

Faculty of Indian Medical System
KRIYA SHARIR (PHYSIOLOGY)

Sl.No	Topic	DOMAIN	Time
	<u>AYURVEDIC PART –PAPER I</u>		
1.	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.	Must know	3 hours
2.	2. Definition and synonyms of the terms: 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.	Must Know	4 hours
3.	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.	Must Know	4 hours
4.	4. Vata Dosha: Vyutpatti (derivation), Nirukti	Must Know	6 hours

	(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 Respiratory Physiology in Ayurveda, Physiology of speech in Ayurveda..		
5.	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.	Must Know	6 hours
6.	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.	Must Know	4 hours
7.	7. Etiological factors responsible for: Dosha Vriddhi, Dosha Kshaya and their manifestations	Nice to know	2 hours
8.	8. Concept of Kriyakala.	Must Know	3 hours
9.	9. Prakriti:	Must Know	

	<p>a) Deha- Prakriti: Vyutpatti, Nirukti, various definitions and synonyms for the term „Prakriti“.</p> <p>Intra-uterine and extra-uterine factors influencing Deha-Prakriti, classification and characteristic features of each kind of Deha-Prakriti.</p> <p>b) Manasa- Prakriti: Introduction and types of Manasa- Prakriti.</p>		5 hours
10.	<p>10. Ahara:</p> <p>Definition, classification and significance of Ahara,</p> <p>Ahara-vidhi-vidhana,</p> <p>Ashta Aharavidhi Visesayatana,</p> <p>Ahara Parinamkar Bhava.</p>	Must Know	5 hours
11.	<p>11. Aharapaka (Process of digestion):</p> <p>Description of Annavaha Srotas and their Mula. Role of Grahani & Pittadhara Kala.</p>	Nice to know	3 hours
12.	<p>12. Description of Avasthapaka (Madhura, Amla and Katu).</p> <p>Description of Nishthapaka (Vipaka) and its classification. Separation of Sara and Kitta. Absorption of Sara. Genesis of Vata-Pitta-Kapha during Aharapaka process.</p> <p>Definition of the term Koshtha. Classification of Koshtha and the characteristics of each type of Koshtha.</p>	Nice to know	5 hours

13.	<p>13. Agni –</p> <p>Definition and importance, synonyms, classification, location, properties and functions of Agni and functions of Jatharagni, Bhutagni, and Dhatvagni.</p>	Must Know	5 hours
<u>MODERN PHYSIOLOGY-PAPER I</u>			
14.	<p>a) Definition and mechanisms of maintenance of homeostasis.</p> <p>Cell physiology. Membrane physiology.</p> <p>Transportation of various substances across cell membrane.</p> <p>b) Resting membrane potential and action potential.</p>	Desirable to Know	<p>3 hours</p> <p>2 hours</p>
15.	<p>c) Physiology of respiratory system:</p> <p>functional anatomy of respiratory system.</p> <p>Definition of ventilation, mechanism of respiration, exchange and transport of gases, neural and chemical control of respiration, artificial respiration,</p>	Must Know	6 hours

	<p>asphyxia, hypoxia.</p> <p>Introduction to Pulmonary Function Tests.</p>		
16.	<p>d) Physiology of Nervous System:</p> <p>General introduction to nervous system, neurons, mechanism of propagation of nerve impulse, physiology of CNS, PNS, ANS;</p> <p>physiology of sensory and motor nervous system,</p> <p>Functions of different parts of brain and physiology of special senses, intelligence, memory, learning and motivation.</p> <p>Physiology of sleep and dreams, EEG.</p> <p>Physiology of speech and articulation.</p> <p>Physiology of temperature regulation.</p>	Nice to know	9 hours
17.	<p>e)GIT</p> <p>Functional anatomy of gastro-intestinal tract, mechanism of secretion and composition of different digestive juices.</p> <p>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.</p>	Must Know	5 hours
18.	<p>f) Acid-base balance, water and electrolyte balance.</p> <p>Study of basic components of food.</p> <p>Digestion and metabolism of</p>	Nice to know	

	proteins, fats and carbohydrates. Vitamins & Minerals- sources, daily requirement, functions, manifestations of hypo and hypervitaminosis		7 hours
<u>AYURVEDIC PART- PAPER II</u>			
19.	1. Dhatu: Etymology, derivation, definition, general introduction of term Dhatu, different theories related to Dhatuposhana (Dhatuposhana Nyaya)	Must Know	5 hours
20.	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.	Must Know	5 hours
21.	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.	Must Know	8 hours
22.	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.	Nice to know	1 hour
23.	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.	Nice to know	1 hour
24.	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.	Nice to know	1 hour
25.	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.	Nice to know	1 hour
26.	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.	Must Know	1 hour
27.	9. Concept of Ashraya-Ashrayi bhava i.e. inter-relationship among Dosha, Dhatu Mala and Srotas.	Nice to know	1 hour
28.	10. Ojas: Etymological derivation, definition, formation, location, properties, Praman, classification and functions of Ojas. Description of Vyadhikshamatva. Bala Vriddhikara Bhava. Classification of Bala. Etiological factors and manifestations of Ojavisramsas, Vyapat and Kshaya.	Must Know	3 hours
29.	11. Upadhatu: General introduction, etymological		

	<p>derivation and definition of the term Upadhatu. Formation, nourishment, properties, location and functions of each Upadhatu.</p> <p>a) Stanya: Characteristic features and methods of assessing Shuddha and Dushita Stanya, manifestations of Vriddhi and Kshaya of Stanya.</p> <p>b) Artava: Characteristic features of Shuddha and Dushita Artava. Differences between Raja and Artava, physiology of Artavavaha Srotas.</p> <p>c) Tvak: classification, thickness of each layer and functions.</p>	Must Know	7 hours
30.	<p>12. Mala: Etymological derivation and definition of the term Mala. Aharamala: Enumeration and description of the process of formation of Aharamala.</p> <p>a) Purisha: Etymological derivation, definition, formation, properties, quantity and functions of Purisha. Physiology of Purishavaha Srotas, manifestations of Vriddhi and Kshhaya of Purisha.</p> <p>b) Mutra: Etymological derivation, definition, formation, properties, quantity and functions of Mutra. Physiology of Mutravaha Srotas, physiology of urine formation in Ayurveda, manifestations of Vriddhi and Kshhaya of Mutra.</p> <p>c) Sveda: Etymological derivation, definition, formation and functions of Sveda. Manifestations of Vriddhi and Kshaya of Sveda. Discription of Svedvaha Strotas</p> <p>d) Dhatumala: Brief description of each type of Dhatumala</p>	Nice to know	3 hours

31.	13. Panchagyanendriya: Physiological description of Panchagyaanendriya and physiology of perception of Shabda, Sparsha, Rupa, Rasa and Gandha. Physiological description of Karmendriya.	Must Know	6 hours
32.	14. Manas: Etymological derivation, definition, synonyms, location, properties, functions and objects of Manas. Physiology of Manovaha Srotas.	Desirable to Know	1 hour
33.	15. Atma: Etymological derivation, definition, properties of Atma. Difference between Paramatma and Jivatma; Characteristic features of existence of Atma in living body.	Good to know	1 hour
34.	16. Nidra: Nidrotpatti, types of Nidra, physiological and clinical significance of Nidra; Svapnotpatti and types of Svapna	Must Know	3 hours
<u>MODERN PHYSIOLOGY-PAPER II</u>			
35.	1. Haemopoetic system – composition, functions of blood and blood cells, Haemopoiesis (stages and development of RBCs, and WBCs and platelets), composition and functions of bone marrow, structure, types and functions of haemoglobin, mechanism of blood clotting, anticoagulants, physiological basis of blood groups, plasma proteins, introduction to anaemia and jaundice	Must Know	9 hours
36.	2. Immunity, classification of immunity:		6 hours

	Innate, acquired and artificial. Different mechanisms involved in immunity: Humoral (B-cell mediated) and T-Cell mediated immunity. Hypersensitivity	Must Know	
37.	3. Muscle physiology – comparison of physiology of skeletal muscles, cardiac muscles and smooth muscles. Physiology of muscle contraction.	Nice to know	2 hours
38.	4. Physiology of cardiovascular 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.	Must Know	7 hours
39.	5. Adipose tissue, lipoproteins like VLDL, LDL and HDL triglycerides.	Nice to know	2 hours
40.	6. Functions of skin, sweat glands and sebaceous glands.	Nice to know	2 hours
41.	7. Physiology of male and female reproductive systems. Description of ovulation, spermatogenesis, oogenesis, menstrual cycle.	Must Know	3 hours
42.	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.	Must Know	4 hours
43.	9. Endocrine glands – General introduction to endocrine system, classification and characteristics of hormones, physiology of all endocrine glands, their functions and their effects.	Must Know	9 hours
	<u>PRACTICALS</u>		
44.	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	Must Know	9 hours
45.	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	Nice to know	34 hours
46.	2. Collection of blood sample – prick, vene-puncture method, use of anticoagulants	Nice to know	6 hours

47.	3. Preparation of blood smear and staining	Must know	8 hours
48.	4. Estimation of Hemoglobin	Must know	6 hours
49.	5. Microscopic examination of blood a. Total RBC count b. Total WBC count c. Differential leucocyte count	Must know	22 hours
50.	6. Packed cell volume (PCV) demonstration	Nice to know	2 hours
51.	7. ESR demonstration	Nice to know	4 hours
52.	8. Bleeding time, Clotting time 9. Blood grouping and Rh typing	Must Know	12 hours
53.	10. Examination of Cardio-Vascular system a. Pulse examination b. Arterial blood pressure measurement c. Examination of heart sounds d. ECG demonstration	Must Know	16 hours
54.	11. Examination of Respiratory system a. Respiratory rate b. Breath sounds c. Spirometry	Must Know	16 hours

55.	12. Examination of Nervous System- Sensory & Motor.	Nice to know	20 hours
56.	13. Urine examination –Physical examination, chemical examination. Test for normal constituents of urine. Detection of specific gravity and reaction of urine.	Must Know	22 hours

CURRICULUM PLANNING

Sl. no	Topic	Methodology	Teaching guidelines	Time
	<u>AYURVEDIC PART –PAPER I</u>			
1.	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.	Didactic OHP PBL	To cover the basic concepts of ayurveda	3 hours
2.	2. Definition and synonyms of the terms: 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	Didactic PBL OHP	To cover the concepts of human physiology and know the importance of the subject clinically as well.	4 hours

	Kriya Sharira and Chikitsa.			
3.	<p>3. Dosha-</p> <p>General description of Tridosha.</p> <p>Inter relationship between Ritu-Dosha-Rasa-Guna.</p> <p>Biological rhythms of Tridosha on the basis of day-night-age-season and food intake.</p> <p>Role of Dosha in the formation of Prakriti of an individual and in maintaining of health.</p> <p>Prakrita and Vaikrita Dosha.</p>	<p>Didactic</p> <p>PBL</p> <p>OHP</p> <p>COMPILATION (STUDENT SEMINAR)</p> <p>POSTER PRESENTATION</p>	To cover all three doshas and its mutual relationship with ritu-rasa-guna-day night-age –prakriti etc.	4 hours
4.	<p>4. Vata Dosha:</p> <p>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 Respiratory Physiology in Ayurveda, Physiology of speech in Ayurveda..</p>	<p>Didactic</p> <p>PBL</p> <p>OHP</p> <p>POSTER PRESENTATION</p> <p>COMPILATION (STUDENT SEMINAR)</p>	To cover vata dosha and its importance	6 hours
5.	<p>5. Pitta Dosha:</p> <p>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</p>	<p>Didactic</p> <p>PBL</p> <p>OHP</p> <p>POSTER PRESENTATION</p> <p>COMPILATION (STUDENT SEMINAR)</p>	To cover pitta dosha and its importance	6 hours

	and Pitta.			
6.	<p>6. Kapha Dosha:</p> <p>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.</p>	<p>Didactic</p> <p>PBL</p> <p>OHP</p> <p>POSTER PRESENTATION</p> <p>COMPILATION (STUDENT SEMINAR)</p>	To cover kapha dosha and its importance	4 hours
7.	<p>7. Etiological factors responsible for:</p> <p>Dosha Vriddhi, Dosha Kshaya and their manifestations</p>	<p>Didactic</p> <p>PBL</p> <p>Group Discussion</p> <p>COMPILATION (STUDENT SEMINAR)</p>	To cover the causes of kshaya-vridhi of doshas	2 hours
8.	8. Concept of Kriyakala.	<p>Didactic</p> <p>PBL</p> <p>OHP</p> <p>POSTER PRESENTATION</p> <p>COMPILATION (STUDENT SEMINAR)</p>	To cover the pathogenesis of disease, and importance of each kala.	3 hours
9.	<p>9. Prakriti:</p> <p>b) Deha- Prakriti: Vyutpatti, Nirukti, various definitions and synonyms for the term „Prakriti“.</p> <p>Intra-uterine and extra-uterine factors influencing Deha-Prakriti, classification and characteristic features of each kind of Deha-</p>	<p>Didactic</p> <p>PBL</p> <p>OHP</p> <p>POSTER PRESENTATION</p> <p>COMPILATION (STUDENT SEMINAR)</p>	To cover the basic phenotypic-genotypic constitution of individual & clinical importance of prakriti finding	5 hours

	Prakriti. b) Manasa- Prakriti: Introduction and types of Manasa- Prakriti.	Group Discussion Case Presentation PPT SIS		
10.	10. Ahara: Definition, classification and significance of Ahara, Ahara-vidhi-vidhana, Ashta Aharavidhi Viseshayatana, Ahara Parinamkar Bhava.	Didactic PBL OHP POSTER PRESENTATION COMPILATION (STUDENT SEMINAR)	To cover the classification- importance- Of ahara-factors for proper digestion-rules followed while having food	5 hours
11.	11. Aharapaka (Process of digestion): Description of Annavaha Srotas and their Mula. Role of Grahani & Pittadhara Kala.	Didactic PBL OHP POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR)	To cover process of digestion, importance of grahani pradesh	3 hours
12.	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.	Didactic PBL OHP POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR) Case Presentation	To cover different stages of digestion, clinical importance of vipaka etc.	5 hours

13.	13. Agni – Definition and importance, synonyms, classification, location, properties and functions of Agni and functions of Jatharagni, Bhutagni, and Dhatvagni.	Didactic PBL OHP POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR) Case Presentation	To cover importance of agni	5 hours
<u>MODERN PHYSIOLOGY- PAPER I</u>				
14.	b) Definition and mechanisms of maintenance of homeostasis. Cell physiology. Membrane physiology. Transportation of various substances across cell membrane.	Didactic PBL OHP POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR)	To cover cell physiology, maintainance of homeostasis	3 hours
15.	b) Resting membrane potential and action potential.	Didactic PBL OHP	To cover rmp, ap	2 hours
16.	c) Physiology of respiratory system: functional anatomy of respiratory system. Definition of ventilation, mechanism of respiration, exchange and transport of gases, neural and chemical	Didactic PBL OHP POSTER PRESENTATION COMPILATION(ST	To cover respiratory system, applied physiology, cinical knowledge of system for examination of patient	6 hours

	control of respiration, artificial respiration, asphyxia, hypoxia. Introduction to Pulmonary Function Tests.	UDENTSEMINAR) ROLE MODEL PPT		
17.	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.	Didactic PBL OHP POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR) ROLE MODEL	To cover physiology of nervous system and its applied aspect	9 hours
18.	e)GIT 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.	Didactic PBL OHP POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR)	To cover digestive system and its applied aspect	5 hours

19.	<p>f) Acid-base balance, water and electrolyte balance.</p> <p>Study of basic components of food. Digestion and metabolism of proteins, fats and carbohydrates.</p> <p>Vitamins & Minerals- sources, daily requirement, functions, manifestations of hypo and hypervitaminosis</p>	<p>Didactic</p> <p>PBL</p> <p>OHP</p> <p>POSTER PRESENTATION</p> <p>COMPILATION(STUDENTSEMINAR)</p> <p>GROUP DISCUSSION</p>	<p>To cover clinical importance of different electrolytes, vitamins in body, to know metabolism</p>	7 hours
<u>AYURVEDIC PART- PAPER II</u>				
20.	<p>1. Dhatu: Etymology, derivation, definition, general introduction of term Dhatu, different theories related to Dhatuposhana (Dhatuposhana Nyaya)</p>	<p>Didactic</p> <p>PBL</p> <p>OHP</p> <p>POSTER PRESENTATION</p> <p>COMPILATION(STUDENTSEMINAR)</p>	<p>To cover the basic theories for dhatu formation</p>	5 hours
21.	<p>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.</p>	<p>Didactic</p> <p>PBL</p> <p>OHP</p> <p>POSTER PRESENTATION</p> <p>COMPILATION(STUDENTSEMINAR)</p>	<p>To cover ras dhatu and its clinical assessment</p>	5 hours
22.	<p>3. Rakta Dhatu: Etymology, derivation, synonyms, location, properties, functions and Praman of Rakta Dhatu.</p>	<p>Didactic</p> <p>PBL</p>	<p>To cover rakta dhatu and its clinical</p>	8 hours

	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.	OHP POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR	assessment	
23.	4. Mamsa Dhatu : Etymology, derivation, synonyms, location, properties and functions of Mamsavaha Srotasa, formation of Mamsa Dhatu, characteristics of Mamsasara Purusha, manifestations of Kshaya and Vriddhi of Mamsa Dhatu .Concept of Peshi.	Didactic PBL POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR	To cover mamsa dhatu and its clinical assessment	1 hour
24.	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.	Didactic PBL POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR	To cover meda dhatu and its clinical assessment	1 hour
25.	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.	Didactic PBL POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR	To cover asthi dhatu and its clinical assessment	1 hour
26.	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	Didactic PBL POSTER PRESENTATION COMPILATION(ST	To cover majja dhatu and its clinical assessment	1 hour

	Kshaya and Vriddhi of Majja Dhatu.	UDENTSEMINAR		
27.	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.	Didactic PBL POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR	To cover shukra dhatu and its clinical assessment	1 hour
28.	9. Concept of Ashraya-Ashrayi bhava i.e. inter-relationship among Dosha, Dhatu Mala and Srotas.	Didactic PBL	To cover interrelationship of dosha-dhatu-mala-srotas	1 hour
29.	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 Ojavisramsya, Vyapat and Kshaya.	Didactic PBL OHP POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR GROUP DISCUSSION	To cover Immune system of body according to ayurveda and its clinical assessment and importance	3 hours
30.	11. Upadhatu: General introduction, etymological derivation and definition of the term Upadhatu. Formation, nourishment, properties, location and functions of each Upadhatu. a) Stanya: Characteristic features and methods of assessing Shuddha and Dushita Stanya, manifestations of Vriddhi	Didactic PBL OHP POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR	To cover sapta dhatu To cover stanya-artava-tvak and clinical importance	7 hours

	<p>and Kshaya of Stanya.</p> <p>b) Artava: Characteristic features of Shuddha and Dushita Artava. Differences between Raja and Artava, physiology of Artavavaha Srotas.</p> <p>c) Tvak: classification, thickness of each layer and functions.</p>			
31.	<p>12. Mala: Etymological derivation and definition of the term Mala. Aharamala: Enumeration and description of the process of formation of Aharamala.</p> <p>a) Purisha: Etymological derivation, definition, formation, properties, quantity and functions of Purisha. Physiology of Purishavaha Srotas, manifestations of Vriddhi and Kshhaya of Purisha.</p> <p>b) Mutra: Etymological derivation, definition, formation, properties, quantity and functions of Mutra. Physiology of Mutravaha Srotas, physiology of urine formation in Ayurveda, manifestations of Vriddhi and Kshhaya of Mutra.</p> <p>c) Sveda: Etymological derivation, definition, formation and functions of Sveda. Manifestations of Vriddhi and Kshaya of Sveda. Discription of Svedvaha Strotas</p> <p>d) Dhatumala: Brief description of each type of Dhatumala</p>	<p>Didactic</p> <p>PBL</p> <p>OHP</p> <p>POSTER PRESENTATION</p> <p>COMPILATION(STUDENTSEMINAR</p>	<p>To cover purish-mutra-sveda and its importance and dhatumala.</p>	3 hours
32.	<p>13. Panchagyanendriya: Physiological description of Panchagyaanendriya and physiology of perception of</p>	<p>Didactic</p> <p>PBL</p>	<p>To cover importance of panch gyan-karma indriya</p>	

	Shabda, Sparsha, Rupa, Rasa and Gandha. Physiological description of Karmendriya.	OHP POSTER PRESENTATION COMPILATION(STUDENTSEMINAR)		6 hours
33.	14. Manas: Etymological derivation, definition, synonyms, location, properties, functions and objects of Manas. Physiology of Manovaha Srotas.	POSTER PRESENTATION COMPILATION(STUDENTSEMINAR) TUTORIALS	To cover manas-psychological aspect in ayurveda	1 hour
34.	15. Atma: Etymological derivation, definition, properties of Atma. Difference between Paramatma and Jivatma; Characteristic features of existence of Atma in living body.	POSTER PRESENTATION COMPILATION(STUDENTSEMINAR) TUTORIALS Didactic	To cover importance, properties, of atma	1 hour
35.	16. Nidra: Nidrotpatti, types of Nidra, physiological and clinical significance of Nidra; Svapnotpatti and types of Svapna	PBL OHP POSTER PRESENTATION COMPILATION(STUDENTSEMINAR)	To cover ayurvedic concept of nidra and clinical importance	3 hours
<u>MODERN PHYSIOLOGY-PAPER II</u>				
36.	5. Haemopoetic system – composition, functions of blood and blood cells, Haemopoiesis (stages and development of RBCs, and WBCs and	Didactic PBL OHP POSTER PRESENTATION	To cover the haemopoetic system and importance	9 hours

	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	COMPILATION(STUDENTSEMINAR ROLE MODEL (PRACTICALS) CASE PRESENTATION SIS		
37.	6. Immunity, classification of immunity: Innate, acquired and artificial. Different mechanisms involved in immunity: Humoral (B-cell mediated) and T-Cell mediated immunity. Hypersensitivity	Didactic PBL OHP POSTER PRESENTATION COMPILATION(STUDENTSEMINAR	To cover immunological aspect of defence system in body	6 hours
38.	7. Muscle physiology – comparison of physiology of skeletal muscles, cardiac muscles and smooth muscles. Physiology of muscle contraction.	Didactic PBL OHP POSTER PRESENTATION COMPILATION(STUDENTSEMINAR	To cover muscle physiology	2 hours
39.	8. Physiology of cardiovascular system: Functional anatomy of cardiovascular system. Cardiac cycle. Heart sounds.	Didactic PBL OHP POSTER	To cover circulatory system and clinical-applied aspect	7 hours

	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.	PRESENTATION COMPILATION(STUDENTSEMINAR) ROLE MODEL (PRACTICALS) PPT SIS Group discussion		
40.	5. Adipose tissue, lipoproteins like VLDL, LDL and HDL triglycerides.	Didactic PBL OHP POSTER PRESENTATION COMPILATION(STUDENTSEMINAR)	To cover lipids in our body and clinical importance	2 hours
41.	6. Functions of skin, sweat glands and sebaceous glands.	POSTER PRESENTATION COMPILATION(STUDENTSEMINAR)	To cover functions of skin-sweat-sebaceous glands	2 hours
42.	7. Physiology of male and female reproductive systems. Description of ovulation, spermatogenesis, oogenesis, menstrual cycle.	Didactic PBL OHP POSTER PRESENTATION COMPILATION(STUDENTSEMINAR)	To cover reproductive system and applied aspect	3 hours
43.	8. Physiology of Excretion – functional anatomy of urinary tract, functions of	Didactic PBL	To cover excretory	4 hours

	kidney. Mechanism of formation of urine, control of micturition. Formation of faeces and mechanism of defecation.	OHP POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR	system and applied aspect	
44.	9. Endocrine glands – General introduction to endocrine system, classification and characteristics of hormones, physiology of all endocrine glands, their functions and their effects.	Didactic PBL OHP POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR	To cover endocrine system and hormones	9 hours
<u>PRACTICALS</u>				
45.	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	Didactic PBL POSTER PRESENTATION COMPILATION(ST UDENTSEMINAR ROLE MODEL (PRACTICALS) SIS Group discussion	To cover clinical assessment of dosha-dhatu-sara-agni-koshta etc	9 hours
46.	Modern physiology practical 2. Introduction to laboratory instruments- Simple & Compound Microscope, Scalp vein set, bulbs for blood collection,	Didactic PBL ROLE MODEL (PRACTICALS) SIS	To cover the different parts of instruments used in practicals	34 hours

	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	Group discussion		
47.	2. Collection of blood sample – prick, venepuncture method, use of anticoagulants	Didactic PBL ROLE MODEL (PRACTICALS) SIS Group discussion	To cover methods of blood collection	6 hours
48.	3. Preparation of blood smear and staining	Didactic PBL ROLE MODEL (PRACTICALS) SIS Group discussion	To prepare blood film	8 hours
49.	4. Estimation of Hemoglobin	Didactic PBL ROLE MODEL (PRACTICALS) SIS Group discussion	To estimate Hb	6 hours
50.	5. Microscopic examination of blood a. Total RBC count b. Total WBC count c. Differential leucocyte	Didactic PBL ROLE MODEL	To estimate RBC, WBC,	22 hours

	count	(PRACTICALS) SIS Group discussion	different WBC, in sample of blood	
51.	6. Packed cell volume (PCV) demonstration	Didactic PBL ROLE MODEL (PRACTICALS) SIS Group discussion	To estimate PCV	2 hours
52.	7. ESR demonstration	Didactic PBL ROLE MODEL (PRACTICALS) SIS Group discussion	To estimate ESR and clinical importance	4 hours
53.	8. Bleeding time, Clotting time 9. Blood grouping and Rh typing	Didactic PBL ROLE MODEL (PRACTICALS) SIS Group discussion	To estimate BT, CT, Blood group and clinical importance	12 hours
54.	10. Examination of Cardio-Vascular system a. Pulse examination b. Arterial blood pressure measurement c. Examination of heart sounds d. ECG demonstration	Didactic PBL ROLE MODEL (PRACTICALS) SIS Group discussion PPT	To examine cardio-vascular system	16 hours

55.	11. Examination of Respiratory system a. Respiratory rate b. Breath sounds c. Spirometry	Didactic PBL ROLE MODEL (PRACTICALS) SIS Group discussion	To examine respiratory system	16 hours
56.	12. Examination of Nervous System- Sensory & Motor.	Didactic PBL ROLE MODEL (PRACTICALS) SIS Group discussion	To examine nervous system Nice to know	20 hours
57.	13. Urine examination – Physical examination, chemical examination. Test for normal constituents of urine. Detection of specific gravity and reaction of urine.	Didactic PBL ROLE MODEL (PRACTICALS) SIS Group discussion	To cover physical-chemical examination of urine	22 hours

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
- Doshha 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

Note:

Theory 2 papers – 200 marks (100 each paper)

Theory hours: 200

Paper I- Sl No: 1-18

Paper II- Sl No: 19-43

Practicals – Sl No: 44 – 56

Practical Hour: 200

Practical – 100 Marks