COURSE CURRICULUM FOR FIRST PROFESSIONAL BAMS

(PRESCRIBED BY NCISM)

KRIYA SHARIRA

(SUBJECT CODE- AyUG-KS)

HUMAN PHYSIOLOGY

(Applicable from 2021-22 batch onwards for 5 years or until further notification by NCISM, whichever is earlier)

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BOARD OF AYURVEDA
NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE
NEW DELHI-110058

SCAN ME

Kriya

NCISM

I professional Ayurvedcharya (BAMS)

Subject Code: AyUG KS

Kriya Sharir

Summary

AyUG KS Total number of Teaching hours: 600			
Lecture hours (LH) - Theory		**150 Hours**	**150 Hours (LH)**
Paper I	75 Hours		
Paper II	75 Hours		
Non-Lecture hours (NLH) – Theory		**50 Hours**	**250 Hours (NLH)**
Paper I	25 Hours		
Paper II	25 Hours		
Non-Lecture hours (NLH) - Practical		**200 Hours**	

AyUG KS Examination (Papers & Mark Distribution)				
Item	**Theory Component Marks**	**Practical Component Marks**		
		Practical	**Viva**	**IA**
Paper I	**100**	**100**	**70**	**30**
Paper II	**100**			
Sub-Total	**200**	**200**		
Total marks	**400**			

Preface

Kriya Sharir (Human Physiology) is an important subject of the BAMS program for the undergraduate students of Ayurveda. The term sharir means ‘in the sharir’ or ‘related to the sharir’ thus Sharir Kriya deals with the study of the human body concerning its physiological norms i.e., the functioning of the human body in its normal state. This subject refers to the physiology and biochemistry of contemporary medical science.

The swasthya of an individual is based on 3 pillars of the body i.e., dosha, dhatu & mala. Kriya Sharir subject mainly deals with these 3 pillars. The basic concepts, knowledge, and applicability of Tridosha (Vata, Pitta, Kapha), Sapta Dhatus (Rasa, Rakta, Mamsa, Meda, Asthi, Majja, Shukra), and Trimala (Mutra, Purish, Sweda) are very important in the critical understanding of the disease. Kriya Sharir also deals with Prakriti, Strotas, Kostha, Agni, Oja, Mana, Aahar (Basic principles of food), shatkriyakal, the system-wise study of contemporary science, senses function and dysfunction, etc. All these fundamental topics are essential for the proper understanding of etiopathogenesis, diagnosis of disease, and its management which will be covered in para-clinical and clinical subjects.

New curriculum of Kriya Sharir is designed considering cognitive, affective, and psychomotor domains. There are group discussions, workshops, field visits, and activities beyond the textbook during the practical hours like preparation of charts, models, seminar presentations by students. Kriya Sharir subject also deals with teaching-learning methods like role play, flipped the classroom, etc. Some assessment methods like OSPE, PBL, DOPS, CBD, skill assessment, etc are incorporated. The main aim of the curriculum is to highlight the basic knowledge and to give a new scientific approach to undergraduate students to develop their skills of Ayurveda and make them competent to apply in clinical practice and research.

Index

Course Code and Name of Course

	Course code	Name of Course
	AyUG KS	**Kriya Sharir (Human Physiology)**

AyUG KS Course

Table 1- Course learning outcomes and matched PO.

SR1 CO No	A1 Course learning Outcomes (CO) AyUG KS At the end of the course AyUG-KS, the student should be able to-	B1 Course learning Outcomes matched with program learning outcomes.
CO 1	Explain all basic principles & concepts of Kriya Sharir along with essentials of contemporary human physiology and biochemistry related to all organ systems.	PO1, PO2
CO 2	Demonstrate and communicate normal and abnormal variables pertaining to Kriya Sharir such as Sara, Agni, Koshtha, Srotas etc.	PO2, PO3
CO 3	Differentiate between Prakriti and Vikriti in the individuals after carrying out relevant clinical examinations.	PO1, PO2, PO3, PO5
CO 4	Carry out clinical examination and experiments using equipments with interpretation of their results	PO4
CO 5	Differentiate the strengths & limitations of Ayurved and contemporary sciences	PO2
CO 6	Present a short project work / research activity covering the role of Kriya Sharir in preventive and promotive healthcare.	PO5, PO6, PO7, PO8, PO9
CO 7	Show a sense of curiosity and questioning attitude towards the life processes and to display compassion and ethical behaviour	PO2, PO5, PO6, PO7, PO9
CO 8	Effectively communicate verbally and in writing preferably using Ayurvedic terminology along with contemporary terminology among peers, teachers and community	PO8, PO9

Table 2 : Contents of Course AyUG KS

Paper I – AyUG-KS					
Sr No	**A2 List of Topics AyUG-KS** **Paper I**	**B2 Term**	**C2 Marks**	**D2 Lecture hours**	**E2 Non-Lecture hours**
PART-A (Marks-60)					
1	**Sharir:** Definition and synonyms of term Kriya, Sharir & Shaarir. Description of Sharir Dosha and Manasa Dosha. Mutual relationship between Triguna-Tridosha & Panchmahabhuta.	**I**	08	2	1
2	**Basic principles of Ayurveda:** Dosha dhatu mala mulam hi shariram. Description of basics of Srotas	**I**		2	1
3.	**Tridosha:** 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.	**I**		3	0
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.	**I**	26	6	2
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.	**I**		5	1
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.	**II**		4	1
7.	**Dosha Vriddhi-Kshaya:** Etiological factors responsible for Dosha Vriddhi, Dosha Kshaya and their manifestations.	**II**		1	1
8.	**Kriyakala:** Concept of Kriyakala, applied physiology of diseases produced due the vitiation of vata, pitta and kapha.	**II**		1	1
9	**Prakriti:** **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. **Manasa- Prakriti:** Introduction and types of Manasa- Prakriti	**II**		7	3
10.	**Ahara**: Definition, classification and significance of Ahara,	**III**		3	1

	Ahara-vidhi-vidhana, Ashta Aharavidhi Viseshayatana, Ahara Parinamkar Bhava.				
11.	**Agni**: Definition and importance, synonyms, classification, location, properties and functions of Agni and functions of Jatharagni, Bhutagni, and Dhatvagni.	**III**	26	4	1
12.	**Aharapaka** (Process of digestion): Description of Annavaha Srotas and their Mula. Description of Avasthapaka (Madhura, Amla and Katu). Description of Nishthapaka (Vipaka) and its classification. Role of Grahani & Pittadhara Kala. 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.	**III**		7	2
PART-B (Marks-40)					
1	**Physiology Homeostasis**: Definition and mechanisms of maintenance of homeostasis. Cell physiology. Membrane physiology. Transportation of various substances across cell membrane. Resting membrane potential and action potential. Acid-base balance, water and electrolyte balance. Study of basic components of food.	**I**	23	5	1
2	**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.	**II**		5	2
3	**Physiology of Gastrointestinal system**: 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. Digestion and metabolism of proteins, fats and carbohydrates. Vitamins & Minerals- sources, daily requirement, functions, manifestations of hypo and hypervitaminosis.	**II**		7	2
4	**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.	**III**	17	7	3
5	**Physiology of Endocrine glands**: General introduction to endocrine system, classification and characteristics of hormones, physiology of all endocrine glands, their functions and their effects.	**III**		6	2

Paper II – AyUG-KS					
	A2 **List of Topics** **Paper II**	**B2** **Term**	**C2** **Marks**	**D2** **Lecture hours**	**E2** **Non-Lecture hours**
PART-A (Marks-60)					
1	**Dhatu**: Etymology, derivation, definition, general introduction of term Dhatu, different theories related to Dhatuposhana (Dhatuposhana Nyaya)	**I**	18	2	1
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, characteristics of Tvakasara Purusha, conceptual study of Aashraya-Aashrayi Bhaava and its relation to Rasa and Kapha. Manifestations of kshaya and Vriddhi of Rasa	**I**		4	1
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.	**I**		3	1
4.	**Mamsa Dhatu**: Etymology, derivation, synonyms, location, properties and functions of Mamsa Dhatu, physiology of Mamsavaha Srotas, formation of Mamsa Dhatu, characteristics of Mamsasara Purusha, manifestations of Kshaya and Vriddhi of Mamsa Dhatu, Concept of Peshi.	**I**		2	1
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.	**I**		3	1
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.	**II**	19	2	1
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	**II**		3	1

	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.	**II**		3	1
9	**Concept of Ashraya-Ashrayi bhava** i.e. inter-relationship among Dosha, Dhatu Mala and Srotas. Applied physiology of diseases asserting saptadhatu enlisted under dhatu pradoshaj vikar.	**II**		1	1
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.	**II**		3	1
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 layer and functions.	**II**	23	6	1
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.	**III**		6	2
13	**Indriya vidnyan**: Physiological description of Panchagyaanendriya and physiology of perception of Shabda, Sparsha, Rupa, Rasa and Gandha. Physiological description of Karmendriya.	**III**		1	1
14	**Manas**: Properties, functions and objects of Manas. Physiology of Manovaha Srotas.	**III**		2	1
15	**Atma**: Properties of Atma. difference between Paramatma and Jivatma; Characteristic features of existence of Atma in living body.	**III**		2	0
16	**Nidra & Swapna**: Nidrotpatti, types of Nidra, physiological and clinical significance of Nidra; Svapnotpatti and types of Svapna.	**III**		2	0

PART-B (Marks-40)					
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.	**I**	18	5	2
2	**Immunity**: classification of immunity: Innate, acquired and artificial. Different mechanisms involved in immunity: Humoral (B-cell mediated) and T-Cell mediated immunity. Hypersensitivity.	**I**		2	0
3	**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.	**I**		5	2
4	**Muscle physiology**: comparison of physiology of skeletal muscles, cardiac muscles and smooth muscles. Physiology of muscle contraction.	**II**	07	2	0
5	**Adipose tissue**: lipoproteins like VLDL, LDL and HDL triglycerides. Functions of skin, sweat glands and sebaceous glands.	**II**		2	1
6	**Physiology of male and female reproductive** systems: Description of ovulation, spermatogenesis, oogenesis, menstrual cycle.	**II**	15	5	2
7	**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.	**III**		4	2
8	**Special Senses, Sleep and Dreams**: Physiology of special senses. physiology of sleep and dreams	**III**		5	1

Table 3: Learning objectives (Theory) of Course AyUG-KS

PAPER I									
A3 Course outcome	**B3 Learning Objective (At the end of the session, the Students should be able to)**	**C3 Domain/sub**	**D3 Must to know/ desirable to know/Nice to know**	**E3 Level Does/ Shows how/ Knows how/ Know**	**F3 T-L method**	**G3 Assessment**	**H3 Formative /summative**	**I3 Term**	**J3 Integration**
	Paper I (Part A) (60 Hours)								
	Topic 1 – *Sharir* (human body) (3 hr) [Lecture: 2 hours, non-lecture: 1 hour]								
CO 1	Explain the definition and synonyms of the term *kriya*, *sharira* and *shaarira*	Cognitive (recall, comprehension)	Mk	K	Lecture	Written/ (MCQ, MEQ, LAQ, SAQ) Viva voce	F & S	I	
CO 2	Enlist the *sharira dosha* and *manasa dosha* and	Cognitive (recall, comprehension)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Explain mutual relationship between *trigun*a, *panchmahabhuta* and *tridosha*	Cognitive (comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
	Topic 2 – Basic Principles of *Kriya Sharir* (3 hr) [Lecture: 2 hours, non-lecture: 1 hour]								
CO 1	Express critical view of why *dosha- dhatu-mala* are described in specific numbers.	Cognitive (recall)	Dk	Kh	Discussion	Written	F	I	
CO 1	Explain the principle of "*dosha-dhatu-mala mulam hi shariram".*	Cognitive (recall)	Mk	Kh	Lecture Discussion	Written	F & S	I	
CO 1	Discuss term homeostasis in *dosha-*	Cognitive (comprehension)	Dk	Kh	Discussion	Viva voce	F	I	

	dhatu-mala.								
CO 1	Explain role of *srotas* in the body.	Cognitive (comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Explain the basic concept of *srotas* and classify different *srotas* based on Rachana (morphological), *kriya* (functions) and *guna* (properties)	Cognitive (comprehension)	Mk	Kh	Lecture Discussion Flipped classroom	Written/ Viva voce	F & S	I	*Rachana sharir*
CO 1	Describe the significance of the knowledge of *srotas* in *kriya sharira*	Cognitive (comprehension)	Mk	Kh	Discussion	Written/ Viva voce	F & S	I	
CO 1	Compare *mula sthana* of *srotas* described in *samhitas* in view of *kriya sharir* and contemporary medical science	Cognitive (application)	Dk	Kh	Model Discussion Tutorial Assignment	Viva voce	F & S	I	
CO 1	Find out similarities and differences between *srotas* and system of contemporary science.	Cognitive (application)	Nk	Kh	Discussion Self-learning Think-Pair-Share	Short notes	F	I	
CO 1	Document observations on correlation of anyone environmental global change and physiological variation as per Ayurved, contemporary sciences.	Cognitive (application)	Nk	Kh	Discussion Self-learning Think-Pair-Share	Short notes	F	I	
CO 1	Recognize the contribution of Ayurveda in the formation of four basic principles of Bioethics mentioned in contemporary science.	Cognitive (recall) (comprehension)	Nk	Kh	Lecture Discussion	Written	F	I	
	Topic 3 – *Tridosha* (Three humors of the body) (3 hr) [Lecture: 3 hours, non-lecture: 0 hours]								
CO 1	Describe *utpatti*	Cognitive	Mk	K	Lecture	Written/	F & S	I	

	(prasad & malabhuta), locations of *dosha*.	(recall)				Viva voce			
CO 1	State biological rhythms or circadian cycle of *tridosha* based on day-night-age-season food intake and relation to the environment	Cognitive (comprehension)	Mk	Kh	Lecture discussion Seminar	Written/ Viva voce	F & S	I	
CO 1	Explain the applied role of *dosha* in maintaining health and State of equilibrium and recognize the role of *dosha* in the formation of *prakriti* of an individual	Cognitive (comprehension)	Mk	Kh	Lecture discussion Seminar	Written/ Viva voce	F & S	I	
CO 1	State importance of *dosha* in lifestyle management and mutual relationship between *ritu-kala-dosha-rasa-guna*	Cognitive (application)	Nk	Kh	Discussion PBL	Viva voce	S	I	
CO 1	Interpret *gurvadi guna* of *dosha* in term of applied physiology and clinical aspect in different chapters of Charak.	Cognitive (application)	Nk	Kh	Discussion PBL/CBD	Written	F	I	*Padartha Vijnana. Kayachikitsa*
CO 1	Interpret *sama* & *niram* lakshana of dosha	Cognitive (comprehension)	Dk	Kh	Discussion	Written	F	I	
CO 1	Discuss the evidences of functional significance of *vata, pitta* and *kapha* in perspective of nervous, endocrine, immune or any other system.	Cognitive (application)	Nk	Kh	Discussion Think-Pair-Share	Self-assessment	SA	I	
CO 1	Discuss how to examine vruddhi-kshaya of dosha	Cognitive (comprehension)	Dk	Kh	Discussion PBL	Viva voce	S	I	
CO 1	State materialism and	Cognitive	Mk	Kh	Discussion	Viva voce	F	I	

	immaterialism of tridosha	(comprehension)							
	Topic 4 – *Vata dosha* (8 hr) [Lecture: 6 hours, non-lecture: 2 hours]								
CO 1	Define the *vyutpatti* and *nirukti* of *vata*.	Cognitive (Recall)	Mk	K	Lecture	Written/ Viva voce	F & S	I	
CO 1	Describe *guna* and general locations of *vata dosha*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe general properties & functions of *vata dosha* and demonstrate the normal *guan, karma of vata dosha* in a healthy person.	Cognitive (Comprehension)	Mk	Kh/Sh	Lecture Discussion	Written/ Viva voce	F & S	I	*Rognidan Vikriti Vidnyan*
CO 1	Enlist five types of *vata* and describe *prana, udana vata* with their specific locations, properties and functions.	Cognitive (Recall & Comprehension)	Mk	Kh	Lecture Confusion technique Demonstration Chart, Model	Written/ Viva voce Skill assessment	F & S	I	
CO 1	Explain the term *nishwas, ucchwas, shwasan* & describe the role of *prana vayu & udana vayu* in *shwasan prakriya*.	Cognitive (Comprehension)	Mk	Kh	Lecture	Written/ Viva voce	F & S	I	
CO 1	Describe *shwasan prakriya* according to *sharangadhar*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Model, Video	Written/ Viva voce	F & S	I	
CO 1	Describe clinical importance of classification of *swara* and *vyanjana* according to their *uccharana sthan*.	Cognitive (Application)	Nk	Sh	Demonstration Discussion Assignment PBL/CBL	Self-assessment	SA	I	Sanskrit
CO 1	Describe the formation and articulation of *shabda* (words) and explain the bio-physiology of	Cognitive (Comprehension)	Dk	Kh	Lecture A/V aids.	Written/ Viva voce	F & S	I	

	induction of *vaak* and role of *udaan vaayu* in it.								
CO 1	Explain role of pranayama, *puraka*, *rechaka* and *kumbhaka* in *samyaka shwasana*, *swara/ ghosha utpatti*	Cognitive (Analysis)	Nk	Sh	Demonstration Discussion Assignment PBL/CBL	Self-assessment	SA	I	*Swasthavrutta*
CO 1	Describe *samana* with their specific locations, properties and functions.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Confusion technique Demonstration Chart, Model	Written/ Viva voce	F & S	I	
CO 1	Describe *vyana vata* with their specific locations, properties and functions.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Confusion technique Demonstration Chart, Model	Written/ Viva voce	F & S	I	
CO 1	Describe role of *vyana vayu* & *samana vayu* in the process of *rasa-samvahanana*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Seminar	Written/ Viva voce	F & S	I	
CO 1	Review the contribution of *vyan and saman vayu* in the process of cardiac circulation.	Cognitive (Comprehension)	Dk	K	Discussion	Written/ Viva voce	F	I	
CO 1	Interprete microbiota, gut brain axis for understanding enteric nervous system in perspective of *vata, saman vayu.*	Cognitive (Comprehension)	Nk	K	Discussion	Self-assessment	SA	I	
CO 1	Describe *Apana vata* with their specific locations, properties and functions.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Confusion technique Demonstration	Written/ Viva voce	F & S	I	

CO 1	Document & discuss your observations on correlation of functions of *apana vayu* with which type of nervous system & why?	Cognitive (Comprehension)	Nk	K	Discussion	Self-assessment	SA	I	
CO 1	Illustrate gati (directions) of types of vata by using lebel diagramme.	Cognitive (analysis)	Dk	Kh	Illustration	Self-assessment Peer evaluation.	SA	I	
CO3	Explain difference between *kshaya & vriddhi lakshana* of *vata Dosha*	Cognitive (Comprehension)	MK	Kh	Chalk-board Presentation Symposium Discussion	Written/ Viva voce	F & S	I	
CO5	Interpret which type of *vata dosha* gets vitiated and in which clinical condition the use of proper *aahar dravya* is prevalent as per *kshaya, vriddhi of vata dosha*.	Cognitive (Application)	Dk	Sh	Demonstration Discussion PBL	Written/ Viva voce	F & S	I	
CO 1	Recite and to explain the important verses of *vata dosha*. (ex-*sthana, karma, types, vriddhi and kshaya*)	Cognitive (Recall)	Dk	Sh	Discussion Recitation	Written/ Viva voce	F & S	I	Sanskrit Samhita
	Topic 5 – *Pitta dosha* (6 hr) [Lecture: 5 hours, non-lecture: 1 hour]								
CO 1	Define the *vyutpatti* and *nirukti* of *pitta*.	Cognitive (Recall)	Mk	Kh	Lecture	Written/ Viva voce	F & S	II	
CO 1	Describe *guna* and general locations of *pitta dosha*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Demonstration	Written/ Viva voce Skill assessment	F & S	II	
CO 1	Describe general	Cognitive (Recall	Mk	Kh	Lecture	Written/	F & S	II	*Rognidan*

	properties & functions of *pitta dosha* and explain the normal *guna, karma of pitta dosha* in a healthy person.	& Comprehension)			Discussion Seminar	Viva voce			*Vikriti Vidnyan*
CO 1	Enlist five types of *pitta dosha* and describe *pachaka* with their specific locations, properties and functions.	Cognitive Recall	Mk	Kh	Lecture Discussion Demonstration	Written/ Viva voce	F & S	II	
CO 1	Record your opinions about functions of pachak pitta and digestive enzymes seperatly.	Cognitive (Comprehension)	Nk	Kh	Group discussion	Self-assessment	SA	II	
CO 1	Describe *ranjaka* pitta with their specific locations, properties and functions.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Demonstration	Written/ Viva voce	F & S	II	
CO 1	Describe role of *ranjaka* pitta in *rasaranjan* process as per different *aacharyas*.	Cognitive (Comprehension)	Dk	Kh	Lecture	Written/ Viva voce	F & S	II	
CO 1	Interprete stages of erythropoiesis and role of intrinsic factor, vit. B_{12} etc in hemopoiesis.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Seminar	Written/ Viva voce	F & S	II	
CO 1	Describe *alochaka*, *bhrajaka*, *sadhaka* pitta with their specific locations, properties and functions.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Demonstration	Written/ Viva voce	F & S	II	
CO 1	Discuss rhodopsin and iodopsin along with *alochaka pitta* and note down	Cognitive (Recall)	Nk	Kh	Self study	Self-assessment	SA	II	

CO 1	Elaborate the functions of bhrajaka pitta in term physiology.	Cognitive (Comprehension)	Nk	Kh	Self study	Self-assessment	SA	II	
CO 1	Describe the role of *sadhaka* pitta in *sadhana*, concentration and observe changes upon heart rate and respiratory rate	Attitude (Imitation)	Nk	Sh	Discussion Demonstration	Self-assessment	SA	II	
CO 1	Find out similarities and differences between fuctions of sadhaka pitta and neurotransmitter.	Cognitive (Analysis)	Nk	Kh	Self study	Self-assessment	SA	II	
CO 1	Explain difference between *kshaya* & *vriddhi lakshana* of *pitta Dosha*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 5	Interpret which type of *pitta dosha* gets vitiated and in which clinical condition the use of proper *aahar dravya* is prevalent as per *kshaya*, *vriddhi* of *pitta dosha*.	Cognitive (Application)	Dk	Sh	Demonstration Discussion PBL	Written/ Viva voce	F & S	II	*Swasthavrutta*
CO 1	Distinguish the similarities & differences between *agni* and *pitta* in terms of their *guna* with examples in compendia.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion PBL Seminar	Written/ Viva voce	S	II	
CO 1	Make inferences and find evidences / examples in daily regimen to support generalization of *agni* & *pitta* statement.	Cognitive (Analysis)	Nk	Sh	Demonstration Discussion Assignment PBL/CBL	Self-assessment	SA	II	
CO 1	Recite and explain the important verses of *pitta dosha*. (ex-	Cognitive (Recall)	Dk	Kh	Discussion Recitation	Written/ Viva voce	F & S	II	

	sthana, karma, types, vriddhi and kshaya)								
	Topic 6 – *Kapha dosha* (5 hr) [Lecture: 4 hours, non-lecture: 1 hour]								
CO 1	Define the *vyutpatti* and *nirukti* of *kapha dosha*.	Cognitive (Recall Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe general properties & functions of *kapha dosha* and demonstrate the normal *guan, karma* of *kapha dosha* in a healthy person.	Cognitive (Recall) (Application)	Mk	Kh	Lecture Discussion Demonstration	Written/ Viva voce Skill assessment	F & S	II	
CO 1	Enlist five types of *kapha dosha* & describe *bodhaka kapha kledaka, tarpaka* with their specific locations, properties and functions.	Cognitive (Recall)	Mk	Knows	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Identify the role of saliva in taste perception and also in other way.	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe role of *kledaka kapha* in lubricating and protective properties of mucus.	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the role of *tarpaka kapha* in protects the sensory organs.	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe *avalambaka, sleshaka* with their specific locations, properties and functions.	Cognitive (Recall)	Mk	Knows	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the role of	Cognitive	Dk	Kh	Lecture	Written/	F & S	II	

	avalambaka in heart protection and *sleshaka kapha* in arthritis.	(Comprehension)			Discussion	Viva voce			
CO 1	Explain difference between *kshaya* & *vriddhi lakshana* of *kapha Dosha*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	State importance of *prakrit shleshmik bala* / *veerya & vikrit shleshmik* mala & find out significance of above cognitive in applied aspect	Cognitive (Application)	Nk	Kh	Lecture Discussion	Self-assessment	SA	II	*Kayachikitsa*
CO 5	Interpret which type of *kapha dosha* gets vitiated and in which clinical condition the use of proper *aahar dravya* is prevalent as per *kshaya, vriddhi of kapha dosha*.	Cognitive (Application)	Nk	Sh	Demonstration Discussion PBL	Viva voce	F & S	II	*Swasthavrutta*
CO 1	Recite and explain the important verses of *kapha dosha*. (ex- *sthana, karma, vriddhi and kshaya*)	Cognitive (Recall & Comprehension)	Dk	Sh	Discussion Recitation	Written/ Viva voce	F & S	II	
CO 1	Describe neural & chemical communication system of body	Cognitive (Comprehension)	Nk	Kh	Self study	Self-assessment	SA	II	
	Topic 7 – *Dosha Vriddhi-Kshaya* (Hyper and hypo state of dosha) (2 hr) [Lecture: 1 hour, non-lecture: 1 hour]								
CO 1	Describe etiological factors causing *tridosha vriddhi & kshaya* on the basis of *dravya, guna, karma, aahaar & vihara*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	*Dravyaguna*
CO 1	Describe, observe and interpret individual	Cognitive (Comprehension	Nk	Sh	Demonstration Discussion	Self-assessment	SA	II	

	causes and symptoms of *panchavidha vataprakopa.* (*Ashtanga Hridaya nidana sthana* 16)	Application)			PBL				
CO 1	Describe *vriddhi-kshaya lakshana of vata dosha*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe *vriddhi & kshaya lakshana of pitta* and *kapha dosha*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Enumerate the *nanatmaj vyadhi of tridosha*	Cognitive (Recall)	Nk	K	Lecture	Self-assessment	SA	II	
	Topic 8 – *Kriyakala* (Treatment as per prevalent kala) (2 hr) [Lecture: 1 hour, non-lecture: 1 hour]								
CO 1	Explain the Concept of *kriyakala* & enumerate stages of *kriyakala*.	Cognitive (Recall) (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	*Rognidan Vikriti Vidnyan*
CO 1	Describe the stages *sanchaya*, *prakopa*, *prasara* of *kriyakala*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the stages *sthansanshraya*, *vyaktavastha* & *bhedavastha* of *kriyakala*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the applied physiology of diseases produced due the vitiation of *vata*, *pitta* and *kapha*.	Cognitive (Comprehension)	Nk	Sh	Lecture Discussion	Self-assessment	SA	II	
CO 1	Describe ideas given in the *shat-kriyakala* about preventive measures	Cognitive (Comprehension)	Nk	Kh	Group discussion	Self-assessment	SA	II	
	Topic 9 – *Prakriti* (*Deha- Prakriti, Manasa- Prakriti*) (Body constitution, personality, temperament of individuals) (10 hr) [Lecture: 7 hours, non-lecture: 3 hours]								
CO 1	Define the term *prakriti* and describe etymology & different	Cognitive (recall)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	II	

	meanings of the term *prakriti*.								
CO 1	Describe the role of different *matrijadi bhava* (genetic, intra-uterine and extra-uterine factors) influencing *prakriti* according to *Charaka and Sushruta*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Symposium	Written/ Viva voce	F & S	II	
CO 1	Describe the classification of different *prakriti* according to various Samhitas	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Enumerate types of *deha prakriti* and classify *deha prakriti* into eka-*doshaja*, *dvanvaja*, *samadoshaja*.	Cognitive (Recall)	Mk	Kh	Lecture Discussion Model Demonstration	Written/ Viva voce	F & S	II	
CO 1	Describe the *guna* (attributes) of *vata* prakriti according to *Charaka* Samhita	Cognitive (Comprehension)	Mk	Sh	Lecture Discussion Model Demonstration	Written/ Viva voce	F & S	II	
CO 1	Describe the *guna* (attributes) of pitta prakriti according to *Charaka* Samhita	Cognitive (Comprehension)	Mk	Sh	Discussion Role play real life experience	Written/ Viva voce	F & S	II	
CO 1	Describe the *guna* (attributes) of *kapha* prakriti according to *Charaka* Samhita	Cognitive (Comprehension)	Mk	Sh	Lecture Discussion video show Simulation	Written/ Viva voce	F & S	II	
CO 1	Describe *guna* of *vata*, *pitta* & *kapha prakriti* according to Vagbhata (abhiruchi) & *Sushruta samhita* (*anukatva*)	Cognitive (Comprehension)	Mk	Sh	Discussion Model Demonstration Team project work, Tutorial	Written/ Viva voce	F & S	II	
CO 1	Describe the *guna* (attributes) of *vata*, *pitta* & *kapha prakriti* according to	Cognitive (Comprehension)	Nk	Sh	Discussion	SA	SA	II	

	Sharangadhara Samhita								
CO 1	Describe the relationship between individual *prakriti* & *agni, koshtha.*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe classification of *bhautik prakriti* and characteristic features of the individuals belonging to each kind of *bhautik prakriti*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe classification of manas *prakriti* and characteristic features of the *satvic prakriti*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the characteristic features of *rajasic* & *tamasic* manas *prakriti*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe classification of and characteristic features of the individuals belonging to each kind of *jatyadi-prakriti*	*Cognitive (Comprehension)*	*Mk*	*Kh*	*Lecture Discussion*	*Written*	*F & S*	II	
CO 1	Similarities and difference between the *sharirik* & *manas prakriti* descriptions given in various Samhitas.	Cognitive (Comprehension)	Dk	Kh	Discussion Team project work	Written	F	II	*Kayachikitsa*
CO 1	Significance of the Cognitive of *prakriti* in clinical aspect and *pathya-apathya kalpana* in *ahara* and *vihara* of each type of *prakriti*.	Cognitive (Comprehension)	Mk	Kh	Discussion Self-learning Buzz group	Written Role play	F & S	II	
CO 1	Appreciate the use of various validated tools for assessing	Cognitive (Application)	Mk	Sh	Discussion Tutorial, Demonstration	Written/ Viva voce	F & S	II	

	Ayurvedic concept of human constitution (prakriti) (software/ questionnaire) to evaluate *prakriti*- Ex-CCRAS portal								
CO 1	Describe the relevance of *desha-kala-ritu-vaya-ahara-vihara-satmya, aushadha* of parents especially of mother on *prakriti* of individual.	Cognitive (Application/ Analysis)	Dk	Kh	Tutorial, Discussion	Viva voce Seli-assessment	SA	II	*Kayachikitsa*
CO 1	Appreciate the application of recent advances in the domain of research related to *prakriti* (genetic, physiological basis)	Cognitive (Application/ Analysis)	Nk	Kh	Discussion	Seli-assessment	SA	II	
CO 1	Recite and explain the important verses of *vata, pitta* & *kapha doshaja prakriti*.	Cognitive (Recall & Comprehension)	Dk	Kh	Discussion Recitation	Written/ Viva voce	F & S	II	
CO 1	Observe distinguish features of individuals of three contrasting *prakriti* types v*ata, pitta* and k*apha by* IGIB. Link: https://doi.org/10.1186/1479-5876-6-48	Cognitive (Application)	Nk	Sh	Team project work	Team assessment	TA	II	
CO 1	Observe standardized prakriti assessment tool by CCRAS. Link: doi/10.5005/jp-journals-10064-0019	Cognitive (Application)	Nk	Sh	Team project work	Team assessment	TA	II	
CO 1	Compare human constitution (prakriti) & genomic	Cognitive (Comprehension)	Nk	Kh	Group discussion	Self-assessment	SA	II	
CO 1	Record the known physiological variation	Cognitive (Application)	Dk	Kh	Real life experience	Demonstration	SA	II	

	of your friends in different *rutu* as per different *prakriti.*				Role play				
CO 1	Discuss correlation of genotype and phenotype with *prakriti*.	Cognitive (Comprehension)	Nk	Kh	Group discussion	Self-assessment	SA	II	
CO 1	Trace interrelationship between aging and prakriti	Cognitive (Comprehension)	Nk	Kh	Discussion	Self-assessment	SA	II	
CO 1	Point out hematological difference as per different prakriti.	Cognitive (Analysis)	Nk	Kh	Survey	Self-assessment	SA	II	
CO 1	Discuss *manas prakruti* and personality.	Cognitive (Comprehension)	Dk	Kh	Role pay	Self-assessment	SA	II	
CO 1	Role of prakriti (Ayurgenomics) in the concept of personalised medicine	Cognitive (Comprehension)	Nk	Kh	Group discussion Seminar	Self-assessment	SA	II	
CO 1	Explore thes Immunophenotyping & human dosha prakriti.	Cognitive (Comprehension)	Nk	Kh	Online material	Self-assessment	SA	II	
	Topic 10 – *Ahara* (Diet and nutrition in Ayurveda) (4 hr) [Lecture: 3 hours, non-lecture: 1 hour]								
CO 1	Describe the *Nirukti* (etymology)& *paribhasa* (definition) of ahar.	Cognitive (Recall)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the *Bheda* (classification) and *upayogita* (importance) of *ahara*.	Cognitive (Recall)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Define, enlist and describe- the types of *ahara* in detail with examples	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Tutorial	Written/ Viva voce	F & S	III	

CO 1	Define, enlist and describe *ashta ahara-vidhi-viseshayatana* (8 factors to be considered while preparing and processing the food) in detail with examples	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Seminar	Written/ Viva voce	F & S	III	*Swathavritta*
CO 1	Describe *ahara vidhi vidhana* (rules for consuming the food) in detail with examples.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Explains the role of *ahara vidhi vidhana* in the context of present-day lifestyle, cooking habits and eating behaviour.	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion Real life experience Evidance based learning	Written/ Viva voce	F & S	III	
CO 1	Define, enlist and describe *ahara parinamkara bhava* (factors responsible for proper digestion) and the importance of each of these factors in the process of digestion	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Explain the concept of *viruddha ahara* (incompatible diet) and its relevance in present-day food processing methods and dietary consumption behaviour in individuals.	Cognitive (application)	Dk	Sh	Lecture Discussion Observation	Written/ Viva voce	SA	III	*Swathavritta*
CO 1	Explain the role of *ahara* in today's aspect related to *anupana* habits etc.	Cognitive (application)	Nk	Sh	Lecture Discussion	Self assessment	SA	III	
CO 1	Explain the role in today’s lifestyle of food, compatible food, the proper time for	Cognitive (application)	Nk	Sh	Lecture Discussion Assignment	Self-notes	SA	III	

	food taking, practice regarding food intake etc. in individual's health.								
CO 1	Explain dietary guidelines, how to eat food in Ayuvedic view.	Cognitive (application)	Nk	Kh	Lecture Discussion	Self assessment	SA	III	
	Topic 11 – *Agni* (The digestive fire of the body) (5 hr) [Lecture: 4 hours, non-lecture: 1 hour]								
CO 1	Describe different meanings of *agni* in different contexts and define *agni* in the context of *kriya sharir.*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	State the importance of *agni* in maintaining the different aspects of human physiology	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Enumerate and explain the different synonyms of *agni* regarding *kriya sharir.*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Enumerate and define various classifications of *agni* concerning their locations and functions in the body	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the physiological roles of *jatharagni*, *bhutagni* and *dhatvagni* and explain the differences and similarities between the three.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	*Kayachikitsa*
CO 1	Classify and explain the features of four functional / abnormal states of *jatharagni: samagni, vishamagni, mandagni & tikshnagn*i and explain evaluation process of *jarana-*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	*Rognidan*

	shakti.								
CO 1	Enumerate the factors affecting the normal functioning of Agni and the symptoms of improper functioning of *agni* seen in certain clinical conditions	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Viva voce	F	III	
CO 1	Enumerate and discuss different entities in the body that can represent different forms of *agni* from the contemporary physiology and biochemistry (hormones, enzymes etc) point of view	Cognitive (Comprehension)	Nk	Kh	Lecture Discussion	Self assessment Debate	SA	III	
CO 1	Record the opinions among your friends on the concept of free radicals & antioxidant	Cognitive (Application)	Nk	Sh	Team project work	Team assessment	TA	III	
CO 1	Identify digestive and metabolic functions of *Agni* & its clinical importance.	Cognitive (Application)	Nk	Sh	Group discussion	Self Assessment	SA	III	
CO 1	Distinguish the similarities & differences between *agni* and *pitta* in terms of their *guna* with examples in compendia. (mentioned in pitta also)	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion PBL	Written/ Viva voce	S	III	
	Topic-12. *Annapachana* / *Aahara-paka* (Digestion and metabolism in Ayurveda) (9 hr) [Lecture: 7 hours, non-lecture: 2 hours]								
CO 1	Describe the *annavaha srotas* along with its *mula sthana*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Enumerate and describe different organs of *annavaha*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	

	srotas and their important functions. according to Ayurveda and contemporary physiology								
CO 1	Describe three stages of digestion: *madhura, amla* and *katu avasthapaka* in detail	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Tutorial	Written/ Viva voce	F & S	III	
CO 1	Describe the process of *udeerana* (increase/ release) of *vata, pitta, kapha* during *avasthapaka*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the formation of *prakrit* and *vaikrit dosha* (*prasadbhuta, malabhuta dosha*) and their role.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	*Rognidan*
CO 1	Describe the definition of *vipaka* (*nisthapaka*) and classification of *vipaka*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe how to identify *vipak* of *aahar* as per their effect on the body.	Cognitive (application)	Dk	Sh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the similarities and differences between *avasthapaka* and *nishthapaka*	Cognitive (Comprehension)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	III	

CO 1	Explain the role of different sub-types of *dosha* in the process of digestion: *bodhaka kapha, prana vayu, kledaka kapha, samana vayu, pachaka pitta, apana vayu* etc.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	

CO 1	Describe the process of separation of *saara* and *kitta*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	State the application of the theory of *pilu-paka* and *pithara paka* in *aharapaka*	Cognitive (Comprehension)	Nk	Kh	Lecture Discussion	Self-assessment	SA	III	
CO 1	Explain the role of *grahani* & *pittadhara kala* & describe possible relation between *pittadhara* and *majjadhara* kala.	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	State the importance of *pachaka pitta* and *jatharagni* in the process of digestion	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Explain the role of *bhutagni* and *dhatvagni* in *ahara parinaman*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the process of formation of *ahara-rasa* and absorption of *sara bhaga* / *anna-veerya*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Draw parallels between the different types of *agni* and various digestive enzymes and hormones	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Define *ahara gati, abhyavaharana shakti, annagrahana, pachana, vivechana, munchana and jaranashakti*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Discuss applied clinical aspect of *annavaha srotas*: *arochaka, ajirna, atisara, grahani, chardi, parinama shula* etc	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Viva voce CBD	F & S	III	

CO 1	Define different meanings of the term *koshtha* and explain the term in the context of *kriya sharira*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Enumerate the different types of *koshtha* according to the predominance of *dosha* (*krura-mridu and madhya*)	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	*Panchakarma*
CO 1	State clinical significance of *koshtha* and the process of evaluating *koshtha* in an individual.	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce DOPS	F & S	III	
	Part B (40 Hours) –								
	Topic 1 - Physiology Homeostasis (6 hr) [Lecture: 5 hours, non-lecture: 1 hour]								
CO 1	Define homeostasis and describe mechanisms of maintenance of homeostasis.	Cognitive (Recall/ Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Distinguish between the shell temperature and core temperature	Cognitive (Recall/ Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Define the terms Cell death, Cell degeneration, Cell aging. Describe animal tissue.	Cognitive (Recall/ Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe mechanism of positive and negative feedback system with at least two examples.	Cognitive (Recall/ Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the structure and function of cell, cell membrane, cytoplasmic	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	

	organelles, genetic material (DNA & RNA.)								
CO 1	Explain the process of DNA replication & inhibitors of replication.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the acid-base balance, water and electrolyte balance.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the concept of pH & buffer systems in the body and Na-K pump	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe and discuss transport mechanisms across cell membranes. (Active & facilitated)	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe and discuss the molecular basis of resting membrane potential and action potential	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
	Topic 2 - Physiology of respiratory system: (7 hr) [Lecture: 5 hours, non-lecture: 2 hours]								
CO 1	Describe divisions of the respiratory system based on its functions.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe pulmonary circulation.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the mechanics of normal respiration, pressure changes during ventilation.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the lung volume and capacities, compliance, diffusion of lungs	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe and discuss the exchange and transport of gases - Oxygen and Carbon dioxide	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Seminar	Written/ Viva voce	F & S	I	

CO 1	Describe the neural and chemical control of respiration.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe physiological situations that affect respiration and discuss artificial respiration, dyspnoea, asphyxia, hypoxia, cynosis.	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe Haldane effect & Kussmaul breathing.	Cognitive (Comprehension)	Nk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe basic of pulmonary function tests.	Cognitive (Comprehension)	Nk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
	Topic 3 - Physiology of Gastrointestinal system (9 hr) [Lecture: 7 hours, non-lecture: 2 hours]								
CO 1	Describe enzyme and its fuctions in metabolism	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe functional anatomy and physiology of the digestive system	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the functions of salivary glands, stomach, liver, gall bladder pancreas, small intestine, large intestine in the process of digestion and absorption.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the mechanism of secretion,composition, functions, and regulation of saliva, gastric, pancreatic, intestinal juices and bile secretion	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe GIT movements deglutition, peristalsis, defecation and control	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the major components of food, the process of digestion and	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Seminar	Written/ Viva voce	F & S	II	

	metabolism of proteins, fats and carbohydrates								
CO 1	Describe the physiological role of vitamins	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the Gut-Brain Axis and enteric nervous system, and its function	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Discuss the physiology aspects of gastro-oesophageal reflux disease, vomiting, diarrhoea, constipation	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
	Topic 4 - Physiology of Nervous System (10 hr) [Lecture: 7 hours, non-lecture: 3 hours]								
CO 1	Describe organization of nervous system.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the mechanism of propagation of nerve impulses.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the functions & properties of synapse, reflex, receptors	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the functional anatomy of the central nervous system (CNS) and peripheral nervous system (PNS)	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Seminar	Written/ Viva voce	F & S	III	
CO 1	Describe the physiology of autonomous nervous system (ANS)	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the physiology of sensory (general sensations) and motor nervous system	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe and discuss spinal cord, its functions, lesion & sensory disturbances	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe and discuss functions of the cerebral cortex, basal ganglia,	Cognitive (Comprehension)	Nk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	

	thalamus, hypothalamus cerebellum, mid brain, pons and medulla oblongata.								
CO 1	Describe and discuss the physiological basis of intelligence, memory, learning and motivation.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the physiology of cranial nerves	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe physiology of speech and articulation.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe physiology of temperature regulation.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the physiology of pain	Cognitive (Comprehension)	Nk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
	Topic 5 - Physiology of Endocrine glands (8 hr) [Lecture: 6 hours, non-lecture: 2 hours]								
CO 1	Enlists and describe hormones & endocrine glands based on synthesis, secretion, transport, physiological actions, regulation.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe hormones secreted by anterior & posterior pituitary gland, their functions, disorders of pituitary gland (hyper & hypo activity)	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe hormones secreted by the Thyroid gland, their functions & disorders of Thyroid and parathyroid gland (hyper and hypoactivity)	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Seminar	Written/ Viva voce	F & S	III	
CO 1	Describe hormones secreted by Pancreas,	Cognitive (Comprehension)	Nk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	

	their functions & disorders of Pancreas (hyper and hypoactivity)								
CO 1	Describe hormones secreted by Adrenal cortex gland, their functions & disorders of Adrenal cortex gland (hyper and hypoactivity)	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe hormones secreted by Adrenal medulla gland, their functions & disorders of Adrenal medulla (hyper and hypoactivity)	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Enlist other Glands and their functions	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the synthesis and functions of local hormones	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	

PAPER II

A3 Course outcome	B3 Learning Objective (At the end of the session, the students should be able to)	C3 Domain/sub	D3 Must to know/ desirable to know/Nice to know	E3 Level Does/ Shows how/ Knows how/ Know	F3 T-L method	G3 Assessment	H3 Formative /summative	I3 Term	J3 Integration
	AyGU-KS								
	Paper II (60 Hours)								
	Topic-1. Introduction to *Dhatu* (3 hr) [Lecture: 2 hours, non-lecture: 1 hour]								
CO 1	Explain the etymology, derivation, definition, synonyms and general	Cognitive (Recall)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	*Sanskrit Samhita/*

	introduction of the term *dhatu.*								*Rognidan Vikriti Vidnyan*
CO 1	Explain the difference between *dhatu* and *upadhatu*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Explain different theories related to *dhatuposhana Nyaya* (nourishment of different *dhatus*).	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Seminar	Written / Viva voce	F & S	I	
CO 1	Explain the applicability of nyaya in the different physiological mechanisms.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Jigsaw	Written/ Viva voce	F & S	I	
CO 1	Describe *utpatti & poshana* of dhatu.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Compile various terminologies related to *dhau gati* and *dhatu poshana*	Cognitive (Comprehension)	Dk	Sh	Assignment Tutorial	Self-assessment	SA	I	
CO 1	Mention your opinion about *nyaya* concept on the basis of different metabolic pathways, transformation, transport of substances through cell membrane.	Cognitive (Application)	Nk	Kh	Group discussion Buzz group	Self-assessment	SA	I	
CO 1	Discuss theory of tissues formation and differentiation in context with physiological changes of aging.	Cognitive Application)	Nk	Kh	Group discussion Homework based assignment	Self-assessment	SA	I	
CO 1	Discuss stem cells along with concepts of regeneration in Ayurveda	Cognitive (Recall/ Comprehension)	Nk	Kh	Lecture Online teaching aids	self assessment	SA	I	
CO 1	Study Ayurvedic aspect of *dhatu sarata* and its application	Cognitive (Application)	Nk	Kh	Group discussion Seminar	Self-assessment	SA	I	
	Topic-2. *Rasa Dhatu* (5 hr) [Lecture: 4 hours, non-lecture: 1 hour]								

CO 1	Explain the etymology, derivation, location, properties, functions and *pramana* of r*asa-dhatu. panchabhautikatva* of *rasa dhatu*.	Cognitive (Recall)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the functions of *rasavaha srotas* & *mula* of *rasavaha srotas*.	Cognitive (Recall)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the process of formation of *rasa dhatu* from *aahara rasa*, and circulation of *rasa-rakt*a (*rasa-rakta samvahana*)	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe *kshaya-vriddhi* & *rasapradoshaja vikara*	Cognitive (Comprehension)	Mk	Kh	Lecture Assignment	Written/ Viva voce	F & S	I	
CO 1	Description of functioning of *hridaya* and physiological significance of *hridaya.*	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion Flipped classroom	Written/ Viva voce	F & S	I	
CO 1	Description of *sira, dhamani and srotas*	Cognitive (Comprehension)	Nk	Kh	Discussion Video show	Written/ Viva voce	F & S	I	
CO 1	Enumerate *ashtavidha sara* (8 types of *sara*), and describe the features of individuals belonging to *tvak-saara purusha*.	Cognitive (Recall)	Mk	K	Lecture, Role play, real life experience, Discussion Brainstrorming	Written/ Viva voce	F & S	I	
	Topic-3. *Rakta Dhatu* (4 hr) [Lecture: 3 hours, non-lecture: 1 hour]								
CO 1	Explain the etymology, derivation, synonyms, location, properties, functions and *pramana of rakta* dhatu & explain the *panchabhautikatva of rakta dhatu*,	Cognitive (Recall)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the physiology of *raktavaha srotas*, and describe the *mula of rakta-vaha srotas* and mutual interdependence of *rakta and pitta.*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	

CO 1	Describe the formation of *rakta-dhatu, ranjana of rasa* by Ranjaka *pitta*, features of *shuddha rakta*, specific functions of *rakta*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the characteristics of *raktasaara* Purusha	Cognitive (Recall)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the manifestations of *kshaya and vriddhi* and name *pradoshaja vikara* of *raktadhatu*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Assignment	Written/ Viva voce	F & S	I	*Vikriti Vigyana*
CO 1	Elaborate the concept about inclusion or exclusion of rakta dhatu as a fourth dosha.	Cognitive (Comprehension)	Nk	Kh	Discussion Brainstorming	Written/ Viva voce	F	I	
	Topic-4. *Mamsa Dhatu* (3 hr) [Lecture: 2 hours, non-lecture: 1 hour]								
CO 1	Describe the etymology, derivation, synonyms, location, properties and functions of *mamsa dhatu*, physiology of *mamsavaha srotas*, *mula* of *mamsavaha srotas*	Cognitive (Recall)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the formation of *mamsa dhatu* and the definition of *peshi* characteristics of *mamsasaara purusha*,	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe manifestations of *kshaya* and *vriddhi* of *mamsa* Dhatu & describe the physiological basis of these manifestations. Name *mamsa pradoshaja vikara.*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Assignment	Written/ Viva voce	F & S	II	*Vikriti Vigyana*
	Topic-5. *Meda Dhatu* (4 hr) [Lecture: 3 hours, non-lecture: 1 hour]								

CO 1	Describe the etymology, derivation, location, properties, functions and *pramana* of *meda dhatu*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the *medovaha srotas*, its *mula*, the physiology of *medovaha srotas*, formation of *medo dhatu*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the characteristics of *medasaara purusha* and manifestations of *kshaya* and *vriddhi* of *meda*. Name *meda pradoshaja vikara.*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Assignment	Written/ Viva voce	F & S	II	
CO 1	Describe the clinical features of *sthaulya* and *karshya* along with the physiological basis of these clinical conditions	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	*Vikriti Vigyana*
CO 1	Record the properties of lipid & mamsa dhatu.	Cognitive (Comprehension)	Nk	Kh	Discussion	Self assessment	F	II	
	Topic-6. *Asthi Dhatu* (3 hr) [Lecture: 2 hours, non-lecture: 1 hour]								
CO 1	Describe the definition, synonyms, classification, properties (*guna*), and formation of *asthi dhatu.*	Cognitive (Comprehension)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the *asthi dhara kala*; relation with *purishdharakala* and the features of *asthi sarata*.	Cognitive (Comprehension)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the applied physiology of *asthi dhatu (asthi vriddhi/ asthi kshaya)* and name *asthi pradoshaja vikara*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Assignment	Written/ Viva voce	F & S	II	*Vikriti Vigyana*

	Topic-7 *Majja Dhatu* (4 hr) [Lecture: 3 hours, non-lecture: 1 hour]								
CO 1	Describe the definition, synonyms and location (*sthana*) of *majja dhatu.*	Cognitive (Recall)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the formation of *majja dhatu majjavaha srotas* and its *mula.*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe *majja dhara kala* in relation with *pittadhara kala* and the features of *majja sarata.*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe applied physiology of *majja dhatu (majja vriddhi and kshaya)* and name *majja pradoshaja vikara*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Assignment	Written/ Viva voce	F & S	II	*Vikriti Vigyana*
CO 1	Comment on concept of m*ajja dhatu* and bone marrow	Cognitive (Comprehension)	Dk	Kh	Discussion Online teaching aids	Self assessment	F	II	
	Topic-8. *Shukra Dhatu* (4 hr) [Lecture: 3 hours, non-lecture: 1 hour]								
CO 1	Describe the etymology and derivation of *shukra dhatu*, location, properties, *pramana* functions of *shukra dhatu*.	Cognitive (Recall)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the formation of *shukra dhatu*, *poshana krama* and its *updathu* and *mala*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Puzzle	Written/ Viva voce	F & S	II	
CO 1	Describe the mula of *shukravaha srotas* and the properties of *shuddha shukra* along with *shukra saara purusha* symptoms.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the features of *kshaya* & *vriddhi* of	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	*Vikriti Vigyana*

	shukra dhatu & *shukra pradoshaja vikara*				Assignment				
CO 4	Identify histological structure explain structure of different tissue (dhatu)	Cognitive (Comprehension) Psychomotor	Mk	Kh	Demonstration Perform	Practical Skill assessment OSPE	F & S		
	Topic-9. *Ashraya- Ashrayi Bhava* (2 hr) [Lecture: 1 hour, non-lecture:1 hour]								
CO 1	Describe the concept of *ashraya-ashrayi bhava* i.e. inter-relationship among *dosha, dhatu mala and srotas*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	*Vikriti Vigyana*
CO 1	Describe the applied physiology of diseases affecting *saptadhatu* enlisted under dhatu *pradoshaja vikara*.	Cognitive (Comprehension)	Dk	Kh	Discussion Seminar	Written	F	III	
CO 1	Explain use of *Ashraya-Ashrayi Bhava* in laghan bruhan.	Cognitive (application)	Nk	Kh	Discussion	Self-assessment	SA	III	
	Topic -10. *Oja* (4 hr) [Lecture: 3 hours, non-lecture: 1 hour]								
CO 1	Recall etymological derivation, definition, classification, and *pramana* of *oja*	Cognitive (Recall)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the process of formation of *ojas* along with locations and properties	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the concept of *vyadhikshamatva*, explain *bala vriddhikara* bhava.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Classify *bala* and describe etiological factors (*kshaya karan*) for *oja visramsa, vyapat and kshaya* and elaborate	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	*Vikriti Vigyana*

	the manifestation of these clinical conditions.								
CO 1	Collect different opinoins on oja given by different aacharya and try to understand the logic behind it.	Cognitive (Recall)	Nk	Kh	Discussion	Written	F	III	
CO 1	Interpret your opinion about oja-bala-kapha in its normal state.	Cognitive (Recall)	Nk	Kh	Discussion	Self-assessment	SA	III	
	Topic-11. *Upadhatu* (7 hr) [Lecture:6 hours, non-lecture: 1 hour]								
CO 1	Describe the general introduction, etymological derivation and definition of the term *upadhatu*	Cognitive (Recall)	Mk	K	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the formation, nourishment, properties, location and functions of each *upadhatu*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the characteristic features and methods of assessing *shuddha* and *dushita stanya*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	*Vikriti Vigyana*
CO 1	Describe the characteristic features of *vriddhi* and *kshaya* of *stanya*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe characteristic features of *shuddha* and *dushita artava* along with enumerating the differences between *raja* and *artava*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe *artava-vaha srotas* and its *mula* along with the common clinical conditions related to *artava-vaha srotas*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	*Vikriti Vigyana*

	(kashtartava, vandhyata, pradara etc).								
CO 1	Describe the classification, thickness of each layer and functions of *tvak*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Interpret the skin layer as per contemporary science.	Cognitive (Recall)	Nk	Kh	Discussion	Written	F	III	
	Topic 12. *Mala* (8 hr) [Lecture: 6 hours, non-lecture: 2 hours]								
CO 1	Describe the etymological derivation and definition of the term *mala*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Enumerate *aharamala* and describe of the process of formation of *aharamala*.	Cognitive (Recall)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the etymological derivation, definition, formation, properties, quantity and functions of *purisha*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the physiology of *purishavaha srotas, purish visarjana* and manifestations of *vriddhi* and *kshhaya* of *purisha*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Explain the relation between *purishdhara kala* and *asthidhara kala*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the etymological derivation, definition, formation, properties, quantity and functions of *mutra*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the physiology of *mutravaha srotas* and the process of urine formation and *mutra visarjana* in Ayurveda.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	

CO 1	Explain the manifestations of *vriddhi* and *kshhaya* of *mutra*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Explain the urge of micturition & defecation in perspective of reflexes	Cognitive (Application)	Nk	Kh	Discussion	Self-assessment	SA	III	
CO 1	Describe and enumerate *dhatumala* and describe the functions of each type of *dhatumala*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Explain the etymological derivation, definition, formation and functions of *sveda.*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Explain the functions of *svedvaha srotas* along with describing the manifestations of *vriddhi and kshaya of sveda*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Review Ayurveda compendia for several colour of purish and mutra as per their different diseased conditions.	Cognitive (Application)	Nk	Kh	Discussion	Self-assessment	SA	III	
	Topic 13. *Indriya vijnyana* (2 hr) [Lecture: 1 hour, non-lecture: 1 hour]								
CO 1	Describe the *pancha-jnyaanendriya* and physiology of perception of *shabda, sparsha, rupa, rasa and gandha*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Tutorial	Written/ Viva voce	F & S	III	*Padarth vidnyan*
CO 1	Describe the physiology of *karmendriya*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
	***Topic 14. Manas* (3 hr)** [Lecture: 2 hours, non-lecture: 1 hour]								
CO 1	Describe location and properties, functions and objects of *manas.*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	

CO 7	Describe the physiology of *dhee, driti, smriti* and *manovaha srotas* along with the applied physiology of *unmada and apasmara*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Real life experience	Written/ Viva voce	F & S	III	*Kayachikitsa*
CO7	Decribe *kriyatmak* (physiological) importance of *manas*	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
	Topic 15. *Atma* (2 hr) [Lecture: 2 hours, non-lecture: 0 hours]								
CO 1	Describe properties and functions of *atma*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S		
CO 7	Enumerate the difference between *paramatma* and *jivatma*, characteristic features of *atma* in living beings.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	*Padarth vidnyan*
CO 7	Explain characteristic features of *atma* in living beings.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO7	Decribe *kriyatmak* (physiological) importance of *atma*	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion tutorials	Written/ Viva voce		III	
	Topic 16. *Nidra* & *Svapna* (2 hr) [Lecture: 2 hours, non-lecture: 0 hours]								
CO 1	Describe the process of *nidrotpatti*, classify *nidra.*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Explain the physiological and clinical significance of *nidra.*	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe *svapnotpatti* and types of *svapna*.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Discuss about different types of *swapna* among your friends and try to understand ralation of *swapna* & *prakriti*.	Cognitive (Comprehension)	Nk	Kh	Group Discussion	Team assessment	TA	III	

	Part B (40 Hours) –								
	Topic 1. Physiology of Hemopoietic System (7 hr) [Lecture: 5 hours, non-lecture: 2 hours]								
CO 1	Describe the composition, functions of blood and blood cells.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Stages and development of RBCs, WBCs, platelets.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the composition and functions of bone marrow	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the process of erythropoiesis and explain necessary facors for erythropoiesis.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the formation & destruction of RBCs	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the structure, types, synthesis and functions of haemoglobin along with abnormalities of Hb.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the types of WBCs	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the mechanism of hemostasis, (coagulation of blood) and blood clotting factors.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Seminar	Written/ Viva voce	F & S	I	
CO 1	Describe the ABO & Rh system of blood group and explain the physiological basis of blood groups.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	Medical Physiology
CO 1	Explain the concept of erythroblastosis fetalis on the basis of Rh incompatibility.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Seminar	Written/ Viva voce	F & S	I	
CO 1	Describe the classification and	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	

	functions of plasma proteins.								
CO 1	Describe the properties and hemostasis functions of platelets.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the physiological basis of manifestations of different blood disorders (anaemia, jaundice etc.)	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the functions of spleen.	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the functions of functions of lymph.	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
	Topic 2. Immune System (2 hr) [Lecture: 2 hours, non-lecture: 0 hours]								
CO 1	Describe classification of immunity (Innate, acquired and artificial),	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the different mechanisms involved in immunity: Humoral (B-cell mediated) and T-Cell mediated immunity.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Distinguish between the passive immunization and active immunization	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the applied physiology of immunity: Immunodeficiency diseases, Hypersensitivity reactions, Auto-immune diseases etc.	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion Seminar	Written/ Viva voce	F & S	I	
	Topic 3. Cardiovascular Physiology (7 hr) [Lecture: 5 hours, non-lecture: 2 hours]								
CO 1	Describe the mechanical and electrical properties	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	

	of heart muscles, describe different phases of the Cardiac cycle.								
CO 1	Describe the physiological and clinical significance of heart sounds.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the physiology of regulation of cardiac output and venous return.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the physiological basis of ECG.	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the regulation of heart-rate and arterial pulse,	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Define and describe the regulation of systemic arterial blood pressure	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the physiology of fetal circulation.	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Define and describe the regulation of systemic arterial blood pressure	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	I	
CO 1	Describe the history of the discovery of blood circulation	Cognitive (Comprehension)	Nk	Kh	Online	Self assessment	SA	I	
	Topic 4. Muscle physiology (2 hr) [Lecture: 2 hours, non-lecture: 0 hours]								
CO 1	Compare and contrast the functions and properties of skeletal muscles, cardiac muscles and smooth muscles.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the physiology of muscle contraction of all types of muscles.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
	Topic 5. Skin, Adipose Tissue and circulating Lipids (3 hr) [Lecture: 2 hours, non-lecture: 1 hour]								
CO 1	Describe the functions of the skin, sweat glands, sebaceous glands and subcutaneous tissue	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	

CO 1	Describe the functions of Adipose Tissue including adipokines	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the process of formation & metabolism of lipoproteins like VLDL, LDL and HDL and that of triglycerides.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the functional anatomy and physiology of the male reproductive system	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the physiology of regulation of spermatogenesis, functions of testosterone and male sexual act	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe physiology of the female reproductive system including oogenesis, ovulation and hormonal regulation of the menstrual cycle	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the functions of placenta	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the physiology of lactation	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
CO 1	Describe the applied physiology of the reproductive system of male and female infertility.	Cognitive (Comprehension)	Nk	Kh	Lecture Discussion	Written/ Viva voce	F & S	II	
	Topic 7. Renal Physiology (6 hr) [Lecture: 4 hours, non-lecture: 2 hours]								
CO 1	Describe the functional anatomy of kidney.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the functions of kidney, ureters and bladder.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe stages of the mechanism of urine formation.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion Semiar	Written/ Viva voce	F & S	III	

CO 1	Describe control of micturition.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the role of Juxta glomerular apparatus in regulation of blood pressure and pH of body fluids.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	Medical Physiology
CO 1	Describe the applied physiology of the urinary system (urolithiasis, acute and chronic renal failure etc).	Cognitive (Comprehension)	Dk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the physiology of special senses.	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the visual process and visual pathway	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the mechanism of hearing and auditory pathway	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the taste, smell and skin sensation	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	
CO 1	Describe the physiology of sleep and dreams	Cognitive (Comprehension)	Mk	Kh	Lecture Discussion	Written/ Viva voce	F & S	III	

List of Practicals

PRACTICALS (Marks-100)				
	List of Topics	**Term**	**Lecture**	**Non-Lecture**
1	Dhatu sararata parikshana	**I**	0	10
2.	Demonstrate laboratory equipment (spotting)	**I**	0	1
3.	Demonstrate blood collection	**I**	0	1
4.	Estimate haemoglobin	**I**	0	2
5.	Estimate bleeding time & clotting time	**I**	0	2
6.	Estimate blood grouping	**I**	0	2
7.	Prakriti parikshana	**II**	0	20
8.	Dosha vriddhi kshaya parikshana	**II**	0	4
9.	Dhatu vriddhi kshaya parikshana	**II**	0	5
10.	Nadi parikshana	**II**	0	3
11.	Pulse examination	**II**	0	2
12.	WBC estimation	**II**	0	2
13.	RBC estimation	**II**	0	2
14.	DLC estimation	**II**	0	2
15.	Measurement of Blood pressure	**II**	0	2
16.	Perform the procedure Inspection of respiratory system	**II**	0	2
17.	Perform the procedure Inspection of heart sound	**II**	0	3
18.	Agni parikshana	**III**	0	6
19.	Koshtha parikshana	**III**	0	2
20.	Urine examination	**III**	0	2
21.	Demonstrate ESR, PCV	**III**	0	1
22.	Observe the procedure of ECG	**III**	0	2
23.	Perform the procedure of examining the cranial nerves and reflexes	**III**	0	2

Table 4: Learning objectives (Practical) of AyUG- KS

A4 Course outcome	B4 Learning Objective (At the end of the session, the Students should be able to)	C4 Domain/ sub	D4 Must to know/ desirable to know/Nice to know	E4 Level Does/ Shows how/ Knows how/ Know	F4 T-L method	G4 Assessment	H4 Formative /summative	I4 Term	J4 Integration
	AyUG – KS Practical (100 marks) (Total 200 Hr)								
	Practical (100 marks) =(Kriya Sharir 50 + Physiology 30 + Non Lecture practical activities 20)								
	***1. Assessment of prakriti parikshana* (20 classes)** [Lecture: 0 hours, non-lecture: 20 hours]								
CO 3	Describe the procedure of *prakriti parikshan* of CCRAS portal.	Cognitive	Mk	Kh	Lecture Demonstration Discussion Observe Tutorial	Practical Viva voce	F & S	II	
CO 3	Demonstrate *prakriti parikshan* under the supervision of teacher.	Psychomotor	Mk	Sh	Demonstration in practical room & Bed side clinic Discussion	Viva voce	F & S	II	
CO 3	Determines *prakriti* of a paerson in an individual independently	Psychomotor	Mk	Dose	Demonstration in practical room & Bed side clinic Discussion Perform	Practical Viva voce Skill assessment OSPE, DOPS, CBD, Simulation	F & S	II	
CO 1	Recite verses of *vata, pitta & kapha prakriti*.	Cognitive (Recall Comprehension)	Dk	Kh	Discussion Recitation	Viva voce	F & S	II	
	***2. Assessment of dhatusarata parikshana* (10 classes)** [Lecture: 0 hours, non-lecture: 10 hours]								
CO 2	Describe the procedure of	Cognitive	Mk	Kh	Lecture Demonstration Discussion Observe	Practical Viva voce	F & S	I	

	dhatusarata parikshana								
CO 2	Demonstrate *dhatusarata parikshana* under the supervision of the teacher.	Psychomotor	Mk	Sh	Demonstration in practical room & Bed side clinic Discussion Assist	Viva voce	F & S	I	
CO 2	Evaluates *dhatusarata* in an individual independently	Psychomotor	Mk	Dose	Demonstration Bed side clinic Discussion Perform	Practical Viva voce Skill assessment OSPE, DOPS, CBD, Simulation	F & S	I	
CO 1	Recite verses of *ashta dhatusarata*.	Cognitive (Recall & Comprehension)	Dk	Kh	Discussion Recitation	Viva voce	F & S	I	
	***3. Assessment of agni parikshana* (6 classes)** [Lecture: 0 hours, non-lecture: 6 hours]								
CO 2	Discribe the procedure of *agni parikshana*	Cognitive/ comprehension	Mk	Kh	Lecture Demonstration Discussion Observe	Practical Viva voce	F & S	III	
CO 2	Demonstrate *agni parikshana* under the supervision of the teacher.	Psychomotor	Mk	Sh	Demonstration Bed side clinic Discussion Assist	Viva voce	F & S	III	
CO 2	Analyse *agni* in an individual independently	Psychomotor	Mk	Dose	Demonstration Bed side clinic Discussion Perform	Practical Viva voce Skill assessment OSPE	F & S	III	
CO 1	Recite verses of *agni*.	Cognitive (Recall & Comprehension)	Dk	Kh	Discussion Recitation	Viva voce	F & S	III	
	***4. Assessment of koshtha parikshana* (2 classes)** [Lecture: 0 hours, non-lecture: 2 hours]								
CO 2	Discuss the procedure of *koshtha parikshana*	Cognitive	Mk	Kh	Lecture Demonstration Discussion Observe	Practical Viva voce	F & S	III	
CO 2	Demonstrate *koshtha parikshana* under the	Psychomotor	Mk	Sh	Demonstration Bed side clinic Discussion	Viva voce	F & S	III	

	supervision of the teacher.				Assist				
CO 2	Evaluate *koshtha* of an individual independently	Psychomotor	Mk	Dose	Demonstration Bed side clinic Discussion rform	Practical Viva voce Skill assessment OSPE	F & S	III	

	***5. Assessment of dosha vrddhi kshaya lakshana* (4 classes)** [Lecture: 0 hours, non-lecture: 4 hours]								
CO 3	Discuss the procedure of *dosha vrddhi kshaya lakshana*	Cognitive	Mk	Kh	Lecture Demonstration Discussion Observe	Practical Viva voce	F & S	II	
CO 3	Demonstrate *dosha vrddhi kshaya parikshana* under the supervision of the teacher.	Psychomotor	Mk	Sh	Demonstration Bed side clinic Discussion Assist	Viva voce	F & S	II	
CO 3	Perform *dosha vrddhi kshaya parikshana* in an individual independently	Psychomotor	Mk	Dose	Demonstration Bed side clinic Discussion Perform	Practical Viva voce Skill assessment OSPE	F & S	II	
CO 1	Recite verses of *dosha vrddhi kshaya.*	Cognitive (Recall Comprehension)	Dk	Kh	Discussion Recitation	Viva voce	F & S	II	
	***6. Assessment of dhatu vrddhi kshaya parikshana* (5 classes)** [Lecture: 0 hours, non-lecture: 5 hours]								
CO 3	Describe the procedure of *dhatu vrddhi kshaya lakshana*	Cognitive	Mk	Kh	Lecture Demonstration Discussion Observe	Practical Viva voce	F & S	II	
CO 3	Demonstrate *dhatu vrddhi kshaya parikshan* under the supervision of the teacher.	Psychomotor	Mk	Sh	Demonstration Bed side clinic Discussion Assist	Viva voce	F & S	II	
CO 3	Perform *dhatu vrddhi kshaya parikshan* in an individual independently	Psychomotor	Mk	Dose	Demonstration Bed side clinic Discussion Perform	Practical Viva voce Skill assessment OSPE	F & S	II	
CO 1	Recite verses of	Cognitive	Dk	Kh	Discussion	Viva voce	F & S	II	

	dhatu vrddhi kshaya.	(Recall & Comprehe nsion)			Recitation				

	7. Assessment of nadi parikshana **(3 classes)** [Lecture: 0 hours, non-lecture: 3 hours]								
CO 5	Describe the procedure of *nadi parikshana*	Cognitive	Mk	Kh	Lecture Demonstration Discussion Observation Tutorial	Practical Viva voce	F & S	II	
CO 5	Demonstrate *nadi parikshana* under the supervision of the teacher.	Psychomotor	Mk	Sh	Demonstration Bed side clinic Discussion Assist	Viva voce	F & S	II	
CO 5	Find out recent advances in nadi pariksha	Cognitive	Mk	Kh	Lecture Demonstration Discussion Observe	Practical Viva voce OSPE	F & S	II	
	Part B 30 practical of 2 hr each								
	[Lecture: 0 hours, non-lecture: 30 hours]								
CO 4	Explain the general laboratory etiquette demonstrate the use of laboratory equipment.	Cognitive Psychomotor	Mk	Sh	Lecture Demonstration Discussion Observe	Practical Viva voce Skill assessment OSPE	F & S	I	
CO 4	Discuss procedure of collection of a blood sample – prick, venepuncture method, use of anticoagulants.	Cognitive	Mk	Kh	Lecture Demonstration Discussion Assist	Viva voce	F & S	I	
CO 4	Describe Observe procedure of haemoglobin estimation, bleeding time and clotting time, blood grouping and Rh typing,	Cognitive	Mk	Kh	Lecture Demonstration Discussion Assist	Viva voce	F & S	I	

	differential Leukocyte Counting procedure.								
CO 4	Evaluate Hb, Bleeding time, clotting time, blood grouping & Rh typing, sebveral Leukocyte Count (independently).	Psychomotor	Mk	Sh	Lecture Demonstration Discussion Perform	Practical Viva voce Skill assessment OSPE	F & S	I	
CO 4	Describe the procedure of WBC counting, RBC counting.	Cognitive	Mk	Kh	Lecture Demonstration Discussion Assist	Viva voce	F & S	II	
CO 4	Count WBC, RBC (independentl y).	Psychomotor	Mk	D	Perform	Practical	F	II	
CO 4	Discribe the procedure of ESR, PCV	Cognitive	Mk	Sh	Lecture Demonstration Discussion Assist	Viva voce	F	III	
CO 4	Describe the procedure of physical and chemical examination of urine.	Cognitive	Mk	Kh	Lecture Demonstration Discussion Assist	Viva voce	F & S	III	
CO 4	Identify physical and chemical properties of urine.	Psychomotor	Dk	Sh	Lecture Demonstration Discussion Assist	Practical Viva voce Skill assessment OSPE, DOPS	F & S	III	
CO 4	Discuss the procedure of pulse examination demonstrated.	Cognitive	Mk	Kh	Lecture Demonstration Discussion Assist	Viva voce	F & S	II	
CO 4	Examine pulse independently.	Psychomotor	Mk	Sh	Lecture Demonstration Discussion Perform	Practical Viva voce Skill assessment OSPE	F & S	II	
CO 4	Describe the procedure of measurement of blood pressure	Cognitive	Mk	Kh	Lecture Demonstration Discussion Assist	Viva voce	F & S	II	

CO 4	Measure blood pressure (independently).	Psychomotor	Mk	Sh	Lecture Demonstration Discussion Perform	Practical Viva voce Skill assessment OSPE	F & S	II	
CO 4	Discuss the procedure of inspection of CVS and assessment of heart sounds	Cognitive	Mk	Kh	Lecture Demonstration Discussion Assist	Viva voce	F & S	II	
CO 4	Illustrate inspection of CVS and assessment of heart sounds (independently).	Psychomotor	Mk	Sh	Lecture Demonstration Discussion Perform	Practical Viva voce Skill assessment OSPE	F & S	II	
CO 4	Discuss the procedure of ECG recording demonstrated by the teacher.	Cognitive	Mk	Kh	Lecture Demonstration Discussion Assist	Viva voce Spotting	F & S	II	
CO 4	Discuss procedure of inspection of the respiratory system demonstrated by the teacher.	Cognitive	Mk	Kh	Lecture Demonstration Discussion Assist	Viva voce	F & S	II	
CO 4	Examine of the respiratory system (independently).	Psychomotor	Mk	Sh	Lecture Demonstration Discussion Perform	Practical Viva voce Skill assessment OSPE	F & S	II	
CO 4	Discuss the procedure of examining the cranial nerves and reflexes (superficial/ deep /visceral) demonstrated by the teacher.	Cognitive	Mk	Kh	Lecture Demonstration Discussion Assist	Viva voce Skill assessment OSPE	F & S	III	
CO 4	Perform the procedure of examining the cranial nerves and	Psychomotor	Mk	Sh	Lecture Demonstration Discussion Perform	Practical Viva voce Skill assessment OSPE	F & S	III	

	reflexes (superficial/deep/ visceral) by students independently.								

Table 5: Non-Lecture Activities Course AyUG- KS

Theory Non Lecture 50 (Paper I -25 & Paper II-25)		**No of Activity hours**
1.	Assignment - homework based	3
2.	Brainstorming	2
3.	Buzz group	1
4.	Case based learning	1
5.	Confusion technique	1
6.	Debate	1
7.	Demonstration	2
8.	Direct observation skill (DOPS)	1
9.	Flipped classroom	1
10.	Group Discussion	3
11.	Jigsaw or puzzle	1
12.	Mnemonics	2
13.	Model based learning	1
14.	Online teaching aids	1
15.	Panel discussion	1
16.	Problem based learning	2
17.	Real-life experience	1
18.	Recitation	3
19.	Role Play	1
20.	Self directed learning	3
21.	Seminar by students	5
22.	Simulated condition	1
23.	Skill assessment	2
24.	Symposium	2
25.	Team project work	1
26.	Think-Pair-Share	2
27.	Tutorial	3
28.	Video show	2
Practical Non Lecture 100 (200 hours)		
1.	Ayurveda Practicals – 50	100
2.	Modern Practicals – 30	60
3.	Activity based learning – 20	40
	Communication Skills, Small project / Experiment designing, Task-based learning, Teamwork based learning, Team project, Problem Based Learning (PBL)/(CBL), Group Discussion, Workshops, Field visits, Preparation of charts 1, models and computerized simulation models etc. , Seminar presentations by students	
	Total Non Lecture hours	**250**

Additional Suggested topics for tutorials

Point No.	Name of Topic
T – 1 CO 6	*Atma lakshana*
T – 2 CO3	Characteristics of *Prakriti Eka doshaja, dwandwaja and sama prakriti. Clinical importance of deha prakriti, anukatva.*
T – 3 CO5	*Nadi vigyan*
T – 4 CO6	*Anukatva*
T – 5 CO6	*Indriya panch panchak and physiological study of panchajyanendriya and panchakarmendriya.*
T – 6 CO6	*Meanings of terminologies used for dhatu poshana nyaya related to dhatu poshana*
T – 7 CO1	*Ahara dravya vargikarana*
T – 8 CO1	*Avasthapaka & Vipak*

Suggested topics for seminar topics

Sr. No.	Content
S – 1 CO8	*Tridosha*
S – 2 CO8	*Agni*
S – 3 CO8	*Rasa rakta samvahan*
S – 4 CO8	*Pranavah srotas and shwasana prakriya*
S – 5 CO8	*Ashtavidh sara*
S – 6 CO8	*Trividh nyaya*
S – 7 CO8	*Prakriti*
S – 8 CO8	Basic concept of nervous system
S – 9 CO8	Rh Incompatibility
S – 10 CO8	Digesion of Carbohydrates, proteins & fats
S – 11 CO8	Blood clotting mechanism
S – 12 CO8	Immune system
S – 13 CO8	O_2-Co_2 gasious exchange
S – 14 CO8	Hormones
S – 15 CO8	Renal system

Suggested topics for group discussion

Sr. No.	Content
GD – 1 CO1	*Dosha dhatu mala mulam hi shariram*
GD – 2 CO1	*Concept of agni*
GD – 3 CO1	*Concept* of *upadhatu*
GD – 4 CO1	Role of *ranjak pitta in formation of rakta dhatu*
GD – 5 CO1	Concept of *srotas*
GD – 6 CO1	Physiology of *purishadhara kala / asthidhara kala. Pittadhara kala/ majjadhara kala*
GD – 7 CO1	Generation of *doshas*
GD – 8 CO1	*Ashraya-ashrayi bhava sambhadha of asthi and vata*
GD – 9 CO1	Process of *urine formation described in ayurveda compendia*
GD – 10 CO1	*Avasthapaka*
GD – 11 CO1	Concept of *shatkriyakala*
GD – 12 CO1	*Manas Prakruti*

Table 6: Assessment Summary

6 A- Number of papers and Marks Distribution

S.No.	Subject Code	Papers	Theory	Practical/Clinical Assessment					Grand Total
				Practical/ Clinical	Viva	Electives	IA	Sub Total	
1.	AyUG-KS	2	200	100	70	-	30	200	400

6 B - Scheme of Assessment (formative and Summative)

SR.NO.	PROFESSIONAL COURSE	DURATION OF PROFESSIONAL COURSE		
		First Term (1-6 Months)	Second Term (7-12 Months)	Third Term (13-18 Months)
1	First	3 PA & First TT	3 PA & Second TT	3 PA & UE

PA: Periodical Assessment; TT: Term Test; UE: University Examinations

6 C - Calculation Method for Internal assessment Marks (30 Marks)

TERM	PERIODICAL ASSESSMENT*					TERM TEST **	TERM ASSESSMENT	
	A	B	C	D	E	F	G	H
	1 (15 Marks)	2 (15 Marks)	3 (15 Marks)	Average (A+B+C/3)	Converted to 30 Marks (D/15*30)	Term Test (Marks converted to 30)	Sub Total _/60 Marks	Term Assessment (…./30)
FIRST							E+F	(E+F)/2
SECOND							E+F	(E+F)/2
THIRD						NIL		E
Final IA	Average of Three Term Assessment Marks as Shown in 'H' Column.							
	Maximum Marks in Parentheses *Select an Evaluation Methods which is appropriate for the objectives of Topics from the Table 6 D for Peroadic assessment. Conduct 15 marks assessment and enter marks in A, B, and C. ** Conduct Theory (100 Marks)(MCQ(20*1 Marks), SAQ(8*5), LAQ(4*10)) and Practical (100 Marks) Then convert to 30 marks.							

6 D - Evaluation Methods for Periodical Assessment

S. No.	Evaluation Methods for Periodical Assessment
1.	Practical / Clinical Performance
2.	Viva Voce, MCQs, MEQ (Modified Essay Questions/Structured Questions)
3.	Open Book Test (Problem Based)
4.	Summary Writing (Research Papers/ Samhitas)
5.	Class Presentations; Work Book Maintenance
6.	Problem Based Assignment
7.	Objective Structured Clinical Examination (OSCE), Objective Structured Practical Examination (OPSE), Mini Clinical Evaluation Exercise (Mini-CEX), Direct Observation of Procedures (DOP), Case Based Discussion (CBD)
8.	Extra-curricular Activities, (Social Work, Public Awareness, Surveillance Activities, Sports or Other Activities which may be decided by the department).
9.	Small Project
10.	Other activities explained in Table 3 Column G3 as per indicated term and objective of the top]ic.

6 E- Paper Layout

I PROFESSIONAL BAMS EXAMINATIONS

AyUG-KS

Paper-I

Time: 3 Hours Maximum Marks: 100

INSTRUCTIONS: All questions compulsory

TOTAL MARKS 100.

		Number of Questions	Marks per question	Total Marks
Q 1	Multiple Choice Questions (MCQ)	20	1	20
Q 2	Short answer questions (SAQ)	8	5	40
Q 3	Long answer questions (LAQ)	4	10	40
				100

AyUG-KS

Paper-II

Time: 3 Hours Maximum Marks: 100

INSTRUCTIONS: All questions compulsory

TOTAL MARKS 100.

		Number of Questions	Marks per question	Total Marks
Q 1	Multiple Choice Questions (MCQ)	20	1	20

Q 2	Short answer questions (SAQ)	8	5	40
Q 3	Long answer questions (LAQ)	4	10	40
				100

6 F- Disribution of Theory Exam

	Paper I **Part-A (Marks-60)**			**D** **Type of Questions** **"Yes" can be asked.** **"No" should not be asked.**		
	A **List of Topics AyUG-KS**	**B** **Term**	**C** **Marks**	**MCQ** **(1 Mark)**	**SAQ** **(5 Marks)**	**LAQ** **(10 Marks)**
1	**Sharir:**	**I**	8	Yes	Yes	No
2	**Basic principles of Ayurveda:**	**I**		Yes	Yes	No
3.	**Tridosha:**	**I**		Yes	Yes	No
4.	**Vata Dosha:**	**I**	26	Yes	Yes	Yes
5.	**Pitta Dosha:**	**I**		Yes	Yes	Yes
6.	**Kapha Dosha:**	**II**		Yes	Yes	Yes
7.	**Dosha Vriddhi-Kshaya:**	**II**		Yes	Yes	No
8.	**Kriyakala:**	**II**		Yes	Yes	No
9	**Prakriti:** **Deha- Prakriti:** **Manasa- Prakriti:**	**II**	26	Yes	Yes	Yes
10.	**Ahara**:	**III**		Yes	Yes	Yes
11.	**Agni**:	**III**		Yes	Yes	Yes
12.	**Aharapaka**	**III**		Yes	Yes	Yes
Part-B (Marks-40)						
1	**Physiology Homeostasis**:	**I**	23	Yes	Yes	Yes
2	**Physiology of Respiratory system**:	**II**		Yes	Yes	Yes
3	**Physiology of Gastrointestinal system**:	**II**		Yes	Yes	Yes
4	**Physiology of Nervous System**:	**III**	17	Yes	Yes	Yes
5	**Physiology of Endocrine glands**:	**III**		Yes	Yes	Yes

	Paper II PART-A (Marks-60)			**D** **Type of Questions** **"Yes" can be asked.** **"No" should not be asked.**		
	A **List of Topics AyUG-KS**	**B** **Term**	**C** **Marks**	**MCQ** **(1 Mark)**	**SAQ** **(5 Marks)**	**LAQ** **(10 Marks)**
Part-A (Marks-60)						
1	**Dhatu**:	**I**	18	Yes	Yes	No
2	**Rasa Dhatu**:	**I**		Yes	Yes	Yes
3.	**Rakta Dhatu**:.	**I**		Yes	Yes	Yes
4.	**Mamsa Dhatu**:	**I**		Yes	Yes	Yes
5.	**Meda Dhatu**:	**I**		Yes	Yes	Yes
6.	**Asthi Dhatu**:	**II**	19	Yes	Yes	Yes
7.	**Majja Dhatu** :	**II**		Yes	Yes	Yes
8.	**Shukra Dhatu:**	**II**		Yes	Yes	Yes
9	**Concept of Ashraya-Ashrayi bhava**	**II**		Yes	Yes	No
10.	**Ojas**:	**II**		Yes	Yes	Yes
11.	**Upadhatu**: **Stanya**: **Artava**: **Tvak**:	**II**	23	Yes	Yes	Yes
12.	**Mala**: **Purisha**: **Mutra**: **Sveda**: **Dhatumala**:	**III**		Yes	Yes	Yes
13	**Indriya vidnyan**:	**III**		Yes	Yes	Yes
14	**Manas**:	**III**		Yes	Yes	Yes
15	**Atma**:	**III**		Yes	Yes	No
16	**Nidra & Swapna**:	**III**		Yes	Yes	No
Part-B (Marks-40)						
1	**Haemopoetic system**:	**I**	18	Yes	Yes	Yes
2	**Immunity**:	**I**		Yes	Yes	No
3	**Physiology of cardio-vascular system**:	**I**		Yes	Yes	Yes
4	**Muscle physiology**:	**II**	07	Yes	Yes	No
5	**Adipose tissue**:	**II**		Yes	Yes	No
6	**Physiology of male and female reproductive**	**II**	15	Yes	Yes	Yes
7	**Physiology of Excretion**:	**III**		Yes	Yes	Yes
8	**Special Senses, Sleep and Dreams**:	**III**		Yes	Yes	Yes

6 G- Question paper blue print

Paper I

AyUG-KS		
A **Question Sr. No**	**B** **Type of Question**	**C** **Question Paper Format**
.Q1	**Multiple choice Questions (MCQ)** 20 Questions 1 mark each All compulsory Must know part - 15 MCQ Desirable to know - 3 MCQ Nice to know part - 2 MCQ	**MCQ no. Topic No** 1. Topic number part A 1 2. Topic number part A 2 3. Topic number part A 3 4. Topic number part A 4 5. Topic number part A 4 6. Topic number part A 5 7. Topic number part A 6 8. Topic number part A 7 9. Topic number part A 8 10. Topic number part A 9 11. Topic number part A 9 12. Topic number part A 10 13. Topic number part A 11 14. Topic number part A 12 15. Topic number part A 12 16. Topic number part B 1 17. Topic number part B 2 18. Topic number part B 3 19. Topic number part B 4 20. Topic number part B 5
Q2	**Short answer Questions (SAQ)** Eight Questions 5 Marks Each All compulsory Must know - 7 SAQ Desirable to know - 1 SAQ No questions on Kice to know	1. Topic no. Part A 1/ Topic no. Part A 2/ Topic no. Part A 3 2. Topic no. Part A 4/ Topic no. Part A 5/ Topic no. Part A 6 3. Topic no. Part A 7/Topic no. Part A 8 4. Topic no. Part A 9/Topic no. Part A 10 5. Topic no. Part A 11/ Topic no. Part A 12/ 6. Topic no. Part B 1/ Topic no. Part B 2/ 7. Topic no. Part B 3 8. Topic no. Part B 4/ Topic no. Part B 5
Q3	**Long answer Questions (LAQ)**	1. Topic no. Part A 4/ Topic no. Part A 5/ Topic no. Part A 6 2. Topic no. Part A 9/ Topic no. Part A 10/ Topic no. Part A 11/

	Four Questions 10 marks each All compulsory All questions on must know. No Questions on Nice to know and Desirable to know	Topic no. Part A 12 3. Topic no. Part B 1/ Topic no. Part B 2/ Topic no. Part B 3 4. Topic no. Part B 4/ Topic no. Part B 5

Paper II

AyUG-KS		
A **Question Sr. No**	**B** **Type of Question**	**C** **Question Paper Format**
.Q1	**Multiple choice Questions (MCQ)** 20 Questions 1 mark each All compulsory Must know part - 15 MCQ Desirable to know - 3 MCQ Nice to know part - 2 MCQ	**MCQ no. Topic no.** 1. Topic number part A 1/2 2. Topic number part A 3 3. Topic number part A 4/5 4. Topic number part A 6 5. Topic number part A 7 6. Topic number part A 8 7. Topic number part A 9/10 8. Topic number part A 11 9. Topic number part A 12 10. Topic number part A 13/14/15/16 11. Topic number part B 1 12. Topic number part B 2 13. Topic number part B 3 14. Topic number part B 4 15. Topic number part B 5 16. Topic number part B 6 17. Topic number part B 6 18. Topic number part B 7 19. Topic number part B 7 20. Topic number part B 8
Q2	**Short answer Questions (SAQ)** Eight Questions 5 Marks Each All compulsory Must know - 7	1. Topic no. Part A 1/ Topic no. Part A 2/ Topic no. Part A 3/ Topic no. Part A 4/ Topic no. Part A 5 2. Topic no. Part A 6/ Topic no. Part A 7/ Topic no. Part A 8/ Topic no. Part A 9/ Topic no. Part A 10 3. Topic no. Part A 11/ Topic no. Part A 12 4. Topic no. Part A 13/ Topic no. Part A 14/ Topic no. Part A 15

	Desirable to know - 1 SAQ No questiona on Nice to know	Topic no. Part A 16 5. Topic no. Part B 1/ Topic no. Part B 2/ Topic no. Part B 3/ 6. Topic no. Part B 4/ Topic no. Part B 5 7. Topic no. Part B 6/ Topic no. Part B 8 8. Topic no. Part B 7
Q3	**Long answer Questions (LAQ)** Four Questions 10 marks each All compulsory All questions on Must know. No Questions on Nice to know and Desirable to know	1. Topic no. Part A 2/ Topic no. Part A 3/ Topic no. Part A 4/ Topic no. Part A 5 2. Topic no. Part A 6/ Topic no. Part A 7/ Topic no. Part A 8/ Topic no. Part A 10 3. Topic no. Part A 11/ Topic no. Part A 12/ Topic no. Part A 13/ Topic no. Part A 14 4. Topic no. Part B 1/ Topic no. Part B 2/ Topic no. Part B 3

6 H Distribution of Practical Exam

(Practical 100 +Viva 70+ IA 30) = (Total 200 Marks)

	AyUG-KS		
SN	**Heads**	**Topic**	**Marks**
A	**Practical**		
1	**Spotting**	Spotting (including two problem-based test) 1. Histology slide 2. ECG report (counting heart rate etc.) 3. Blood report (normal-abnormal values and significance) 4. Photograph of prakruti character. 5. Problem based sara/agni parikshan. 6. Case of vrudhhi kshay lakshan. 7. Aplicability of one spot used in haematological practical. 8. Identify the difference between two things & use. 9. Model based 10. Human experiment related	10 Marks
2	**Ayu. Practical**	Performance based components. (Take only one practical separately OR make combination of few components of more than one practical) Ayurveda practical - Prakriti parikshana (Self / volunteer / patients)	40 Marks

		Sara parikshana Agni & koshtha *parikshana* Dosha vrddhi-kshaya lakshana/ Dhatu vriddhi -kshaya Lakshana	
3	**Lab. Practical**	Laboratory practical (Hb, BT, CT, Blood group, Urine exam) Human physiology practical (pulse examination, BP, heart sounds, reflexes)	30 Marks
4	**Project work**	Project work (Activity based)	10 Marks
5	**Practical Record**	Practical Record	10 Marks
		Total	**100 Marks**
B	**Viva Voce**	General viva voce based on Ayurveda (20), Viva on instruments (20), Structured viva on Part B (refer Table 2)(10), Recitation of verses (15), and Communication skill (5)	70 Marks
C	**IA**	Internal Assessment	30 Marks
		Total Marks	**200 Marks**

7. References / Resourses

• 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 Purnchandra Jain
• Abhinava Sharir Kriya Vigyana - Dr. Shiv Kumar Gaur
• Pragyogik Kriya Sharir - Acharya P.C. Jain
• Kaya Chikitsa- Ramraksha Pathak
• Kaya Chikitsa Parichaya - Dr. C. Dwarkanath
• Concept of Agni - Vd. Bhagwan Das
• Purush Vichaya - Acharya V.J. Thakar
• Kriya Sharir - Prof. Yogesh Chandra Mishra
• Sharira Kriya Vijnana (Part 1 and 2) – Nandini Dhargalkar
• Sharir Kriya Vigyana - Prof. Jayaram Yadav & Dr. Sunil Verma.
• Kriya Sharir mcq – Dr. Kiran Tawalare
• 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
• 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 & Physiology - Martini
• Principals of Anatomy & Physiology - Tortora & Grabowski
• Human Physiology - Richards, Pocock
• Samson Wrights Applied Physiology, Keele, Neil, joels
• Ayurveda Kriya Sharira - Yogesh Chandra Mishra
• Textbook of Medical Physiology - Indu Khurana
• Tridosha Theory - Subrahmanya Shastri
• Dosha Dhatu Mala vigyan – S. G. Vartak
• Purush Vichaya – Jayanad Thakar
• All Samhitas.
• Ayurvediya Shabda kosha.
• Vachaspatyam
• Shabdakalpadrum
• Monir Williams Sanskrit dictionary.