific/immunoglobulin specific
 - Rasayana in Immune compromised diseases like, HIV/AIDS, tuberculosis, Cancer, liver cirrhosis etc.
2. Concept of jara (geriatrics) and ageing (gerontology)
 3. Concept of svabhavabalapravrittavyadhi with special reference to Jara; its classification (kalaja & akalaja), etiopathogenesis and management
 4. Organ wise, system wise Common geriatric disorders and their management
 5. Yogya, ayogya, vidhi and prayojana of:
 - Kutipravesika Rasayana
 - Dronipravesika Rasayana
 - Karapratichiya Rasayana
 - Indraprokta Rasayana
 - Vaatatapika Rasayana
 6. Concept & Practice of Achararasayana/Moral and Social code of conduct.
 7. Knowledge & application of svasthavritta measures.
 8. Swasthyanuvartaka Rasayana.
 9. Rasayana as nutritional supplements.
 10. Panchakarma and its role in Rasayana.
 11. Application of Kamyā Rasayana to achieve – Smriti, Medha, Bala, Prabha, Varna, Svāra.
 12. Knowledge of Vayasthaapana/Ayushya Rasayana.
 13. Naimittika Rasayana – Vyadhihara and vyadhiapunarbhava Rasayana.

PAPER – II

100 Marks

CONCEPTS AND PRACTICE OF SUPRAJA AND VANDHYATVA

1. Etymology, derivation, definition, synonyms of vandhya, apatya, santaankara, supraja.
2. Importance of fertility.
3. Essentials of fertility.
4. Garbhasambhava samagri.
5. Garbhaadana paricharya.

6. Garbhotpatti.
7. Shukra vridhhi-kshaya hetu, lakshana and chikitsa.
8. Shukrapradoshajavyadhi and its management.
9. Shukradustihetu, prakara, lakshana, diagnosis and management.
10. Retodustiprakara, hetu, lakshana and chikitsa.
11. Sukravahasrotodusti karana, lakshana, diagnosis and management.
12. Disorders of spermatogenesis (etio-pathogenesis, diagnosis and management)
 - a. Oligozoospermia, asthenozoospermia, teratozoospermia, azoospermia, aspermia, pyospermia, necrozoospermia, OAT syndrome, sertoli cell only syndrome, Klinefelters syndrome, Kallaman's syndrome, Dal-castele's syndrome etc.
13. Obstructive azoospermia-diagnosis, medical management and knowledge of surgical procedures.
14. Retrograde ejaculation and other ejaculatory disturbances in respect to fertility knowledge, diagnosis and management.
15. Reproductive endocrinal disorders and management.
16. Immunological infertility – knowledge of various components involved in immunological infertility, mechanism, diagnosis and management.
17. Sperm function tests, semen and cervical mucus interaction, post coital test.
18. Karyotyping and interpretation.
19. Chromosomal, genetic disorders pertaining to fertility and management.
20. Practice of Genetic counseling.
21. Normal and abnormal sexual differentiation.
22. Applied aspects of Panchakarma in rasayana and vajikarana.
23. Applied aspects of uttarbasti **in infertility**.
24. Supraja (eugenics): preconceptional measures for health progeny.
25. Pumsavana karma for healthy progeny.
26. Introduction to MART (Medically Assisted Reproductive Technologies) : IUI, IVF-ET, ICSI, etc.
27. Testicular biopsy – indications, surgical procedure, interpretation of HPE results.
28. Knowledge of cystoscopy – diagnostic, interventional.
29. Scrotal scan & Doppler.
30. Varicocele : diagnosis, medical and surgical management.
31. Disorders of accessory sex glands and their management.

PAPER – III

100 Marks

CONCEPTS AND PRACTICE OF VAJIKARANA

1. Etymology, derivation, definition, scope and understanding of word vajikarana and its application in present scenario.
2. Physiology of sexual act including mechanism of erection, ejaculation and orgasm.
3. Hypothalamo-pituitary-testicular axis.
4. Psycho-neuro-endocrino-vasculogenic mechanism of sexual activity.

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

PHARMACO-THERAPEUTICS OF RASAYANA & VAJIKARANA

1. Definition, derivation, etymology, synonyms of vajikara, vrishya.
2. Pharmacology and pharmacodynamics of rasayana and vajikarana drugs.
3. Definition, scope and understanding of:
 - a. Rasayana
 - i. Vyadhibalavirodhi
 - ii. Vyadyutpadakapratibandhak
 - iii. Vayasthapan
 - b. Sukrajanaka/Sukrala
 - c. Sukrapravarthaka/rechaka
 - d. Shukrashodhana
 - e. Shukrastambhaka
 - f. Sukrashoshaka, vyavayi/vikashi
 - g. Kamoddeepana/kamottejaka etc.
4. Pharmacology of drugs belonging to:
 - a. Sukrajanaka/sukrala
 - b. Sukrapravarthaka/rechaka
 - c. Shukrashodhana
 - d. Shukrastabhaka
 - e. Sukrashoshaka, vyavayi/vikashi
 - f. Kamoddeepana/kamottejaka etc.
5. Pathya and apathy in relation to shukradhatu
6. Formulation, indications & uses of various Vasis in Vajikarna such as: Vrishyabasti, Vajikaranaabasti, Yapanabasti etc.
7. Pharmacology of:
 - a. Akarakarabha
 - b. Amalaki
 - c. Aswagandha
 - d. Bhallataka
 - e. Bhang
 - f. Bhrihati
 - g. Gokshura
 - h. Guduchi
 - i. Haritaki
 - j. Ikshu
 - k. Jatiphala
 - l. Jivanti
 - m. Kapikacchu
 - n. Kokilaksha
 - o. Ksheeravidari

- p. Mandukaparni
- q. Masha
- r. Punarnava
- s. Shatavari
- t. SvetaMusali
- u. Yastimadhu etc
- v. Indraprokta Rasayanaa

8. Pharmacology of following Rasaushadhis:

- a. Abhraka
- b. Naga
- c. Rajata
- d. Shilajit
- e. Svarna
- f. Svarnamakshika
- g. Vanga
- h. Yashada
- i. Loha, etc

9. Ingredients, properties, indications and phalasaruti of:

- Agasthya Rasayanaa
- Ajamamsa Rasayanaa
- Akarakarabhadvati
- Amrita Prasha Gritha
- Aswagandha Gritha,
- Avalguja Rasayanaa
- Balaswagandha Taila
- Bhallathaka Rasayanaa
- Brahma Rasayanaa
- Brihatcchagalladyagritha
- Chandraprabhavati
- Chyavanaprasha
- Gokshuradi Guggulu
- Haritakyadi Rasayana
- Jatiphaladi Vati
- Kaminividravana Rasa
- Khadira Rasayana
- Kushmanda Rasayanaa
- Lasuna Rasayana
- Mahamasha Taila
- Makaradhwaja
- Nagabala Rasayana

- Narasimha Rasayanaa
- Pippali Vardhamana Rasayanaa
- Pippali Rasayana,
- Purnachadrodaya Makaradhwaja
- Shatavari Ghrita
- Shilajatu Rasayana,
- Siddha Makaradhwaja,
- Srigopala Taila,
- Vanari Gutika
- Vasantakusumakara rasa,
- Veeryastambha Vati,
- Vidanga Rasayana,
- Vidaryadi Ghrita,
- Vrishya Ghrita

10. Pharmacology & Pharmacodynamics of various vajikara, vrishya and rasayana vasti.
11. Neuro-psycho pharmacology of rasayana, vajikarna drugs.
12. Endocrinological aspects of rasayana, vajikarana drugs, prajasthapak and Shukravardhak/shodhak drugs.
13. Recent advances in rasayana and vajikarana drugs, formulations and therapeutic techniques.

PRACTICALS

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

PRACTICALS-

100 Marks

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

Publication or acceptance of one Scientific paper based on Thesis Research preferably in indexed/peer reviewed journal is essential. Should have taken minimum 20 Theory and Practical classes of BAMS in concerned subject.

Clinical Ability Evaluation- 60 Marks based on

1. Case records of 40 IPD Patients in Detail 10 Marks.
2. Long case History -1: 20 Marks.
3. Short Case History-1: 10 Marks.
4. Medical procedures demonstration 20 Marks.
5. **Academic Competence evaluation** – 40 Marks based on:
 - a. Viva 30 Marks.
 - b. Teaching and communication skills/ **Thesis presentation in PPT** /: 10 Marks.

Reference Books:

1. Relevant portions of Brihatrayi and Laghutrayi with commentaries
2. Ayurvediya Nidana- Chikitsa Siddhanta - Prof. R.H.Singh.
3. Kayachikitsa Vol. 1 and 2 - Prof. R.H.Singh.
4. The Holistic Principles of Ayurvedic Medicine- Prof. R.H.Singh.
5. Kayachikitsa Vol. I-IV - Prof. Ajay Kumar Sharma
6. Panchakarma Therapy - Prof. R.H.Singh.
7. Panchakarma Illustrated - Prof.G.Shrinivasa Acharya
8. Practice of Ayurvedic Medicine (Kayachikitsa)- Prof.A.K.Tripathi
9. Nidanachikitsa Hastamalaka - Prof. R.R.Desai
10. Clinical Methods in Ayurveda - Prof. K.R. Srikantamurthy
11. Aushadhi Gunadharm Shastra - Gangadhar Shastri Gune
12. Davidson's Principles and Practice of Medicine.
13. Rasayan and vajikarana by Dr.O.P.Upadhaya.
14. Rasayan and vajikarana by Dr. Singla.
15. Harrison's Text Book of Medicine.
16. Cecil Text Book of Medicine.
17. Relevant texts of concerned subjects.

*

14.SHALYA TANTRA – SAMANYA

Theory- 400 Marks (100 Each)

Practical and Viva-Voce -100 Marks

PAPER – I

100 Marks

SHALYA SIDDHANTA – FUDAMENTALS OF SURGERY

1. Sushruta's contributions in surgical concepts and practices.

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

VISHISHTA SHALYA VIGYANA – SHALYA TANTRA SPECIALITY

1. Yoga Vidhi – Practical and Experimental training.
 - a. Practice of surgical procedures on different models.
 - b. Training of Laproscopic and Endoscopic procedures.
2. Vrana – Wound management.
 - a. Management of Nija Vrana, Agantuja Vrana, Dushta Vrana and Nadi Vrana.
 - b. Vrana Chikitsa – Shasti upakramas, Pathya-apathya.
 - c. Types and management of Dagdha Vrana – Burns and scalds.
 - d. Infection of hands and foot, Diabetic wound, Prameha Pidaka – Diabetic carbuncle and its management.
 - e. Management of Pressure ulcers, Venous ulcers and other chronic non-healing ulcers.
 - f. Gangrene and its management.
3. Mutra Roga – Urological diseases.
 - a. Applied anatomy and physiology of urogenital system.
 - b. Investigations of Mutravaha Srotas – Urinary tract.
 - c. Aetiopathogenesis and surgical procedures of Ashmari – Urinary stone diseases.
 - d. Kidney and ureter – Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Neoplasm, Hydronephrosis and Hydroureter.
 - e. Urinary bladder - Clinical presentation, Investigations and Management of Congenital anomalies, Trauma, Infection, Neoplasm, Diverticulum, Vesico-vaginal fistula, Atony and Schistosomiasis.
 - f. Urethra - Clinical presentation, Investigations and Management of Congenital anomalies – Hypospadias, Epispadias, Posterior urethral valve, Trauma, Infection and Neoplasm.
 - g. Prostate and seminal vesicles – Benign and malignant enlargement of prostate, Prostatitis, Prostatic abscess and Calculi.
 - h. Penis – Clinical presentation , Investigations and Management of Congenital anomalies, Trauma, Infection, Phimosis, Paraphimosis, Peyronie’s disease and Neoplasm.
 - i. Testis and scrotum - Clinical presentation , Investigations and Management of Congenital anomalies, Ectopic testis, Trauma, Infection, Neoplasm, Testicular torsion, Hydrocele, Varicocele, Spermatocele, Chylocele, Pyocele, Haematocele, Epididymal cyst and Fournier’s gangrene.
 - j. Urinary diversions- Indications, types and techniques.
 - k. Retention of urine – Mutraghata and Mutrakruccha- Etiology, diagnosis and management .
 - l. Saraktamutra, Haematuria – Etiology, Clinical features and Management.

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

PAPER – III

100 Marks

ADHUNIK SHALYA KARMA – MODERN SURGERY

1. Fundamentals of modern surgery and treatment of surgical disorders including surgical anatomy, physiology and pathology.
2. Diagnosis and Surgical treatment of head and spine injury, thoracic and abdominal trauma. Blast injuries and management.
3. Diagnosis and Surgical Management of neck disorders e.g. salivary glands, thyroid, Thyroglossal cyst and Fistula, Branchial cyst and fistula, Cystic hygroma and Lymphadenopathies.
4. Diagnosis and Surgical management of breast diseases- Benign and Malignant breast tumours.
5. Diagnosis and Surgical measures of diseases of Gastrointestinal system –
 - a. Oral cavity – Oral ulcers, Oral cancer, Precancerous conditions, Submucosal fibrosis, Leukoplakia, Cleft lip and palate, Lip tumours, Mucosal cyst, Nasopharyngeal cancer, Tongue ulcer and cancer.
 - b. Oesophagus – Oesophageal varices, Dysphagia, Neoplasm, Strictures and Gastro oesophageal reflux.
 - c. Stomach and duodenum – Congenital anomalies, Injuries, Inflammation, Ulcer, Neoplasm, Pyloric stenosis, Acute dilatation, Hiatus hernia and Foreign bodies.
 - d. Pancreas – Congenital anomalies, Acute and Chronic pancreatitis, Calculi Neoplasm and Cysts of pancreas.
 - e. Peritoneum, Omentum, Mesentery, Retroperitoneal Space – Peritonitis, Abscess, Neoplasm, Mesenteric cyst, Torsion of mesentery, Vascular thrombosis, Retroperitoneal cyst and Fibrosis.
 - f. Abdominal mass – Diagnosis and Management.
 - g. Small intestine- Congenital anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Injuries, Foreign bodies, Diverticuli, Peutz-jeghers syndrome, Chron’s disease, Carcinoid tumours, Enteric perforation and Intestinal fistula.
 - h. Large intestine - - Congenital anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Injuries, Foreign bodies, Diverticuli , Faecal fistula, Amoebic ulcer and Familial polyposis coli.

- i. Caecum and vermiform appendix – Appendicitis, Appendicular abscess, Appendicular mass, Perforation, Carcinoid Tumor and other Neoplasm.
 - j. Gastrointestinal bleeding – Haemetemesis, Malaena, Haemobilia, Bleeding per anum – Causes, Diagnosis and Management.
 - k. Rectum and anal canal – Diagnosis and Surgical management of Congenital Anomalies, Inflammation, Ulcer, Neoplasm, Stenosis, Prolapse, Haemorrhoids, Fistula-in-ano, Fissure-in-ano, Anorectal Abscess, Incontinence, Injuries, Foreign bodies, Sacrococcygeal Teratomas and Pilonidal sinus.
6. Umbilicus and abdominal wall – Congenital anomalies, Umbilical infections, Sinus, Neoplasm, Abdominal dehiscence, Divarication of recti, Desmoid tumor and Meleney’s gangrene.
 7. Diagnosis and Surgical measures of diseases of Hepatobiliary system-
 - a. Liver – Abscess, Cyst – Hydatid cyst, Primary and secondary malignant tumours, Portal Hypertension and Budd-Chiari Syndrome.
 - b. Gall bladder and Bile duct – Congenital anomalies, Acute and Chronic Cholecystitis, Cholelithiasis, Neoplasm, Cholangitis, Stenosis, Choledocholithiasis, Choledochal cyst and Cholangiocarcinoma.
 - c. Spleen – Splenomegaly and Splenic Injury.
 8. Diagnosis and surgical measures for disorders of Artery, Vein, Ligaments, Muscles and Tendons.
 9. Diagnosis and surgical management of Hernias – Inguinal, Femoral, Umbilical, Incisional, Abdominal wall and other hernias.
 10. Endoscopic procedures – Oesophagogastroduodenoscopy, Sigmoidoscopy and Colonoscopy.
 11. Diagnostic and therapeutic laparoscopy.
 12. Anaesthesia – Definition, Types, Anesthetic agents, Indications, Contraindications, Procedures, Complications and management.

PAPER – IV

100 Marks

SHALYA VANGMAYA – SHALYA LITERATURE, RESEARCH AND DEVELOPMENT

1. Critical study of the Sushruta Samhita and relevant portions of Shalyatantra in Brihatrayee and Laghutrayee.
2. Knowledge and importance of Surgical Audit.
3. Medico legal issues – Understanding the implications of acts of omission and commission in practice. Issues regarding Consumer Protection Act in medical profession, National Health Policy, Implications in medico-legal cases like accidents, assaults etc.
4. Surgical ethics including Informed consent.
5. Knowledge of different type of experimental Surgical Model for Research in Surgery.
6. Sandhana Karma – Plastic reconstructive and cosmetic surgery. Fundamentals of Sandhana Karma –
 - a. Karna Sandhana – Auroplasty

- b. Nasa Sandhana – Rhinoplasty
 - c. Ostasandhana – Cheiloplasty
 - d. Grafts and Flaps – Techniques and applications.
 - e. Vascular anastomosis and grafts.
7. **Anushalya Karma** – Parasurgical procedures
- a. Kshara Karma, Kshara Sutra, Agnikarma and Raktamoskhana.

Pattern of Practical examination

100 Marks

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

Reference Books

- | | |
|--|------------------------------------|
| 1. Sushruta Samhita | |
| 2. Ashtanga Sangraha | |
| 3. Ashtanga Hridaya | |
| 4. Charaka Samhita | |
| 5. The Surgical instruments of the Hindus | - Girindranath Mukhopadhyaya |
| 6. Shalya Tantra Samuchchaya | - Pandit Ramadesh Sharma |
| 7. Shalya Vigyan (Part 1-2) | - Dr. Surendra Kumar Sharma |
| 8. Shalya Samanvaya (Part 1-2) | - Vd. Anantaram Sharma |
| 9. Shalya Pradeepika | - Dr. Mukund Swaroop Verma |
| 10. Sushruti | - Dr. Ram Nath Dwivedi |
| 11. Clinical Shalya Vigyan | - Dr. Akhilanand Sharma |
| 12. Bhagna Chikitsa
Deshpande | - Dr. Prabhakar Janardhan |
| 13. Kshara sutra management in anorectal ailments
and Dr. Kulwant Singh | - Dr. S.K. Sharma, Dr. K.R. Sharma |
| 14. Anorectal diseases in Ayurveda
Kumar Chowdary. | - Dr. Sizoria and Dr. Praveen |
| 15. Adhunik Shalya Chikitsa Siddhanta | - Dr. Katil Narshingham Udupa |
| 16. Agnikarma Technology Innovatiion | - Dr. P.D. Gupta |
| 17. Shalya Tantra Ke Siddhanta | - Dr. K.K. Takral |
| 18. Recent advances in the management of Arshas / Haemorrhoids –
Kumar | - Dr. P.Hemantha |
| 19. Arsha Evum Bhagander Mein sutra Avacharan | - Vd. Kanak Prasad Vyas |
| 20. Recent advances in Kshara Sutra | - Dr. M. Bhaskar Rao |
| 21. Leech application in Ayurveda | - Dr. M. Bhaskar Rao |
| 22. Kshara Sutra | - Dr. S.N. Pathak |
| 23. Shalya Shalakyia Tantra | - Vd. S.G.Joshi |

- | | |
|---|----------------------------|
| 24. Surgical ethics of Ayurveda | - Dr. D.N. Pande |
| 25. Text book of Surgery | - Sabistan |
| 26. Operative Surgery | - Rob and smith |
| 27. Bailey and Love's Short Practice of Surgery
Charles.V.Mann and R.C.G. Russell | - Norman.S. Williams, |
| 28. Fractures and Joint Injuries | - Watson-Jones |
| 29. Text books of Operative Surgery | - Farquharsons' |
| 30. Principles of Surgery | - Schwartz |
| 31. Emergency Surgery | - Hamilton Bailey's |
| 32. Surgical Pathology | - Willing Worth |
| 33. Clinical methods in surgery | - S. Das |
| 34. Text book of Operative Surgery | - S. Das |
| 35. Shalya Vigyan(Sachitra) | - Anantram Sharma |
| 36. Anushastra Karma | - Dr. D.N. Pande |
| 37. Concept of Vrana is Ayurveda | - Dr. Lakshman Singh |
| 38. Significance for Poorva Karma in Surgical Patient | - Dr. Lakshman Singh |
| 39. Sangyahan Prakash | - Dr. D.N. Pande |
| 40. A concise Text Book of Surgery | - S. Das |
| 41. A manual on Clinical Surgery | - S. Das |
| 42. A System of Surgical Diagnosis | - T.N. Patel |
| 43. A Practical Guide to Operative surgery | - S. Das |
| 44. Drugs and Equipment for Anaesthesia | - Arun kumar |
| 45. Manual of Surgical Instruments | - M.M. Kapur |
| 46. Ward Procedures | - Patel Mansukh. B |
| 47. Recent trends in the management of Arshas / Haemorrhoids – Dr. P Hemantha
Kumar | |
| 48. Primary Anaesthesia | - Maurice King |
| 49. Synopsis of Anaesthesia | - Lee |
| 50. Clinical Anatomy / Surgical Anatomy | - John E. Skandalakis |
| 51. Surgical Instruments of the Hindus | - Girindharnath Mukopadyay |
| 52. Outline of Orthopaedics
David Hamblen .L | - John Crawford Adams and |
| 53. Outline of Fracture | - John Crawford Adams |
| 54. Recent trends in the management of Bhagandara / Fistula-in-ano – Dr. P. Hemantha
Kumar | |
| 55. Principles and Practice of Agnikarma
Kanchan Shekokar | - Dr. Anand Kumar and Dr. |
| 56. Manipal Manual of Surgery | - Dr. Rajgopal Shenoy |

15. SHALYA – KSHARA EVUM ANUSHAstra KARMA

Theory – 400 Marks (100 Each)

Practical and Viva-Voce-100 Marks

PAPER -1

100 Marks

SHALYA SIDDHANTA – FUNDAMENTALS OF SURGERY

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

20. Gulma and Udara Roga.
21. Kshudra Roga.
22. Knowledge of antibiotics, analgesics, anti-inflammatory and emergency drugs in surgical practice.

PAPER – II

100 Marks

VISHISTA ANUSHAstra KARMA

1. Kshara Karma and Prayoga – Therapeutic Chemical Cauterization.

- a. Introduction of different types of Kshara, Method of preparation, Standardization, pH value, Application, Complications and its management.
- b. Preparation and standardization of Kshara sutra and Kshara Picchu – their application and complications.
- c. Surgical Anatomy and Physiology of Anus and Rectum.
- d. Arshas – Nidana, Purvaroop, Roopa, Samprapti, Prakara and Chikitsa.
- e. Haemorrhoids – Aetio-pathogenesis, types and its surgical management.
- f. Gudavidradhi – Nidana, Purvaroop, Roopa, Samprapti, Prakara and its Chikitsa.
- g. Anorectal abscesses – Aetio- pathogenesis, types, complications and its surgical management.
- h. Other methods of treatment of Haemorrhoids like Rubber band ligation, D.G.H.A.L, Radiofrequency, Ablation, Cryo-surgery, Cautery, Laser, Infrared coagulation and other advanced techniques.
- i. Bhagandara – Nidana, Samprapti, Prakara, Doshanusarachikitsa and application of Kshara Sutra.
- j. Fistula-in-ano – Definition, Aetio-Pathogenesis, Types, Diagnostic methods and its Surgical, Para Surgical Management including knowledge of fibrin Glue, Advanced Flap Therapies and other recent techniques.
- k. Parikartika – Nidana, Samprapti and its Chikitsa.
- l. Fissure-in-ano - Aetio-Pathogenesis, types and its surgical management.
- m. Sannirudhaguda and its Chikitsa.
- n. Anal Stenosis - Aetio-Pathogenesis and its surgical management.
- o. Anal Incontinence - Aetio-Pathogenesis and surgical management.
- p. Gudagatashalya – Diagnosis and its Management.
- q. Foreign body in rectum and anal canal – Method of diagnosis and its Management.
- r. Congenital Anorectal disorders and its surgical management.
- s. Gudaarbuda and Granthi and its Chikitsa.
- t. Anorectal tumour – Types and its surgical management.

2. Agnikarma – Therapeutic cauterization

- a. Introduction, definition and importance of Agnikarma.

- b. Agnikarma – Poorva, Pradhana and Paschat karma, various substances and Shalakas used for Agnikarma and their indications, contra-indications and complications.
- c. Diagnosis and management of burn, Dhumopaghata, Ushnavata, Sunburn, Frost bite and Electric burn.
- d. Knowledge of modern thermal equipment – Diathermy, Laser therapy, microwave, Ultrasonic technique, Cryo Technique and its uses.
- e. Effect of Agnikarma on skin, muscle tissue, nerves, metabolism, blood circulation and infective lesions.

3. Raktamokshana – Bloodletting Procedures

- a. Rakta- Importance, Formation, Panchabhoutikatva, RaktaSthana, Guna, Prakurta Karma and Rakta Sara Purashalakshanas. Suddha and Dushta Rakta Lakshanas. Rakta Pradoshaja Vyadhis.
- b. Introduction and importance of Raktamokshana.
- c. Indication and contraindication of Raktamokshana.
- d. Justification of usage of different types of Raktamokshana in various therapeutic applications.
- e. Different types of Raktamokshana – Shastrakritha – Siravyadhana, Prachana and Ashastrakritha – Shringa, Jaluka, Alabu and Ghati.
- f. Jalauka – Nirukti, Paryaya, Bhedha, Samgrahana, Samrakshana, Jalaukavacharana Vidhi – Poorva, Pradhana and Paschat karma.
- g. Knowledge of Leeches – Morphology, Anatomy, Physiology, Bio-chemical effects of its various constituents present in its saliva.

PAPER – III

100 Marks

ADHUNIKA SHASTRA KARMA – MODERN SURGERY

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

10. Diagnosis and surgical management of diseases of the Urogenital system.
11. Diagnosis and surgical management of diseases of scrotum and testis – Hydrocele, Ectopic testis and undescended testis.
12. Diagnosis and surgical management of Hernias – Inguinal, femoral, umbilical, incisional, abdominal wall and other hernias.
13. Endoscopic procedures – Oesophagogastroduodenoscopy, Sigmoidoscopy and Colonoscopy.
14. Diagnostic and therapeutic laparoscopy.
15. Minimal Access Surgery- Nadi Yantra and their applications and minimal Access surgery, laparoscopic anatomy of abdomen, diagnostic laparoscopy, Principles of diathermy, pre and post operative management of laproscopic cases, Laproscopic instruments, clips, staplers and port types, Recognition and management of laproscopic complications, Use and dangers of diathermy, Endoscopic suturing devices. Use and dangers of laser and other energy sources. Advanced instrumentation in laproscopic surgery. Harmonic scalpel.
16. Anaesthesia – Definition, Types, Anaesthetic agents, Indications, Contraindications, Procedures, Complications and Management.

PAPER – IV

100 Marks

SHALYAVANGMAYA

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

Pattern of Practical examination

100 Marks

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

Reference Books

1. Sushruta Samhita
2. Ashtanga Sangraha

3. Ashtanga Hridaya
4. Charaka Samhita
5. The Surgical instruments of the Hindus - Girindranath Mukhopadhyaya
6. Shalya Tantra Samuchchaya - Pandit Ramadesh Sharma
7. Shalya Vigyan (Part 1-2) - Dr. Surendra Kumar Sharma
8. Shalya Samanvaya (Part 1-2) - Vd. Anantaram Sharma
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. Sizoria and Dr. Praveen Kumar Chowdary.
15. Adhunika Shalya Chikitsa Siddanta - Dr. Katil Narshingham Udupa
16. Agnikarma Technology Innovation - Dr. P.D. Gupta
17. Shalya Tantra Ke Siddhant - Dr. K.K.Takral
18. Recent advances in the management of Arshas / Haemorrhoids - Dr. P. Hemantha Kumar
19. Arsha Evum Bhagander Mein sutra Avacharan - Vd. Kanak Prasad Vyas
20. Recent advances in Kshara Sutra - Dr. M. Bhaskar Rao
21. Leech application in Ayurveda - Dr. M. Bhaskar Rao
22. Kshara Sutra - Dr. S.N.Pathak
23. Shalya Shalakya Tantra - Vd. S.G. Joshi
24. Surgical ethics of Ayurveda - Dr. D.N. Pande
25. Text book of Surgery - Sabistan
26. Operative Surgery - Rob and smith
27. Bailey and Love's Short Practice of Surgery - Norman.S. Williams, Charles.V. Mann and R.C.G. Russell
28. Fractures and Joint Injuries - Watson-Jones
29. Text books of Operative Surgery - Farquharsons'
30. Principles of Surgery - Schwartz
31. Emergency Surgery -Hamilton Bailey's
32. Surgical pathology - Willing Worth
33. Clinical methods in surgery - S. Das
34. Textbook of Operative Surgery - S. Das
35. Shalya Vigyan (Sachitra) - Anantram Sharma
36. Anushastra Karma - Dr. D.N. Pande
37. Concept of Vrana is Ayurveda - Dr. Lakshman Singh
38. Significance for Poorva Karma in Surgical Patient - Dr. Lakshman Singh
39. Sangyahan Prakash -Dr. D.N. Pande
40. A concise Text Book of Surgery - S. Das
41. A manual on Clinical Surgery - S. Das
42. A System of Surgical Diagnosis - T.N. Patel
43. A Practical Guide to Operative Surgery - S. Das
44. Drugs and Equipment for Anaesthesia - Arun kumar
45. Manual of Surgical Instruments - M.M. Kapur

- | | |
|--|-----------------------------------|
| 46. Ward Procedures | - Patel Mansukh. B |
| 47. Recent trends in the management of Arshas / Haemorrhoids | - Dr. P. Hemantha Kumar |
| 48. Primary Anaesthesia | - Maurice King |
| 49. Synopsis of Anaesthesia | - Lee |
| 50. Clinical Anatomy/ Surgical Anatomy | - John E.Skandalakis |
| 51. Surgical Instruments of the Hindus | - Girindharnath Mukopadyay |
| 52. Outline of Orthopedics
David Hamblen. L | - John Crawford Adams and |
| 53. Outline of Fracture | - John Crawford Adams |
| 54. Recent trends in the management of Bhagandara / Fistula-in-ano | - Dr. P. Hemantha Kumar |
| 55. Principles and Practice of Agnikarma
Shekokar. | - Dr. Anand Kumar and Dr. Kanchan |
| 56. Manipal Manual of Surgery | - Dr. Rajgopal Shenoy |
| 57. A manual of Kshara Sootra Karma | - Prof. Ramesh Chand arya |

16. AYURVED DHANVANTRI – ASTHI SANDHI AND MARMAGAT ROGA
(ORTHOPAEDICS AND TRAUMATOLOGY)

Theory – 400 Marks(100 each)

Practical – 100 Marks

Paper – 1

100 Marks

ASTHI SANDHI MARMA ABHIGHAT SIDDHANTA

(Basic of orthopaedics, Marma & Trauma)

Part -A

1. Asthi Sharira – Etymology, Embryology, Applied Anatomy and Physiology of Asthi. Its Panchbhautik constitution, Poshan (Nutrition), Asthivaha Srotas, Upadhatu and Mala. Total Number and classification of Asthi. Concept of Dhatwagni in Ayurveda. Asthi Dhatu Kshaya and Vriddhi lakshana. Knowledge about Tarunasthi. Embryology, Ossification, Histology, Metabolism, Blood supply, Types and Biomechanics of Bone and cartilage.
2. Healing mechanism of bone and factors influencing the bone healing according to Ayurvedic and Modern concept. Biological and Biophysical technologies for the Enhancement of Fracture Repair. Knowledge of Sandhaniya and Ropaniya drugs.
3. Sandhi Sharira – Classification, Applied anatomy and Physiology of Sandhi. Classification, Applied anatomy and Physiology of joints and Healing Mechanism of a joint.
4. Marma Sharira – Basic concept of Marma, etymological derivation, definition, classification, Pramana, importance & applied aspect of individual Marma. Interpretation of each Marma in present context (*Regional surgical anatomy*). Detailed discription of Tri-Marma and Rogamarga. Prognosis of Marmaghata.
5. Sira, Dhamni, Lasika, and Snayu Sharira – Applied Anatomy and Physiology of Vessels, Lymphatics, Ligaments, Tendons, Muscles, Peripheral Nerves and Plexuses.
6. Vrana Vigyan – Etiology, classification, symptomatology, Prognosis, complications and management principles of Nija and Sadyo Vrana. Knowledge of Shashti Upakrama, Seevana (Suturing) and Vrana Bandhana (Bandaging).

Wounds and Ulcers – Etiology, classification, symptomatology, complications. Prognosis and management principles. Advanced wound closure techniques, suture materials, dressing / bandaging materials and techniques. Wound Healing Mechanism and Factors influencing wound healing.

7. Vranitopasniya – Management of Vranita (Wounded Person).
Management Principles of wounded persons. Assessment and immediate management of poly-trauma patient, crush syndrome and Acute Respiratory Distress Syndrome.
8. Vranashotha and Vidradhi – Inflammation and Abscess – Etiology, Pathogenesis, classification, stages and management.

Part – B

1. Knowledge of Orthopedic implants (*e.g. wires, screws, plates, nails, pin etc.*) and Instruments, equipments (*e.g. C- arm image intensifier and drill machines etc*), Splints, Orthotics and Prosthetics.
2. Orthopedic Radiology – Knowledge of Radiological imaging techniques (X-ray, CT Scan, MRI, USG, Radioisotop scanning) in Orthopedics.
3. Disability calculation, Bio-mechanics of gait.
4. Medico-legal aspects in Orthopedics – Handling of Medico- legal cases and issuing of MLCs, Understanding the implications of relevant acts e.g. Consumer Protection Act, Motor Vehicle Act, Right to information act and other relevant acts in force time to time.
5. Concept of Pain according to Ayurved and Modern Medical science.
6. Principles of Reconstruction, Transplantation, Bone grafting, Bone Banking, Bone transportation and Amputation.

Paper – II

100 Marks

ASTHI SANDHI MARMA GATA VYADHI VISESHA **(General Orthopedics)**

Part –A

1. Diseases of Asthi & Asthi Dhatu – Asthigata Vata, Asthivaha srothodushti, Asthi Dhatu Kshaya & Vriddhi, Adhyasthi, Asthi Vidradhi.
 - a. Congenital, Degenerative, Infective, Metabolic, Neoplastic and Miscellaneous Disorders of Bones.
2. Diseases of Sandhi – Sandhigat Vata, Vatarakta, Amavata and Kroshtukashirshaka.
 - a. Different diseases of joints – Etiology, classification, and treatment principles.
3. Vata Vikara – Asthi, Sandhi and Marma related Vata Vikara like Gridhrasi, Bisvachi, Avabahuka, Manyastambha, Khalvi, Dhatugata vata, Snayugata vata, Katishoola, Katigraha.
4. Diseases pertaining to Muscles, Tendons, Ligaments, Fascia and Bursae.
5. Diseases and Congenital anomalies of Spine e.g. Ankylosing spondylitis, Infective conditions, Tuberculosis, Spondylolisthesis, Inter – vertebral Disc Prolapse, Spondylosis, Scoliosis, Kyphosis, spina bifida, Hemivertebra, Block vertebra, Sacralisation and Lumbrisation etc.
6. Diseases and Congenital anomalies of Cervical Spine.
7. Diseases and Congenital anomalies Sacroiliac Joint and Bony Pelvis.

Part –B

1. Diseases and Congenital anomalies of Hand.
2. Diseases and Congenital anomalies of Foot
3. Diseases and Congenital anomalies of Limbs
4. Orthopedic Neurological Disorders. Post Polio Paralysis & Cerebral Palsy.
5. Snehana, Swedana and Panchakarma in Marma, Asthi and Sandhi Vyadhi.
6. Yogic Practices in Orthopedics.
7. Principles of Arthroplasty – Joint Replacement.
8. Introduction of Peripheral Vascular Diseases.
9. Pediatric Orthopedics.
10. Orthopedic Oncology
11. Introduction of Radiotherapy, Chemotherapy, Hormone Therapy, Immunotherapy and gene therapy.

Paper – III**100 Marks****ABHIGHATA VIGYAN – TRAUMATOLOGY****Part – A**

1. Bhagna – Etiology, classification, General Management Principles and Prognosis.
2. Modern concept of Bone and Joint injuries – Etiology, Epidemiology, Classification and General Management Principles.
3. Individual Bone and Joint injuries – Etiology, Epidemiology, Classification and Management Principles.
4. External immobilization techniques – Classical and traditional Kusha – splints, Plaster of Paris Technique, Knowledge of different splints and Plasters
5. Pathological Fractures including Fragility fractures, Stress Fractures and Peri-prosthetic Fractures.
6. Fractures in Children - Etiology, Epidemiology, Diagnosis, management and complications.
7. Prognosis of skeletal injuries, Complications of Fractures and Joint Injuries e.g. Myositis ossificans, Volkman’s ischemic contracture, Compartment syndrome, Crush Syndrome, DVT, Thromboembolism, Fat Embolism.
8. Rehabilitation of trauma patient and Principles of Sukhchestaprachara – Physiotherapy and its use in skeletal injuries.

Part – B

1. Treatment Principles of Asahanta Bhagna – Non-unions, Vishmolvana Sahanta – Malunions and Ignored or un-reduced dislocations.
2. Diagnosis and management principles of injuries of vessels, Nerves, Tendons and Ligaments.
3. Head, Chest and Abdominal Injuries and management principles.
4. Pelvis and Spine injuries and their management principles.
5. Sports Medicine- Sports medicine and sports related Shoulder injuries, Elbow injuries, Knee injuries, Ankle injuries, Recurrent Dislocations and other sports related injuries.

6. Knowledge of Marma Chikitsa like Kalari Marma – Martial Art, Adankal – Marmaghata Chikitsa in Siddha Marma in trauma and sports medicine.

Paper –IV

100 Marks

SHALYA KRIYATMAKA – OPERATIVE ORTHOPEDICS

Part A

1. Agropharniya Vigyan – Knowledge about Pre-operative preparation and post operative care, Operation Theatre and its requirements regarding Instruments /Equipments and Personnel.
2. Fumigation of Operation Theatre and sterilization of Instruments, Equipments, Linen and Implants by various techniques.
3. Anu Shalya Karma (Para surgical procedures) in orthopaedics – Role of Kshara Karma, Agni Karma, Raktavsechana in orthopaedic disorders.
4. Knowledge of various Implants regarding their material, types, mechanics and practical use.
5. Knowledge of Conventional and advanced procedures being done for Different Bone and Joint Injuries e.g. Open Reduction and Internal Fixation, Closed Reduction and Internal Fixation, External fixators and other operative techniques.

Part – B

1. Knowledge of Plastic Surgery in Orthopedics and Bone grafting techniques.
2. Knowledge of various surgical procedures being done for Different Bone and Joint Diseases.
3. Hand Surgery for Diseases, Deformities and Injuries.
4. Foot Surgery for Diseases, Deformities and Injuries.
5. Amputations and Arthrodesis – General Principles of Amputations / Arthrodesis and regional Amputations.
6. Knowledge of Diagnostic and Therapeutic Arthroscopy.

Pattern of Practical Examination

100 Marks

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

PRACTICAL TRAINING

- Training of History taking, bed side clinical examination and case presentations.
- Identification and demonstration of surgical instruments.
- Training of orthopaedic related Diagnostic imaging techniques.
- Training of Local anaesthetic techniques in orthopaedics.
- P.G. Scholar shall develop the skills by observing, assisting and performing independently the following procedures:
 - Non-operative
 - Manipulative reductions and external immobilization techniques.
 - Application of POP cast, Splints and Braces.
 - Bandaging Techniques

- External medicaments and Procedures like Snehana, Swedana, Vasti, Kati Vasti, Janu Vasti, Greeva Vasti etc.
- Training in various massage techniques.
- Corrective POP casts for club foot & other congenital deformities
- Operative
 - External fixation of compound fractures
 - Debridement of crush injuries
 - Amputations
 - Internal fixation of common simple fractures
 - Polio surgery such as TA lengthening.
 - Sequestrectomy in chronic osteomyelitis
 - Biopsy from a mass
 - Internal fixation of Fractures.
- Training in Vrana (Wound) Management techniques.
- Practical training of Physiotherapy in orthopaedic and trauma patients.
- Training of Anu Shalya Karma like Agni Karma, Kshara Karma and Rakta Mokshna in orthopaedic disorders.
- Orthopedic related Panchakarma Procedures.

Reference Books

Sushruta Samhita	Relevant parts
Sushruta Samhita Ghanekar commentary	
Sushruta Samhita (Dalhana commentary)	Relevant parts
Charak samhita	Relevant parts
Ashtang Hridaya	Relevant parts
Ashtang Sangraha	Relevant parts
Bhava Prakash	Relevant parts
Yog Ratnakar	Relevant parts
Bhaishajya Ratnavali	Relevant parts
Sharangdhar Samhita	Relevant parts
The Surgical instruments of the Hindus	Girindranath Mukhopadhyaya.

Bhagna Chikitsa (Dr. P.J. Deshpandey)

Agni Karma – Technological Innovations	- Prof. P.D. Gupta
Shalya Tantra Samuchchaya	-Pandit Ramadesh Sharma
Shalya Vijyan (Part 1-2)	-Dr. Surendra Kumar Sharma
Shalya Samanvaya (Part 1-2)	-Vd. Anantaram Sharma
Shalya Pradipika	-Dr. Mukund Swarup Verma
Adhunika Shalya Chikitsa Siddanta	-Dr. Katil Narshingham Udupa
Shalya Tantra Ke Sidhant	-Dr. K.K.Takral
Surgical Ethics in Ayurved	-Dr. G.D. Singhal
Sushruta's Contributions to Surgery	-Dr. S. Sankaran
Anushastra Karma	-Dr. D.N. Pande
Concept of Vrana in Ayurved	-Dr. Lakshman Singh
Marma Chikitsa	-Dr. C. Suresh Kumar
Joint Affections and their Ayurvedic Prospective	-Vaidya Vilas M. Nanal
Marma Vimarsha	-Vaidya Vilas M. Nanal
Significance for Purva Karma in Surgical Patient	-Dr. Lakshman Singh

Medical Varmalogy -Dr. N. Shunmugom et.al.
 Siddha Varmalogy -T. Vasanthakumar
 Watson and Jones – Fracture and Joint Injuries(J.N. Wilson)
 Practical Fracture Treatment(R. McRae)
 Clinical Orthopedic Examination(R. McRae)
 Apley’s System of Orthopedics (Apley Louis Solomon)
 Orthopedics – Principles and Their Application Vol. I-II (Samuel L. Turek)
 Textbook of Orthopedics and Trauma Vol. I-IV (G.S. Kulkarni)
 Fractures in Adults Vol. I – II (Rockwood and Green’s)
 Fractures in Children Vol. I (Rockwood and Wilkins)
 Campbell’s Operative Orthopedics Vol. I - IV
 A Concise Text Book of Surgery (S. Das)
 Pye’s Surgical Handicraft
 Clinical Methods in Surgery (Sriram Bhatt)
 Clinical Methods in Surgery (S. Das)
 Operative Surgery (S. Das)
 Schwartz Principles of Surgery
 Surgical Exposures in Orthopedics - J.B. Lippincott Comp. Publication

17. SANGYAHARAN

Theory – 400 Marks (100 Each)

Practical and Viva-Voce – 100 Marks

100 Marks

Paper I

SANGYAHARAN SIDDHANT AVUM VANGMAYA

(LITERARY, RESEARCH AND DEVELOPMENT)

Part –A

1. History of Sangyahan and its development in Ayurveda.
2. Importance of anesthesia in Ayurveda.
3. Contribution of AAIM and other pioneers in the development of Sangyahan.
4. Applied aspects of Ayurveda with respect to sangyahan Vrihatrayee and Laghutryee.
5. Instruments for anesthesia in ancient era and their development.

Part –B

1. Rakta, its importance, Raktadhana and Raktstambhana.
2. Knowledge of disorders like Unmada, Apasmara, Mada, Murrcha, Sanyasa and Stabdhata etc.
3. Madataya, Stages of Madataya and its management.
4. Pharmacology of Medhya, Vednasthapak, Madkari, Sangyasthapak, Nidrajanan, Akshepjanan and shamana, Svedjanan, Hridyae, Hridyotejak, Raktbharshamak, Shoolprashaman, Vaman and hrillashar (Antiemetic) dravya as mentioned in Ayurvedic samhita & their application in Sangyahan.
5. Aroma therapy as complementary and alternative therapy in pain management and Palliative care.
6. Jallandhar Bundh.

SANGYAHARAN BHESHAJA VIGYAN
(PHARMACOLOGY RELATED TO ANESTHESIA)

Part A**Pharmacology of:**

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

Part – B

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

Paper III

100 Marks

VISHISHTA SANGYAHARAN – APPLIED ANESTHESIA

Part – A

1. Airway management- Intubation, failed intubation drill, LMA, Bag and mask ventilation.
2. Anesthesia For: General surgery, Obstetric and Gynecology, E.N.T. and Ophthalmic, Orthopedic, Dental, Pediatric, Urology, plastic and Outpatient / Day care surgery.
3. Anesthesia for patients with: Diabetes mellitus, Hypertension, Jaundice, Thyroid diseases, inherited metabolic diseases, Obesity, Respiratory diseases, Cardiac diseases, Renal diseases, Geriatric problems and neuromuscular diseases.

Part –B

1. Regional anesthesia:

2. Sub-arachnoid and epidural anesthesia, analgesia.
3. Plexus and nerve blocks for upper and lower limb.
4. Surface anesthesia, infiltration and field blocks.
5. Regional anesthesia for thorax and abdomen
6. Complications of Regional and general anesthesia, morbidity, mortality and medico-legal aspects.
7. Anesthesia for Endoscopic, laparoscopic and Laser surgery
8. Anesthesia for Trauma and mass casualty
9. Emergency anesthesia.

Paper IV

100 Marks

MONITORING ADVANCES AND RESEARCH IN SANGYAHARAN

Part –A

1. Monitoring in anesthesia:
 - Cardiovascular, Respiratory, Renal function, Neurologic and neuromuscular monitoring.
 - Peri-operative Thermo – regulation and monitoring
 - Peri-operative awareness and monitoring depth of anesthesia with BIS.
 - Peri-operative acid-base balance
 - Peri-operative Fluid management and Blood transfusion.
 - Pt's positioning in anesthesia, its hazards and management.
 - Risks and hazards of anesthesia
2. Anesthesia equipments –
 - Medical gas systems
 - Breathing systems
 - Ventilators
 - Anesthesia machine
3. Post operative management-
 - Post anesthesia care
 - Post operative nausea and vomiting
 - Post operative Intra-Venous fluid therapy
 - Post operative pain Management.

Part –B

1. Miscellaneous-
 - HDU, ICU, CCPR- BLS & ACLS.
 - Parenteral nutrition.
 - Environmental factor and electrical safety
2. Management of Acute / Chronic Pain:
 - Assessment of pain
 - Peri-operative pain,
 - Chronic pain syndrome-detection and prevention,
 - WHO regime for Cancer pain,
 - TENS, Behavioral therapy
3. Anesthesia in remote locations
4. Clinical care in extreme environments (At high and low pressure and space).
5. Relevance of Sammohana (Hypnosis), Acupressure and Acupuncture in Sangyaharan.
6. Recent advances in research in Sangyahrana, Pain Management and Palliative Care.

Scope and Application of principles of Ayurveda in Sangyahrana Research.

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

- | | |
|---------------------------------------|-----------------|
| 1. Case Presentation | - Once a Week |
| 2. Seminar / Symposia | - Once a Week |
| 3. Pre Anesthesia Care /Clinic | - Thrice a Week |
| 4. Critical Care unit / Recovery Room | - Once a Week |
| 5. Classroom Lectures | - Twice a Week |
| 6. Morbidity / Mortality | - Once a Week |
| 7. Audit | - Once a Month |
| 8. Journal Club | - Once a Month |
| 9. Record Keeping | - Once a Month |
| 10. Emergency Drills / Protocols | - Once a Week |
| 11. Interesting Cases | |

Practical Examination

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

Minimum pass Marks 50%

Result:- Pass/Fail

Staff required

Teaching- Professor-1

Reader/Asso.Prof -1

Lecturer/Assi Prof-2

Sen.Resident-2

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

Reference Books

- | | |
|---|------------------------|
| a. Sushruta Samhita | |
| b. Charka samhita | |
| c. Ashtang Hridaya | |
| d. Practice of Anesthesia | - Churchill Davidson |
| e. Miller's Anesthesia | - Ronald D Miller |
| f. Synopsis of Anesthesia | - Alfred Lee |
| g. Sangyahan Prakash | - Dr. D. N.Pande |
| h. Agni karma-Technological Innovation | - Dr. P.D. Gupta |
| i. Practice of Anesthesia and Resuscitation | - Dr. P.K. Gupta et al |
| j. Essentials of Anesthesiology | - Prof. A.K. Paul |
| k. Clinical Anesthesia | - Prof. A.K. Paul |
| l. Anu Shastra karma | - Dr. D.N. Pande |
| m. Textbook of Anesthesia | - Aitkenhead |
| n. Anesthesia and co-existing disease | - Stoelting's |
| o. Physiology and Pharmacology | - Stoelting's |
| p. Understanding Anesthesia Equipments | - Dorsch & Dorsch's |
| q. Clinical anaesthesiology | - G.Edward Morgan |

18. AYURVEDA DHANWANTRI-SHALAKYA-NETRA ROGA

Theory Four papers of – 100 Marks each

Practical and Viva-voce- 100 Marks

PAPER- I

100 Marks

NETRA ROG VANGMAYA

Part –A

1. Available literature of Netra roga vigyana in Brihatrayi, Laghutrayi, Yogaratnakar, Chakradutta, Bhel Samhita, Harita samhita and Kashyap samhita.
2. Critical analysis of the available literature of netra roga vigyana in the above given classics e.g. Puyalasa and Vatahata Vartma in Sushruta samhita and Vagabhat samhita.
3. Unique/ specific contribution of different classics, Acharyas and commentators in the development of Netra roga vigyana.

Part –B

1. Analytical determination of subjects related to eye disorders in ancient and modern literatures.
2. Update chronological development of Netra roga vigyana right from Vedic period.
3. Update chronological development of Ophthalmology.

PAPER –II

100 Marks

AYURVEDIYA NETRA ROG VIGYAN

Part –A

1. Enumeration and classification of Netra Rogas.
2. Descriptive knowledge of etiology, pathogenesis, prodromal symptoms, clinical features, complications and prognosis of pakshma –vartma- sandhi- - shukla- Krishna- dristi & sarvagata rogas along with exogenous eye diseases available in Ayurvedic classics. Medical and surgical Management of the above diseases with special skill development in Ashtavidha shastra & Trividha Anushastra chikitsa related to Netra roga.

Part –B

1. Netra kriya kalpa procedures like seka, ashchyotana, vidalaka, pindi, tarpan, putapaka & anjana and their practical application and analysis based on ocular pharmacology. Standard operative procedures for Kriyakalpas including Aushadha kalpanas.
2. Study of nayanabhighata and, its management and prevention.
3. Knowledge of preventive and community ophthalmology along with national programme for control of blindness and role of Ayurveda.
4. Ayurvedic Concept of Congenital, developmental and neoplastic diseases of netra.

PAPER –III

100 Marks

ADHUNIK NETRA ROG VIGYAN

Part –A

1. Knowledge and application of current diagnostic techniques and equipments and therapeutics in Ophthalmology.

2. Detailed study of refractive errors along with defects of accommodation and their management.
3. Detailed knowledge of classification, etiology, pathogenesis, signs and symptoms, differential diagnosis, prognosis and complications of diseases of eye orbit, lacrimal apparatus, lids, conjunctiva, cornea.

Part –B

1. Detailed knowledge of classification, etiology, pathogenesis, signs and symptoms, differential diagnosis, prognosis and complications of diseases of sclera, uveal tract, lens, vitreous, retina, optic nerve and visual pathway with comprehensive knowledge of their medical and surgical management.
2. Ocular trauma, its emergencies and management.
3. Ocular motility disorders and their medical and surgical management.
4. Neurological and systemic disorders affecting the eyes and their management.

PAPER –IV

100 Marks

RECENT ADVANCES IN NETRA CHIKITSA & OPHTHALMOLOGY

Part –A

1. Update advances in the development of Ayurvedic drug formulations, therapeutic procedures and treatments of Netra roga.
2. Advanced technologies in the diagnosis of eye diseases.
3. Advanced technologies & techniques in the medical & surgical management of Netra roga.

Part – B

1. Advanced management and technologies in Ophthalmology.
2. Detailed study of recent research works on chakshushya dravyas.
3. Comparative and critical study of modern advances in surgical techniques over the surgical methods described in Ayurvedic classics.

Pattern of practical/ Clinical training

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

Methods of Training

- Intensive integrative training would be imparted to scholars in understanding the classical Ayurvedic aspects with an emphasis of critical comparative interpretation.
- Mandatory participation of scholars in seminars, group discussions, clinical demonstrations, journal review meetings, case study, continuing education activities and research clinical projects.
- During the first year of the course, the emphasis would be laid to impart adequate knowledge on fundamental aspects and their applications, with a focus on latest

diagnostic tools, instrumentations and laboratory procedures. Practical orientation and hospital based clinical training is an integral part of the curriculum all through.

- In the second year, training would stress upon extending the knowledge on techniques and imparting skill for surgical performance, ophthalmic procedure based therapies, surgical/para surgical procedures so that the scholar is able to perform ophthalmic surgical procedures like Ashtavidha shastra karma, Trividha Anushastra Karma and Modern Ophthalmic Surgical procedures viz lid surgery, pterygium surgery, cataract surgery, squint surgery, glaucoma surgery, DCR & DCT etc independently.
- In the third year the scholar should concentrate on the clinical work and research work based on the dissertation.
- The participation of the scholars in all the aspects of educational process is mandatory.
- Hospital postings – The resident has to compulsarily work for 6 terms of posting. Each term shall be of 4 months.
- The student should also contribute in the academic work of the department.

Pattern of practical Examination

100 Marks

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

Reference Books

1. Charaka Samhita with commentaries
2. Sushruta Samhita and Vagbhata with commentaries
3. Astanga Hridaya and Astanga Sangraha with commentaries
4. Madhava Nidan with commentaries
5. Bhavaprakasha with commentaries
6. Sarangadhara Samhita with commentaries
7. Sahstrayoga Sangraha
8. Relevant part of Chakradhatta, Bhel Samhita, Harita Samhita
9. Shalakya Tantra Kriya Kalpa Vigyan - Prof.K.S.Dhiman
10. Shalakya Tantra - Dr. R.C. Chaudhary
11. The Actions and uses of Indigenous Ophthalmic Drugs - Dr. N.Srikanth
12. Clinical Examination of Ophthalmic Cases - Agarwal and Gupta
13. Alder's Physiology of the Eye and Clinical Applications - Cotlier, St. Louis
14. Disease of the Lens and Vitreous, Glaucoma and Hypotony - Duke Elder, St.Louis
15. A Text Book of Ophthalmology - Ahmed E
16. A Text book of clinical ophthalmology - Dhanda
17. Modern Ophthalmology - Dutta, L.C. Jaypee Brothers

- | | | |
|---|---|--------------------|
| 18. Manual of the Diseases of the Eye
Bailliere Tindal and Castell | - | May,C.and Worth,C. |
| 19. Ophthalmology – Principles and Concepts
Mosby Co., St. Louis. | - | Newell, F.W., C.V. |
| 20. Ocular Differential Diagnosis
Lea and Febiger | - | Roy Fedrick Hamptn |
| 21. Clinical Ophthalmology
Company | - | Smith, R.Verghese |
| 22. Abrahm Manual of Refraction | - | Duke and Elder |
| 23. Hand Book of ophthalmology | - | B.M. Chaterjee |
| 24. Text Book of ophthalmology
Dr.H.V.Nema | - | Dr. Nithin Nema, |
| 25. Clinical ophthalmology | - | Kanski |
| 26. Parsons Diseases of Eye | | |
| 27. Stallard’s Eye Surgery | | |

*

**19. AYURVEDA DHANWANTRI- SHALAKYA – SHIRO- NASA-KARNA
EVUM KANTHA ROGA(M.S.Ayurved ENT & Head)**

Theory – 400 Marks (100 Each)

Practical and Viva voce-100 Marks

PAPER – I

100 Marks

SHIRO- NASA – KARNA- KANTHA ROGA VIGYAN MAULIK SIDDHANTA AND VANGMAYA

Part –A

1. Detailed study of Shalakyatantra from Bruhat trayee, Laghutrayee, Kashyap samhita, Yoga ratnakar, Chakradutta, Bhel samhita, Harita samhita and other granthas with special reference to Shiro-Nasa- Karna- Kantha Roga Vigyan with comparative and critical study of rogas explained by these classics.
2. Syntactical derivation, definition and importance of the word “Shalakyaa”. Update chronological development and history of science of ear, nose, throat and Shiras disorders. Establishment of “ Superiority of shiras’ among the organs. Determination and importance of the verse ‘**Nasa Hi Shiraso Dvaram’**.
3. Importance of shaman and sodhana therapy in ear, nose, throat and shira disorders with general introduction to local therapeutic procedures of ear nose and throat and shira e.g. kaval, gandusha etc.

Part –B

1. Detailed applied knowledge of recent advanced diagnostic and therapeutic techniques and equipments (Yantra and Shastra) used for Shiro – Nasa- Karna- Kantha (ENT) and Shira disorders.
2. General knowledge of ‘vrana bandhana’ (bandaging of wounds) and applied bandage in ear etc.
3. Study of essential modern drugs, anaesthetic agents of diagnostic and surgical importance.

AYURVEDIYA SHIRO – NASA – KARNA – KANTHA ROGA VIGYAN**Part-A**

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

Part –B

1. Examination of the throat and head in patients.
2. Kantha rogas samkhya, samprapti, descriptive knowledge about etiology, pathogenesis, prodromal symptoms, classification, clinical features, Upasaya-Anupasaya (prognostic measures), sadhyasadhyatwa and complications of kantha diseases described in the classics of Ayurved. Detail description along with practical knowledge of treatment.
3. Shira and Kapala (cranial vault) disorders samkhya samprapti, descriptive knowledge, etiology, pathogenesis, prodromal symptoms, classification, clinical features, Upasaya Anupasaya (prognostic measures) and complications of shira and kapala diseases described in the classics of Ayurved. Detail description along with practical knowledge of treatment.

ADHUNIKA SHIRO-NASA-KARNA-KANTHA ROGA VIGYAN**Part –A**

1. Descriptive knowledge of instruments and recent equipments available for diagnosis of ear- nose – throat – head disorders along with their practical application.
2. Descriptive knowledge of etiology, pathogenesis, clinical features, differential diagnosis, classification along with complications of different ear – nose – throat and head disorders.
Detail knowledge of the treatment (including conservative and surgical) of the above mentioned disorders.

Part –B

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

SHIRO- NASA-KARNA-KANTHA ROGA VIGYAN- SHALYA CHIKITSA**Part –A**

1. Knowledge of agropaaharniya and d trividha karma i.e. pre operative, operative and post operative measures. Knowledge of eight types of surgical procedures (Astavidha Sasthra Karma) and post operative care of the patient with respect to ENT disorders(Vranitopasaniya).
2. Karṇa-Sandhan Nasa-Sandhan, fundamental and applied aspects of Ayurveda with Practical knowledge of updated surgical procedures in ear – like constructive surgery of external and middle ear, excision of pre auricular sinus, Tympanoplasty, Mastoidectomy, Stapedectomy, Endolymphatic, sac surgery, Facial nerve decompression surgery, Cochlear implant, etc with their complications and their management.
3. Nose – Septo-rhinoplasty, SMR, Functional Endoscopic sinus surgery, Caldwell luc surgery, Antral puncture, Antral lavage, Turbinectomy, Polypectomy, Various surgical procedures done for malignancy of Nose and paranasal sinuses, Young’s surgery, etc.

Part –B

1. Throat – Adenoidectomy, Tonsillectomy, Surgical procedures for pharyngeal abscesses, cauterization of pharyngeal wall granulations, tracheostomy, vocal cord surgery, surgery of vocal cord paralysis, management of laryngeal trauma, laryngectomy etc.
2. General introduction of four treatment procedures like Bhesaj- Kshar – Agni Shastra and Raktavsechana with their applied aspects in ear nose throat and shiro disorders. Chaturvidha upakrama in raktasandhan vidhi related to ear nose throat and head disorders. Haemostatic management in ENT.
3. Removal of foreign bodies in the ear nose throat and shira as per Ayurveda and modern science.

Methods of Training

- Intensive integrative training would be imparted to scholars in understanding the classical Ayurvedic aspects with an emphasis of critical comparative interpretation.
- Mandatory participation of scholars in seminars, group discussions, clinical demonstrations, journal review meetings, case study, continuing education activities and research clinical projects.
- During the first year course the emphasis would be laid to impart adequate knowledge on fundamental aspects and their applications, with a focus on latest diagnostic tools, instrumentations and laboratory procedures. Practical orientation and hospital based clinical training is an integral part of the curriculum all through.
- In the second year, training would stress upon extending the knowledge on techniques and imparting skill for surgical performance, ENT procedure based therapies, surgical/para surgical procedures so that the scholar is able to perform ENT surgical procedures independently.
- In the third year the scholar should concentrate on the clinical work and research work based on the dissertation.

- The participation of the scholars in all the aspects of educational process is mandatory.
- Hospital postings – The student has to work for 6 terms of resident posting is compulsory out of which first 2 postings will be as a junior resident and the next four postings will be as a senior resident.
- The student should also develop in the academic work of the department.

Pattern of Practical Examination:

100 Marks

- | | |
|--|------------|
| 1. Bed side examination | |
| a. Long case | - 20 Marks |
| b. Short case x2 @ 10 Marks each | - 20 Marks |
| 2. Identification of specimen /Instrument / Radiograph/Photo | -10 Marks |
| 3. Thesis Presentation | - 10 Marks |
| 4. Teaching skill | - 10 Marks |
| 5. Viva-voce | - 30 Marks |

Reference Books

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

*

20. AYURVEDA DHANWANTRI-SHALAKYA-DANTA EVUM MUKHA ROGA

Theory- 400 Marks (100 each)

Practical and Viva Voce-100 Marks

PAPER – I

100 Marks

AYURVEDA SIDDHANTA AND VANGMAYA

Part –A

1. Etymology, definition and importance of the word 'Shalakya', History and development of the science of oral and dental diseases. Etymology and synonyms of the word 'Mukha' and 'Danta'. Ancient and recent knowledge of anatomy of oral cavity and teeth along with the knowledge of salivary glands.
2. Detailed study of Oral cavity and gustatory physiology.
3. Oral hygiene, Social aspect of oral hygiene, preventive measures in oral cavity diseases, general etiology, pathogenesis, prodromal symptoms, clinical features and general management of oral cavity diseases.
4. Agropaharaniya, knowledge of purva, pradhan and paschat karma. Study of Ashta Vidha Shastra Karmas in relation to Danta and Mukha Roga.

Part –B

1. Applied and detailed study of therapeutic measures for oral and dental disorders, like Kavala, Gandusha, Dhumapana, Nasya, Murdhtaila Mukhalepa and Pratisarana and their definition, types, indications, contraindications, procedure, features of proper, excess, deficient application and their management.
2. Importance of shodhan and shaman treatment in oral and dental diseases and knowledge of common recipes useful in oral and dental diseases.
3. General introduction of four types of treatment (Bheshja, Shastra, Kshara, Agni). Detail description of Anushastra karma; their practical knowledge in oral and dental diseases.
4. Analytical determination of related subjects of danta-mukha disorders available in Modern and ancient and modern commentaries of different Samhita.

PAPER – II

100 Marks

AYURVEDIYA DANTA EVUM MUKHA ROG VIJNANA

Part – A

1. Examination of oral cavity, periodontia and teeth. Teeth eruption and its systemic disturbances in a child, Classification, Number of teeth along with detail knowledge of abnormal tooth eruption. Dental disorders in paediatric age group, their prevention and treatment.
2. Danta gata rogas – Danta Rogas detailed in the classics of Ayurved; their etiology, pathogenesis, prodromal symptoms, clinical features, complication and management along with applied approach in the treatment of dental diseases.
3. Detailed study of etiology, pathogenesis, prodromal-symptoms, clinical features, complications and prognosis of diseases of the Oushta, Danta-Mula Gata Roga (gum-periodontia) and Jihwa as detailed in the classics of Ayurved. Practical approach/orientation in Treatment of Ousta, Dantamula and Jihwa Rogas.

Part –B

1. Talu (palate) and Kantha Rogas, detailed study of etiology, pathogenesis, prodromal-symptoms, clinical features, complications and prognosis. Detailed description of their treatment along with Applied Views.
2. Sarvasara Mukharogas (Generalized oral diseases) available in ayurvedic classics. Detailed study of etiology, pathogenesis, prodromal-symptoms, clinical features, complications, prognosis and management of Sarvasara mukha rogas along with practical orientation.
3. Knowledge of Dantabhighata (dental trauma) and Mukhabhighata (oral injury) along with diagnostic and referral skills.

PAPER –III**100 Marks****ADHUNIK DANTA EVUM MUKHA ROG VIJNANA****Part –A**

1. Detail study of etiology, pathogenesis, clinical features, classification and complication of various oral and dental diseases available in literature of Modern sciences. Detail study of their Management along with advanced technics.
2. Detail description of diagnostic technology in the establishment of oral and dental disease.
3. Study of essential modern drugs, anaesthetic agents of diagnostic and surgical importance.

Part –B

1. Descriptive knowledge of up-to-date available modern instruments and their application in management of oral, periodontal and dental diseases.
2. Up-to-date knowledge of applied and available surgical procedures indicated in various dental diseases like tooth extraction, RCT, Dental filling, filling materials, tooth fixation and tooth implants etc.
3. Systemic Effects of oral, periodontal and dental diseases.

PAPER – IV**100 Marks****RECENT ADVANCES IN MUKHA ROG VIJNANA & DENTISTRY****Part –A**

1. Jaalandhara Bandha, its importance and application in Tooth extraction without anaesthesia.
2. Vishishta Upadanta parikalpana(Dental Material and Prosthesis).
3. Recent Research studies and advanced clinical applications of Kriya Kalpas in Danta and Mukha Rogas.
4. Detailed study of recent available medical therapeutics and Research studies in Dental and oral cavity disorders.

Part – B

1. Recent Advances in Rasoushadhis, Kashtoushadhi & Anushastraprayoga in Danta & Mukha rogas & also in Sandhana Karma.
2. Benign and malignant tumors of Oral Cavity, their management and role of Ayurveda in such conditions.
3. Useful conducts for treatment of oral and dental diseases with study of related medico-legal aspects.

Methods of Training

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

Pattern of Practical Examination:

100 Marks

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

Reference Books

1. Sushrut Samhita - Dalhana
2. Useful Portion of Charak Samhita-Ashtang Samgraha -Ashtang Hridaya
3. Useful portion of Laghutrayi related to Danta and Mukha Roga
4. Shalakya Vijnanam - Ravindra Chandra Chaudhary
5. Nimi Tantra - Ramanath Dwivedi
6. Dental Anatomy Histology - Dr. S.I. Bhalajhi
7. Essentials of Preventive and Community Dentistry -Dr. Soben Peter
8. Complete Denture Prosthodontics - Dr. J.J. Manappallil
9. Orthodontics the Art and Science - Dr. S.I. Bhalajhi
10. Text book of Pediatric Dentistry - Dr. S.G. Damle

11. Text book of Oral and Maxillofacial surgery	-Dr. Vinod Kapoor
12. Clinical Periodontology	- Dr. B.R.R. Varma
13. Anatomy for Dental Students	- Inderveer Singh
14. Clinical Periodontology	- Carranza , Newman
15. Operative Dentistry	- M A Marzouk
16. Oral and maxillofacial surgery secrets	- A.Omar Abubaker
17. Killey and Kay's Outline of Oral Surgery	- Girton R Seward
18. Clinical Dentistry Gibson	- Ivor G. Chestnut , John
19. Synopsis of Oral Pathology	- S N Bhaskar
20. Oral Pathology	- Stone

*

21. PANCHKARMA

Theory – 400 Marks (100 each)

Practical and Viva Voce- 100 Marks

PAPER –I

100 Marks

PURVA KARMA-SNEHANA AND SVEDANA

Part -A

INTRODUCTION:

1. Detail knowledge of Shadupakram and relation of Shodhan with it
2. Panchkarma in Ashtanga Ayurved and Significance of Shodhana
3. Ama and Shodhana, benefits of shodhana, Samikshya Bhavas in Shodhana,
4. Importance of Pachana prior to Snehana, methods, drugs, duration and dose for Pachana, samyak Lakshana of Pachana

SNEHANA:

1. Etymology and definition of Sneha and Snehana
2. General considerations about Snehana
3. Classifications of Sneha, Sneha-Yoni, detailed knowledge of four types main Sneha- Ghrita, Taila, Vasa and Majja with their characteristics, importance and utility, various aspects of Uttama Sneha
4. Properties of Snehana Dravya and their interpretation.
5. Effects of Snehana
6. Sneha Kalpana, various types of Sneha Paka with their utility
7. Indications and contraindications of Snehana
8. Classification of Snehana: Bahya and Abhyantara Snehana
9. Bahya Snehana and Bahir-Parimarjana, utility and importance of Bahya Snehana
10. Classification of Bahya Snehana Methods, indications, contraindications, specific utility of the followings Abhyanga, Mardana, unmardana, Padaghata, Samvahana, Udvartana/Utsadana, Udgharshana, Avagaha, Pariseka, Lepa, Pralepa, upadeha etc. Various types of lepa having cosmetic values along with the drugs and methods; Ayurveda face pack; lepa for cosmetic problems such as tilakalak, neelika, nyaccha, mukha dushika etc with drugs and methods. Gandusha, Kavala; Karna and Nasa Purna, Akshi Tarpana; Murdhni Taila: Shiro-abhyanga, Shirodhara, Siro Pichu and Siro Basti, Shiro Lepa (Talapotchil), Talam and Takradhara etc.

11. Knowledge of digestion and metabolism of fat: absorption of fatty substances through skin; types of skin like dry, moist etc and their Ayurvedic management.
12. Karmukata of Abhyantara and Bahya Snehan
13. Knowledge of different contemporary massage techniques
14. Abhyantra Snehana: Definition of Brimhnartha, Shamanartha and Shodhanartha, method and utility of Brimhanartha and Shamanartha Snehana; difference between Shamanartha and Shodhanartha Snehana
15. Methods of Abhyantara Snehana
16. Shodhanartha Snehana: Acchapana and Vicharana, Utility and various methods of Sadyasnehana, Avapidaka Sneha
17. Matra of Sneha : Hrasiyasi, Hrasva, Madhyama and Uttama Matra with their indications, specific utility of Ghrita, taila, vasa and majja; Anupana of Sneha along with justification and their role in the drug action.
18. Need and method of Rukshana before performing Snehana in specific conditions and Samyak Rukshana Lakshana
19. Shodhananga Snehana Vidhi and methods of fixation of dose
20. Diet and Pathya during Snehana
21. Observation of sneha Jiryamana, Jirna and Ajirna Lakshana
22. Samyak, Asnigdha and Atisnigdha Lakshana of Snehana
23. Sneha vyapat and their management
24. Pariharya vishaya and Parihara Kala

Part –B

SVEDANA

1. Etymology and definition of Svedana
2. General considerations about Svedana
3. Properties of Svedana and Svedopaga Dravya
4. Indications and contraindications of Svedana
5. Various classifications of Sveda and Svedana
6. Detailed knowledge of four types of Sveda of Sushruta with their utility.
7. Hina, Mridu, Madhya and Mahana Sveda; Ekanga and Sarvanga sveda with their utility.
8. Utility and method of each of 13 types of Saagni and 10 types of Niragni Sveda
9. Shodhananga and Samshamaniya Sveda
10. Methods to protect the vital organs (varjya anga) during Svedan Procedures.
11. Detailed knowledge about Utility of below mentioned Svedan procedures:-
Patrapinda Sveda, Shashtika Shalipinda Sveda, Churna Pinda Sveda, Jambira Pinda Sveda, Dhanya Pinda Sveda, Kukkutanda Sveda, Anna lepa, Valuka Sveda, Ishtika Sveda, Nadi Sveda, Bashpa Sveda, Kshira bashpa Sveda, Avagaha Sveda, Parisheka Sveda, Pizichil, Dhanyamla Dhara, Kashaya Dhara, Kshira Dhara and Upanaha Sveda etc.
12. Avasthanusari Svedana in various disorders
13. Samyak, Ayoga and Atiyoga Lakshana, Sveda Vyapat and their management.
14. Diet and regimens during and after Svedana
15. Karmukata of Svedana; kleda and sveda; pathophysiology of sweat and sebum; fat metabolism and skin and its appendages; secretory and excretory function of skin; skin as sparshanendriya; various types of nerve endings in skin; effects of stimulation by touch, friction pressure and temperature etc.

16. Current sudation modalities like Sauna bath, Steam Bath, Infrared etc. along with their effects and mode of action, role of snehana and svedana in promotion of skin health.
17. Svedana with Kati Basti, Janu Basti and Griva Basti etc along with karmukata.
18. Study of Snehana and Svedana related portions in classics with commentaries

PAPER –II

100 Marks

VAMANA AND VIRECHANA KARMA

Part - A

VAMANA KARMA:

50 Marks

1. Etymology, definition and general considerations of vamana
2. Properties of Vamaka and Vamanopaga drugs
3. Knowledge and utility of important Vamaka drugs and their preparations (Vamana Yoga)
4. Avasthanusara Vamana and its utility.
5. Indications of Vamana
6. Contraindications of Vamana with reasons
7. Pachana prior to Snehana
8. Detailed knowledge and method of preparation of patient with Snehana
9. Abhyanga and Svedana as Purvakarma of Vamana
10. Diet and management of gap day
11. Need of increasing of Kapha for proper Vamana, Kapha increasing diet
12. Preparation and management of Patients on the morning of Vamana
13. Administration of food articles prior to Vamana
14. Selection of Drug and time of administration; Anupana, Sahapana, dose and method of administration of Vamana and Vamanopaga preparations
15. Method of Vamana Karma, waiting period for Sva-Vamana Vega and manipulation in its absence
16. Observations prior to beginning of Vamana such as sweat on forehead, horripilation, fullness of stomach and nausea along with its pharmaco-dynamics.
17. Observation; and assistance to the patient during Vamana
18. Vega and Upavega of Vamana and its counting, observations and preservation of vomitus matter and its weighing
19. Samyak, Ayoga and Atiyoga of Vamana
20. Laingiki, Vaigiki, Manaki and Antiki Shuddhi,
21. Hina, Madhya and Pravara Shuddhi and Samsajana Krama accordingly
22. Detail knowledge of methods of Samsajana Krama and its importance
23. Kavala and Dhumapana after vamana
24. Management of Ayoga, Atiyoga and Vyapat of Vamana with Ayurveda and modern drugs
25. Parihara Vishaya and Kala for Vamana
26. Vamana Karmukata with Pharmaco-dynamics of Vamana
27. Study of Vamana related portions in classics with commentaries
28. Recent advances of researches on the effect of Vamana
29. Scope of research in Vamana.
30. Role of Vamana in promotion of health, prevention and treatment of diseases

Part –B

VIRECHANA KARMA:

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

PAPER –III

100 Marks

BASTI KARMA AND NASYA KARMA

Part –A

BASTI KARMA:

1. Etymology, definition and general considerations of Basti
2. Importance of Basti in Kayachikitsa and other branches of Ayurveda
3. Classifications of Basti and Basti drugs
4. Drugs useful in Basti

5. Indications of Basti, its role at the various stages of diseases
6. Contraindications of Basti with reasons
7. Description of Basti yantras, Basti netra and Basti putaka and their Doshas. Modified Basti Yantra, their merits and demerits.
8. Dose schedules of Niruha and Anuvasana basti
9. **NIRUHA BASTI**
 - Etymology, synonyms, definition and classifications and subclassifications of Niruha Basti and detailed knowledge of each type of Niruha Basti along with indications and contraindications and benefits.
 - Contents of various types of Niruha Basti, their proportions, methods of mixing basti Dravya, Niruha vasti and its relation with other shodan therapies: Relation of niruha vasti with anuvasana vast.
 - Purvakarma for Niruha Basti; Pathya before, during and after Niruha Basti; all the aspects of administration of various Niruha Basti. Method of preparation of various Niruha vasti dravya; rationale behind use of various ingredients, sequential mixing and position of patient.
 - Observations during and after Niruha Basti.
 - Basti Pratyagamana, Samyakyoga, Ayoga and Atiyoga Lakshana and Various Vyapat of Niruha Basti and their management according to Ayurved and Modern Systems Medicines. Management during and after Niruha Basti.
 - Pariharya vishaya and pariharakala.
10. **Anuvasana Basti**
 - Etymology, synonyms, definition and classifications of Anuvasana Basti and detailed knowledge of each type of Anuvasana Basti along with indications and contraindications and benefits Various types of Ghrita and Taila useful in Anuvasana Basti; Anuvasana Basti with Vasa and Majja along with their merits and demerits.
 - Relation of Virechana, Shodhana, Niruha Basti, Snehana with Anuvasana Basti
 - Purvakarma for Anuvasana Basti; Pathya before, during and after Anuvasana Basti; all the aspects of administration of Anuvasana Basti including Kala.
 - Observations during and after Anuvasana Basti
 - Anuvasana Basti Pratyagamana, Samyakyoga, Ayoga and Atiyoga Lakshana and Various Vyapat of Anuvasana Basti and their management.
 - Management during and after Anuvasana Basti.
 - Pariharya vishaya, Pathya and pariharakala for Anuvasana.
11. Various combined basti schedules such as Karma, Kala, Yoga Basti etc.
12. Detailed knowledge of sneha basti and Matra Basti.
13. Detailed knowledge of different basti formulations like Piccha Basti, Kshira Basti, Yapana Basti, Madhutailika Basti, Erandamuladi Niruha Basti, Panchaprasrutika Basti, Kshara Basti, Vaitarana Basti, Krimighna Basti, Lekhana Basti, Vrishya Basti, Manjishtadi Niruha Basti, Dashamula Basti, Ardhamatrika Basti, Sarva rogahara Niruha Basti, Brimhana Basti, Vataghna Basti, Pittaghna Basti and Kaphaghna Basti etc, and their practical utility.
14. Karmukata of Basti. Applied anatomy and physiology of colon, Pharmacodynamics of Basti.
15. Concept of 'Gut Brain' and its relevance to Basti Therapy.
16. Study of relevant portions of Basti in classics with commentaries.

17. Recent advances of researches on the effect of Basti.
18. Scope of research in Basti.
19. Role of Basti in promotion of health, prevention and treatment of diseases.

Part –B

UTTARA BASTI:

1. Definition and classification of Uttara Basti, its Netra and Putaka. Dose of Uttara Basti Sneha and Kashaya Basti. Different Uttara Basti Kalpanas in various diseases.
2. Detailed knowledge of Purvakarma and Administration of Uttara Basti in male and female; precautions, aseptic measures, complications and their management.
3. Karmukata of Uttara Basti. Applied anatomy and physiology of urethra and related female genitalia, Pharmacodynamics of Uttara Basti.

NASYA KARMA:

1. Etymology, synonyms, importance and definition of Nasya.
2. Nasya drugs according to various Samhita.
3. Classifications and sub-classifications of Nasya with detailed knowledge of each type.
4. Indications and contraindications of each type of Nasya with reasons.
5. Drugs useful for Nasya with Dose and methods of preparations and their doses.
6. Nasya Kala and Pathya before, during and after Nasya; Duration of different Nasyas
7. Purvakarma of each type of Nasya.
8. Detailed knowledge of administration of each type of Nasya with management during and after Nasya.
9. Detailed knowledge of Common Nasya formulations such as Shadbindu Taila, Anu taila, Kshirabala Taila, Karpasastyadi Taila, Bramhi Ghrita etc.
10. Samyak Yoga, Ayoga and Atiyoga of each types of Nasya , its Vyapat and their management.
11. Pashchat Karma; Role of Dhumapana, Kavala after Nasya,
12. Diet and Pathya before, during and after Nasya Karma.
13. Pariharya vishaya, Parihara Kala,
14. Nasya Karmukata, Applied anatomy and physiology related to Nasa hi Siraso Dvaram, blood and nerve supply to nose, Shringataka marma, olfactory nerve and centres, aroma therapy, trans nasal administration of drug, recent advances in nasal drug delivery
15. Study of relevant portion in classics with commentaries
16. Recent advances of researches on the effect of Nasya
17. Scope of research in Nasya.
18. Role of Nasya in promotion of health, prevention and treatment of diseases.

PAPER – IV

100 Marks

RAKTAMOKSHANA, PHYSIOTHERAPY AND DISEASE WISE PANCHAKARMA

Part –A

RAKTAMOKSHANA:

1. Definition, importance, classifications and detailed knowledge of each type of Raktamokshana with their methods of performance.
2. General principles, indications, contraindications of Raktamokshana

3. Detailed knowledge of Jalaukavacharana: Indications and contraindications of Jalaukavacharana, various types of Jalauka with their beneficial and harmful effects.
4. Purvakarma and method of Jalaukavacharana, observations and Pathya before, during and after Jalaukavacharana.
5. Management during and after Jalaukavacharana
6. Symptoms of Samyak, Ayoga, Atiyoga and Vyapat of Raktamokshana and their management with Ayurveda and Modern medicines.
7. Pariharya vishaya and Parihara kala.
8. Karmukata of different types of Raktamokshana

Clinical Physical Medicine

1. Definition and terminology of clinical physical medicine.
2. Biomechanics of human movements; Physiology of exercise
3. Treatment modalities used in Physical Medicine- general properties and detailed clinical use of each
 - a. Heat – general physiological properties and mode of action as a treatment agent, Forms of heat therapy – Superficial and deep heating. General knowledge of Infrared, Paraffin Wax bath, short wave diathermy, electro magnetic therapy, ultra sound therapy, convection heating devices,
 - b. Cold as a therapeutic agent
 - c. Prescription of physical modalities and their applications in medicine.
4. Clinical use of massage, manipulation, stretching
5. Principles of occupational therapy, training in activities of daily living for rehabilitation, self-help devices (walking aids, wheelchairs, tricycles & modified vehicles), instrumental activities of daily living,
6. Physiotherapy exercises for Paralytical disorders, cervical spondylosis, frozen shoulder and slip disc.

Part – B

DISEASE-WISE PANCHAKARMA

1. Role of Panchakarma in different Stages of the diseases mentioned in Ayurveda particularly in followings:
 “Jvara, Raktapitta, Madhumeha, Kushtha, Shvitra, Unmada, Apasmara, Shotha, Plihodara, Yakridaluodara, jalodara, Arsha, Grahani, Kasa, Tamaka Shwasa, Vatarakta, Vatavyadhi, Amlapitta, Parinama Shula, Ardhavabhedaka, Ananta Vata, Amavata, Sheetapitta, Shleepada, Mutrakruchchra, Mutrashmari, Mutraghata, Hrudroga, Pinasa, Drushtimandya, Pandu, Kamala, Sthaulya, Krimi, Madatyaya, Moorchcha, Padadari, Mukhadushika, Khalitya, Palitya etc.
2. Use of various Panchakarma procedures in the following disorders –
 Migraine, Parkinson’s Disease, trigeminal neuralgia, Bell’s palsy, cerebral palsy, Muscular dystrophy, hemiplegia, paraplegia, Lumbar Disc disorders, Spondylolisthesis, Ankylosing spondylosis, Carpel Tunnel Syndrome, Calcaneal Spur, Plantar fasciitis, GB syndrome, Alzhiemer’s disease, Irritable Bowel Syndrome, ulcerative colitis, psoriasis, hypothyroidism, hyperthyroidism, hypertension, allergic rhinitis, Eczeme, diabetes mellitus, Chronic obstructive pulmonary Disease,

Insomnia, Rheumatoid Arthritis, Gout, Osteoarthritis, multiple sclerosis, SLE, male & female infertility, cirrhosis of liver, Jaundice, General Anxiety Disorders.

Practical and viva-voce:	100 Marks
1. Case presentation along with justification of Shodhana intervention	-30 Marks
2. Preparation and execution of shodhana therapy	-30 Marks
3. Viva	-30 Marks
4. Lecture/Presentation on a given topic	-10 Marks

Reference Books:

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

*

22. M.D. (Ay.)- Chhaya Avum Vikiran Vigyan
(Imaging and Radio-diagnosis)

Theory -400 Marks (100 each)
Practical and Viva Voce- 100 Marks

Paper –I

100 Marks

Fundamentals of Chhaya Avum Vikiran Vigyan (Imaging and radio-diagnosis)

Part-A

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

Part-B

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

Paper –II

100 Marks

APPLIED ANATOMY, PHYSIO-PATHOLOGY AND PROCEDURES IN CHHAYA AVUM VIKIRAN VIGYAN
(IMAGING & RADIO-DIAGNOSIS)

Part-A

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

1. Detail knowledge of Ayurvedic and Modern applied radiological Anatomy (including sectional), Physiology and Pathology of the human body;
 - i. Sira(Vessels), Gaurya Sira, (Lymphatic channels), Mansa (Muscles), Snayu (Ligaments), Kandara (Tendons), Sandhi (Joints), Nadi(Nerve), Asthi (Bones), Strotas, Marma, Antahsravi granthi (Endocrine glands) etc.
 - ii. Urdhwajatrugata (Supraclavicular) parts-kapaal (Skull), Karna(Ears), Chakshu (Eyes), Nasa(Nose), Paranasal sinuses, Lalagranthi (Salivary glands), Face, Greeva (Neck), Sushumna (Spinal cord) and Kaseruka (Vertebrae), Mukha

- (Mouth), Danta (Teeth), Mastulunga (Brain), Lasika granthi (Lymph glands) etc.
- iii. Koshtha (Trunk) parts-Sushumna (spinal cord) and Kaseruka (Vertebrae).
 - Vaksha(Thoracic) parts-Phuphphus(Lungs), Hridaya(Heart) & Sira (Vessels), Shwashnalika (Trachea, Bronchi), Annamarg (Esophagus), Lymph nodes, Baksha (Breast), Hridayabandhan (Diaphragm) etc.
 - Udar (Abdominal) parts- Audaryyakalaa (Peritoneum) Aamashaya (Stomach), Kshudrant (Small-intestine), Vrihadantra (Large- intestine), Guda (Rectum and Anal canal), Aantrapuchchha (Appendix), yakrit(Liver), Pitashaya (Gall bladder), Billiary channels, Pleeha (Spleen), Agnyashaya (Pancreas), Vrikka (Kidney), Gavini (ureter), Basti (urinary bladder), Shishna (penis), Paurushgranthi (prostate), Vrishan (testes), Shukrashaya (seminalvesicles), Dimbashaya (Ovaries), Perineum Garbhashaya (uterus), Yoni, Dimbvahini (fallopian tubes), Lasika granthi (lymph nodes) etc.
 - iv. Shakha-parts of upper and lower extremities.

Part -B

Procedures in Chhaya avum Vikiran vigyan (Imaging & Radio-diagnosis)

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

Paper – III

100 Marks

PHYSICS AND BIOLOGY RELATED TO CHHAYA AVUM VIKIRAN VIGYAN (RADIO DIAGNOSIS & IMAGING)

Part-A

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

Part-B

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

Paper –IV

100 Marks

APPLIED CHHAYA AVUM VIKIRAN VIGYAN (IMAGING & RADIO-DIAGNOSIS)

Part –A

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

Part –B

- a. Applied aspects of Ultrasonography, interpretation and reporting of various diseases related to system, organ (as mentioned in paper-2nd, part-A), and metabolism, routine joint study, various Endo-USG., Obstetrics –Garbha vinishchaya (confirmation of pregnancy), Masanumas Garbh vridhhi (fetal development), Garbha swastha (fetal well being, bio-physical profile) and Vyadhi (fetal diseases), Vikrita garbha (congenital anomalies, 2nd level obstetric USG), Aparā (Placenta), Nabhinadi darshan (umbilical cord), Garbhapatta (abortion), Aparā / Garbhaavayav Apaatan (Retained conceptual products), Gynaecology _Yonivyapat (gynaecological disorders), Bandhyatva (infertility), Garbhashayabhransha (uterine prolapse) etc. Dopplers, USG guided techniques and other advances.
- b. Applied aspect, interpretation and reporting of CT scan, MRI scan and other advanced Radiological techniques.
- c. Application of Chhaya avum vikiran vigyan in context to Ayurvedic fundamentals, diagnosis, management and research.

Practical examination

100 Marks

Contents:

(A) Adhitya cha karma parichaya (Preliminary knowledge of Chhaya avum Vikiran vigyan)

1. Spotting / Short cases for radiological diagnosis
2. Equipments
3. Selection of appropriate diagnostic radiological modalities for the patients, correct advice / instructions to the patient.
4. Purva karma, pradhan karma, Pashchat karma.

(B) Krita vogyata (Practical skills)

1. Quality control of X-rays and imaging equipments.

2. X-ray-plain/contrast, spot films, fluoroscopy, digital x-rays-procedures, performance of dark room technique, their principles, pathological changes and applied interpretation and reporting.
3. Various USG procedures performance, their principles, pathological changes and applied interpretations and reporting. Various diagnostic Ultrasonography [routine, various Endo-USG, Obstetrics –Garbha vinishchaya (confirmation of pregnancy), Masanumas Garbh vriddhi (fetal development), Garbha swastha (fetal well being bio-physical profile) and Vyadhi (fetal diseases), Vikrita garbha (congenital anomalies, 2nd level obstetric USG). Aparā (Placenta), Nabhinadi darshan (umbilical cord), Garbhapatta (abortion), Aparā / Garbhaavayav Apaatan (Retained conceptual products), Gynaecology –Yonivyapat (gynaecological disorders), Bandhyatva (infertility), Garbhashayabhransha (uterine prolapse) etc. Dopplers, USG guided techniques and other advances.
4. CT scan, MRI, Radionuclide scan, PET, Mammography, Bone densitometry, Interventional radiological performance / reading, their principles, pathological changes and applied interpretations and reporting.

(C) Shastram nigadata (Teaching and Research ability)

1. Role of radiology in the field of Ayurvedic research, dissertation, research methodology, paper and project writing.
2. Teaching and audio-visual presentation performance.
3. Dissertation

(D) Adhigata tantrenopasita tantrartha, Shasatra vijaniyata (Comprehensive assessment of acquired knowledge).

1. Role of radiology in the field of Ayurvedic diagnosis, management and research.
2. Ethics, environmental and legal issues related to radiology.
3. Management of department of radiology.
4. Safety measurements in Radio-diagnosis and imaging.
5. Management of emergencies in the department of radiology.
6. Further assessments and advice etc.

Pattern:

a. Viva voce	-	40 Marks
b. Practical ability assessment	-	60 Marks
• Adhitya cha karma parichaya (Preliminary knowledge of Chhaya avum Vikiran Vigyan)	-	15 Marks
• Krita yogyata (Practical skills)	-	25 Marks
➤ Procedures	-	15 Marks
➤ Viva on procedures	-	10 Marks
• Shastram nigadata(Teaching and Research ability)	-	20 Marks
➤ Dissertation work	-	10 Marks
➤ Teaching ability	-	10 Marks

Reference Books;

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

*

