

CENTRAL COUNCIL OF INDIAN MEDICINE
NEW DELHI

SYLLABUS OF AYURVEDACHARYA (BAMS) COURSE

INDEX

1ST PROFESSIONAL

1.1	PADARTHA VIGYAN AND AYURVED ITIHAS	2-6
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**1.1 PADARTHA VIGYAN EVUM AYURVEDA ITIHAS
(Philosophy and History of Ayurveda)**

**Theory- Two papers– 200 marks (100 each paper)
Total teaching hours: 150 hours**

PAPER-I Padartha Vigyanam 100marks

PART A 50 marks

1. Ayurveda Nirupana

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

2. Ayurveda Darshana Nirupana

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

3. Dravya Vigyaniam

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

PART B**50 marks****4. Gunavigyaniyam**

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

5. Karma Vigyaniyam

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

6. Samanya Vigyaniyam

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

7. Vishesa Vigyaniyam

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

8. Samavaya Vigyaniyam

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

9. Abhava Vigyaniyam

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

PAPER II**Padartha Vigyan and Ayurveda Itihas****100 marks****PART A - Pramana/ Pariksha- Vigyaniyam****75 marks****1. Pariksha**

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

2. Aptopdesha Pariksha/ Pramana

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

3. Pratyaksha Pariksha/ Pramana

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

4. Anumanapariksha/Pramana

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

5. Yুক্তipariksha/ Pramana

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

6. Upamana Pramana

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

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

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

PART B - Ayurved Itihas

25 marks

1. Etymological derivation (Vyutpatti), syntactical derivation (Nirukti) and definition of the word Itihas, necessity of knowledge of history, its significance and utility, means and method of history, historical person (Vyakti), subject (Vishaya), time period (Kaal), happening (Ghatana) and their impact on Ayurveda.
2. Introduction to the authors of classical texts during Samhitakaal and their contribution: Atreya, Dhanwantari, Kashyapa, Agnivesha, Sushruta, Bhela, Harita, Charaka,

Dridhabala, Vagbhata, Nagarjuna, Jivaka.

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

Reference Books:-

A). Padartha Vigyan:-

- | | |
|--|--------------------------------|
| 1. Padarthavigyan | Acharya Ramraksha Pathak |
| 2. Ayurvediya Padartha Vigyana | Vaidya Ranjit Rai Desai |
| 3. Ayurved Darshana | Acharya Rajkumar Jain |
| 4. Padartha Vigyana | Kashikar |
| 5. Padartha Vigyana | Balwant Shastri |
| 6. Sankhyatantwa Kaumadi | GajananS hastri |
| 7. Psycho Pathology in Indian Medicine | Dr. S.P. Gupta |
| 8. Charak Evum Sushrut ke Darshanik Vishay ka Adhyayan | Prof. Jyotirmitra Acharya |
| 9. Ayurvediya Padartha Vigyana | Dr. Ayodhya Prasad Achal |
| 10. Padartha Vigyana | Dr. Vidyadhar Shukla |
| 11. Padartha Vigyana | Dr. Ravidutta Tripathi |
| 12. Ayurvediya Padartha Vigyana | Vaidya Ramkrishna Sharma Dhand |
| 13. Ayurvediya Padartha Vigyan Parichaya | Vaidya Banwarilal Gaur |
| 14. Ayurvediya Padartha Darshan | Pandit Shivhare |

15. Scientific Exposition of Ayurveda Dr. Sudhir Kumar
16. Relevant portions of Charakasamhita, Sushrutasamhita.

B) History of Ayurveda:-

- | | |
|---|--------------------------------|
| 1. Upodghata of Kashyapasamhita
Paragraph of acceptance of Indian medicine | Rajguru Hem Raj Sharma |
| 2. Upodghata of Rasa Yogasagar | Vaidy Hariprapanna Sharma |
| 3. Ayurveda Ka Itihas | KaviraSuram Chand |
| 4. Ayurveda Sutra | Rajvaidya Ram Prasad Sharma |
| 5. History of Indian Medicine (1-3 part) | Dr. GirindrNath Mukhopadhyaya |
| 6. A Short history of Aryan Medical Science | Bhagwat Singh |
| 7. History of Indian Medicine | J. Jolly |
| 8. Hindu Medicine | Zimer |
| 9. Classical Doctrine of Indian Medicine | Filiyosa |
| 10. Indian Medicine in the classical age | AcharyaPriyavrata Sharma |
| 11. Indian Medicine (Osteology) | Dr. Harnley |
| 12. Ancient Indian Medicine | Dr. P. Kutumbia |
| 13. Madhava Nidan and its Chief
Commentaries (Chapters highlighting history) | Dr. G.J. Mulenbelt |
| 14. Ayurveda Ka BrihatItihasa | Vaidya Atridev Vidyalankara |
| 15. Ayurveda Ka VaigyanikaItihasa | Acharya Priyavrata Sharma |
| 16. Ayurveda Ka PramanikaItihasa | Prof. Bhagwat Ram Gupta |
| 17. History of Medicine in India | Acharya Priyavrata Sharma |
| 18. Vedomein Ayurveda | Vaidya Ram GopalS hastri |
| 19. Vedomein Ayurveda | Dr. Kapil Dev Dwivedi |
| 20. Science and Philosophy of Indian Medicine | Dr. K.N. Udupa |
| 21. History of Indian Medicine from
Pre-Mauryan to Kushana Period | Dr. Jyotirmitra |
| 22. An Appraisal of Ayurvedic Material in
Buddhist literature | Dr. Jyotirmitra |
| 23. Mahayana Granthon mein nihita
Ayurvediya Samagri | Dr. RavindraNathTripathi |
| 24. Jain Ayurveda Sahitya Ka Itihasa | Dr. Rajendra Prakash Bhatnagar |
| 25. Ayurveda- Prabhashaka Jainacharya | Acharya Raj Kumar Jain |
| 26. CharakaChintana | Acharya Priyavrata Sharma |
| 27. Vagbhata Vivechana | Acharya Priyavrata Sharma |
| 28. Atharvaveda and Ayurveda | Dr. Karambelkara |
| 29. Ayurvedic Medicine Past and Present | Pt. Shiv Sharma |
| 30. Ancient Scientist | Dr. O.P. Jaggi |
| 31. Luminaries of Indian Medicine | Dr. K.R. Shrikanta Murthy |
| 32. Ayurveda Ke Itihasa Ka Parichaya | Dr. RaviduttaTripathi |
| 33. Ayurveda Ke Pranacharya | Ratnakara Shastri |
| 34. Ayurveda Itihasa Parichaya | Prof. Banwari Lal Gaur |

1.3 KRIYA SHARIR (PHYSIOLOGY)

**Theory-Two Papers-200 Marks (100 marks each)
Teaching hours-180 hours**

PAPER- I

100 marks

PART- A

50 marks

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

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

PART- B

50 marks

Modern Physiology

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

PAPER- II

100 marks

PART- A

50 marks

1. Dhatu:

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

2. Rasa Dhatu:

Etymology, derivation, location, properties, functions and Praman of Rasa-dhatu. Physiology of Rasavaha Srotas, Formation of Rasa Dhatu from Aahara Rasa, circulation of Rasa (Rasa-Samvahana), role of Vyana Vayu and Samana Vayu in Rasa Samvahana. Description of functioning of Hridaya. Ashtavidha Sara (8 types

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

3. Rakta Dhatu:

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

4. Mamsa Dhatu :

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

5. Meda Dhatu :

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

6. Asthi Dhatu:

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

7. Majja Dhatu :

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

8. Shukra Dhatu:

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

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

10. Ojas: Etymological derivation, definition, formation, location, properties, Praman, classification and functions of Ojas. Description of Vyadhikshamatva. Bala Vriddhikara Bhava. Classification of Bala. Etiological factors and manifestations of Ojavisramsa, Vyapat and Kshaya.

- 11. Upadhatu:** General introduction, etymological derivation and definition of the term Upadhatu. Formation, nourishment, properties, location and functions of each Upadhatu.
- Stanya: Characteristic features and methods of assessing Shuddha and Dushita Stanya, manifestations of Vriddhi and Kshaya of Stanya.
 - Artava: Characteristic features of Shuddha and Dushita Artava. Differences between Raja and Artava, physiology of Artavavaha Srotas.
 - Tvak: classification, thickness of each layer and functions.
- 12. Mala:** Etymological derivation and definition of the term Mala. Aharamala: Enumeration and description of the process of formation of Aharamala.
- Purisha: Etymological derivation, definition, formation, properties, quantity and functions of Purisha. Physiology of Purishavaha Srotas, manifestations of Vriddhi and Kshhaya of Purisha.
 - Mutra: Etymological derivation, definition, formation, properties, quantity and functions of Mutra. Physiology of Mutravaha Srotas, physiology of urine formation in Ayurveda, manifestations of Vriddhi and Kshhaya of Mutra.
 - Sveda: Etymological derivation, definition, formation and functions of Sveda. Manifestations of Vriddhi and Kshaya of Sveda. Discription of Svedvaha Srotas
 - Dhatumala: Brief description of each type of Dhatumala.
- 13. Panchagyanendriya:** Physiological description of Panchagyaanendriya and physiology of perception of Shabda, Sparsha, Rupa, Rasa and Gandha. Physiological description of Karmendriya.
- 14. Manas:** Etymological derivation, definition, synonyms, location, properties, functions and objects of Manas. Physiology of Manovaha Srotas.
- 15. Atma:** Etymological derivation, definition, properties of Atma. Difference between Paramatma and Jivatma; Characteristic features of existence of Atma in living body.
- 16. Nidra:** Nidrotpatti, types of Nidra, physiological and clinical significance of Nidra; Svapnotpatti and types of Svapna.

PART –B

50 marks

Modern Physiology

- Haemopoetic system – composition, functions of blood and blood cells, Haemopoiesis (stages and development of RBCs, and WBCs and platelets), composition and functions of bone marrow, structure, types and functions of haemoglobin, mechanism of blood clotting, anticoagulants, physiological basis of blood groups, plasma proteins, introduction to anaemia and jaundice.
- Immunity, classification of immunity: Innate, acquired and artificial. Different mechanisms involved in immunity: Humoral (B-cell mediated) and T-Cell mediated immunity. Hypersensitivity.**
- Muscle physiology – comparison of physiology of skeletal muscles, cardiac muscles and smooth muscles. Physiology of muscle contraction.
- Physiology of cardio-vascular system: Functional anatomy of cardiovascular system. Cardiac cycle. Heart sounds. Regulation of cardiac output and venous

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

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

PRACTICAL

100 marks

Teaching hours-180

Ayurvedic practical

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

Modern physiology practical

1. Introduction to laboratory instruments- Simple & Compound Microscope, Scalp vein set, bulbs for blood collection, Sahli's Haemometer, Haemocytometer, pipettes, Urinometer, Albuminometer, Stethoscope, B.P. Apparatus, Harpenden's caliper, Clinical Hammer, Tuning Fork, Stop Watch, Thermometer, Centrifuge machine, ECG Machine
2. Collection of blood sample – prick, vene-puncture method, use of anticoagulants
3. Preparation of blood smear and staining
4. Estimation of Hemoglobin
5. Microscopic examination of blood
 - a. Total RBC count
 - b. Total WBC count
 - c. Differential leucocyte count
6. Packed cell volume (PCV) demonstration
7. ESR demonstration
8. Bleeding time, Clotting time
9. Blood grouping and Rh typing
10. Examination of Cardio-Vascular system
 - a. Pulse examination
 - b. Arterial blood pressure measurement
 - c. Examination of heart sounds
 - d. ECG demonstration
11. Examination of Respiratory system
 - a. Respiratory rate
 - b. Breath sounds
 - c. Spirometry
12. Examination of Nervous System- Sensory & Motor.

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

Distribution of Practical marks

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

REFERENCE BOOKS:-

- Ayurvediya Kriyasharir - Ranjit Rai Desai
- Kayachikitsa Parichaya - C. Dwarkanath
- Prakrit Agni Vigyan - C. Dwarkanath
- Sharir Kriya Vigyan - Shiv Charan Dhyani
- Abhinava Sharir Kriya Vigyana - Acharya Priyavrata Sharma
- Dosha Dhatu Mala Vigyana - Shankar Gangadhar Vaidya
- Prakrita Dosha Vigyana - Acharya Niranjana Dev
- Tridosha Vigyana - Shri Upendranath Das
- Sharira Tatva Darshana - Hirlekar Shastri
- Prakrita Agni Vigyana - Niranjana Dev
- Deha Dhatvagni Vigyana - Vd. Pt. Haridatt Shastri
- Sharir Kriya Vigyana (Part 1-2) - Acharya Purnchandra Jain
- Sharir Kriya Vigyana - Shri Moreshwar Dutt. Vd.
- Sharira Kriya Vijnana (Part 1 and 2) – Nandini Dhargalkar
- Dosha Dhatu Mala Vigyana - Basant Kumar Shrimal
- Abhinava Sharir Kriya Vigyana - Dr. Shiv Kumar Gaur
- Pragyogik Kriya Sharir - Acharya P.C. Jain
- Kaya Chikitsa Parichaya - Dr. C. Dwarkanath
- Concept of Agni - Vd. Bhagwan Das
- Purush Vichaya - Acharya V.J. Thakar
- Kriya Sharir - Prof. Yogesh Chandra Mishra
- Sharir Kriya Vigyana - Prof. Jayaram Yadav &Dr. Sunil Verma.
- Basic Principles of Kriya-Sharir (A treatise on Ayurvedic Physiology) by Dr. Srikant Kumar Panda
- Sharir Kriya – Part I & Part II – Dr. Ranade, Dr. Deshpande & Dr. Chobhe
- Human Physiology in Ayurveda - Dr Kishor Patwardhan
- Sharirkriya Vignyan Practical Hand Book– Dr.Ranade, Dr.Chobhe, Dr. Deshpande
- Sharir Kriya Part 1 – Dr.R.R.Deshapande, Dr.Wavhal
- Sharir Kriya Part 2 – Dr. R.R.Deshapande, Dr.Wavhal
- Ayurveda Kriya Sharira- Yogesh Chandra Mishra
- Textbook of Physiology - Gyton & Hall
- A Textbook of Human Physiology – A.K.Jain
- Essentials of Medical Physiology - Sembulingam, K.
- Concise Medical Physiology - Chaudhari, Sujit K.
- Principals of Anatomy & Physiology - Tortora & Grabowski
- Textbook of Medical Physiology- Indu Khurana

1.4 RACHNA SHARIR (ANATOMY)

**Theory- Two Papers-200 Marks-(100 marks each)
Teaching Hours-180 hours**

PAPER-I

100 marks

PART-A

50 marks

1. Shariropkramaniya Shaarira

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

2. Paribhasha Shaarira

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

3. Garbha Shaarira

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

4. Pramana Shaarira: Anguli pramana.

5. Asthi Shaarira

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

6. Sandhi Shaarira

Sandhi vyakhya, numbers, types of asthi sandhi.

7. Sira, Dhamani, Srotas Shaarira

- Definition, types and number of sira and dhamani.
- Description of Hridaya.
- Srota shaarira: Definition, types of srotas and srotomula.

8. Peshi Shaarira

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

9. Koshtha Evam Ashaya Shaarira

- Definition of koshta and number of koshtanga.
- Types and description of ashaya.

10. Kalaa Shaarira

Kalaa: definition and types.

11. Uttamangiya Shaarira

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

12. Marma Shaarira

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

13. Indriya Shaarira

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

PART-B

50 marks

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

2. Anatomical Terminologies

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

3. Embryology

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

4. Osteology

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

5. Arthrology

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

6. Cardiovascular system

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

7. Lymphatic system

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

8. Myology

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

Paper II

100 marks

Part A

50 marks

1. Respiratory System

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

2. Digestive system

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

3. Urinary System

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

4. Reproductive system

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

5. Endocrinology

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

PART B

50 marks

6. Nervous System

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

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

7. Sensory organs

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

8. Surface and radiological anatomy

- a. Study of radio-imaging of limbs, abdomen, pelvis and vertebral column with its clinical application.
- b. Surface anatomy of thoracic and abdominal viscera.

PRACTICAL

100 marks

Teaching hours: 180

Content of practical

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

Distribution of marks

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

Total

100 Marks

Reference Books :-

S. No.	Name of Book	Author
1.	Brihat Shariram Vaidyaratna-	P.S. Varrier
2.	Abhinava Shariram-	Acharya Damodar Sharma Gaur
3.	Manava Sharir (Revised Edition)-	Prof. Dinkar Govind Thatte
4.	Manava Bhruna Vigyana -	Prof. Dinkar Govind Thatte
5.	Manava Anga Rekhankan Vikrian -	Prof. Dinkar Govind Thatte
6.	Sharir Rachana Vigyan (English)-	Vaidya P.G. Athawale
7.	Manual of Practical Anatomy Cunnigham	Practical Manual Vol-1, Vol-2, Vol-3
8.	Clinical Anatomy in Ayurveda -	Prof. D.G. Thatte & Prof. Suresh Chandra
9.	Sharir Rachna Vigyan (English)-	Prof. D.G. Thatte
10.	Ayurvedic Human Anatomy -	Prof. Dr. Giridhar M. Kanthi
11.	Regional Anatomy -	B. D. Chaurasia
12.	Rachana Sharir Vigyana -	Dr. Mahendra Sing
13.	relevant chapters of Brihtrayee and Laghuthrayee	
14.	Gray's Anatomy	
15.	Text Book of Human Anatomy-	Inderbir Singh
16.	Clinical Anatomy-	Richard S Snell
17.	Fundamentals of Human Anatomoy-	Dr. Chakraborty
18.	Human Osteology -	Poddar

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

Theory- One Paper- 100 marks
Teaching Hours -120 hours

Part A

60 marks

Ashtang Hridaya Sutrasthana Adhyaya 1 to 15

Part B

40 marks

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

Reference Books:

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