

SYLLABUS DISTRIBUTION

I BHMS BATCH 2025-2026

SR NO	NAME OF FACULTY	THEORY TOPIC	SEMISTER
1.	DR KEDAR MAHADIK(HOD, PROFESSOR)	1. GENERAL PHYSIOLOGY 2. BIOPHYSICS 3. RESPIRATORY SYSTEM 4. BIOCHEMISTRY	I I II III
2.	DR VARSHA KUMBHAR(ASSISTANT PROFESSOR)	1. BODY FLUID AND IMMUNE MECHANISM 2. CENTRAL NERVOUS SYSTEM 3. RENAL PHYSIOLOGY 4. SPECIAL SENSES	I II III III
3	DR MADHUBALA INGLE(ASSISTANT PROFESSOR)	1. SKIN AND INTEGUMENTARY SYSTEM 2. NERVE MUSCLE PHYSIOLOGY 3. CARDIO VASCULAR SYSTEM 4. ENDOCRINE SYSTEM 5. NUTRITION AND DIGESTION	I I II II III

(No. of lectures 2 per week= 8 per month)

Sr No	Month	Name of Topic	Distribution of Subtopics of Lectures	No. of Lectures Required for each
1	December 2025	Foundation course		1
	December 2025	Foundation course		1
2	December 2025	General Physiology (20) (Semester1)	Definition & general introduction	3
			Describe and discuss the principles of homeostasis	2
	Jan 2026	General Physiology (20)	Describe the structure & functions of cell	3
			List the organelles present in cell	1
			Enumerate the functions of organelles	2
			List the name of intracellular junction	1
			Discuss the importance of intracellular Junction	2
		General Physiology (20)	First Periodical Assessment 1 • tweek (PA-I)	5 days
	Feb 2026		Explain Passive transportation	2
			Explain Active Transportation	2
			Explain Vesicular Transportation	2

DEPARTMENT OF HUMAN PHYSIOLOGY & BIOCHEMISTRY

SubjectCode:HomUG-PB

IB.H.M.S.(2025)

A/Y:2025-2026

Advance Teaching Plan-Dr KEDAR MAHADIK.

(No. of lectures 4 per week= 16 per month)

Sr No	Month	Name of Topic	Distribution of Subtopics of Lectures	No. of Lectures Required for each
3	Feb 2026	Bio-Physical Sciences (15hr)	Filtration & Ultra-filtration	1
		Bio-Physical Sciences (15hr)	Osmosis	1
4	March 2026		Diffusion	2
			Adsorption & Hydrotropy	2
			Colloid	2
			Donnan Equilibrium	1
			Tracer elements & Dialysis	1
			4th week march	First terminal test- internal assessment (TT-1)
5	April 2026		Atomic structures	2
			Absorption & Assimilation	1
			Acid base balance & Buffer	1
			Surface tension	1
			Membrane potential	2
	April-May 2026 (26/04/2026 —03/6/2026)	Summer vacation	Vaccation	39 day
6	June 2026	Respiratory System And Environmental Physiology (25hr)	Physiological anatomy of respiratory tract	2
			Mechanism of respiration	3
			Ventilation	2
			Diffusion of gases	1

7	July 2026	Respiratory System And Environmental Physiology	Transport of respiratory gases	3
			Regulation of respiration	3
			physio clinical aspect of hypoxia	1
			Classify hypoxia.	1
8	Aug 2026		Define Cyanosis	2
		Respiratory System And Environmental Physiology	Pulmonary Function Test	3
			High altitude and space physiology	1
			Deep sea physiology	1
			Artificial respiration	1
9	Sep 2026		Effects of exercise on respiration	1
		Bio-Chemistry (25hr)	Lipids	3
			carbohydrets	4
10	Oct2026	Bio-Chemistry	Proteins	4
			Enzymes	3
		Bio-Chemistry	Minerals	1
			Minerals	2
11	Nov 2026		Organ function tests	2
		2nd	2nd periodic assessment (PA-2)	5days
		Bio-Chemistry- Vitamins (5)	Vitamins	4
12	Dec 2026		Vitamins	2
			2nd terminal test- internal assessment (TT-2)	10days
		Reproductive System (15)	Define puberty&Discuss the roleof LH&FSH in development of puberty	1
			Explain puberty for its onset, and stages. Describe the causes for delayed &precocious puberty.	1

	Jan 2027		Describe the structure & Function of male reproductive system	1
			Explain the Function of male reproductive system	1
13		Reproductive System (15hr)	Describe the physiological effects of male sex hormone	1
			Discuss the process of spermatogenesis & factors affecting spermatogenesis	1
			Describe female reproductive system & functions of ovary and its Control.	2
			Describe menstrual cycle with hormonal, uterine and ovarian changes	3
			Describe the physiological effects of female sex hormones	1
14		Feb 2027		Discuss the contraceptive methods for male and female.
			Discuss the physiology of pregnancy, parturition & lactation.	2
			Internal assessment (PA-3)	

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I B.H.M.S. {2023} A/Y: 2023 - 2024

Advance Teaching Plan - Dr. VARSHA KUMBHAR

(No. of lectures 3 per week= 12 per months)

SR NO	MONTH	NAME OF TOPIC	DISTRIBUTION OF SUBTOPIC OF LECTURE	NO OF LECTURES REQUIRED FOR EACH
1.	DECEMBER 2025	FOUNDATION COURSE		2
2.	DECEMBER 2025	Body fluids & immune mechanism (35) (Semester 1)	Describe the composition and functions of blood components	3
3.			Describe the origin, Forms, Variations and functions of plasma Protein	2
4.			Describe and discuss the synthesis and functions of Haemoglobin	3
5.	JANUARY 2026	Body fluids & immune mechanism (35) (Semester 1)	Describe RSC formation (erythropoiesis & its regulation) and its functions	3
6.			Describe different types of anemia & Jaundice	4
7.			INTERNAL ASSESMENT I	LAST WK
8.				
9.	FEBRUARY 2026	Body fluids & immune mechanism (35) (Semester 1)	Describe WBC formation (granulopoiesis) and its regulation	4
10.			Describe the formation of platelets, functions and variations.	1

11.			Describe the physiological basis of haemostasis	2
12.			Describe the clinical importance of blood coagulation	2
13.	MARCH 2026	Body fluids & immune mechanism (35) (Semester 1)	Discuss the clinical importance of blood grouping	2
14.			Describe blood transfusion	1
15.			Explain the role of lymphoid tissues in immune responses	1
16.			Explain the role of lymphoid tissues in immune responses	3
17.			Define and classify different types of immunity.	2
18.			TERMINAL EXAM 1 (10 DAYS)	
19.				
20.	APRIL 2026	Central Nervous System (35)	Describe the development of immunity and its regulation	2
21.			Introduction to nervous system &	1
22.			Receptors	1
23.			Synapse	2
24.			Neurotransmitters	1
25.			Reflex activity	2
26.			FIRST TERM THEORY AND VIVA	10 DAYS
27.	MAY 2026	Central Nervous System (35)	Spinal cord	5
28.			Somato-sensory system and somato-motor system	2
29.			Summer vacation	15 days
30.	JUNE 2026	Central Nervous System (35)	Physiology of pain	1
31.			Physiology of pain	1
32.			Brain stem	1
33.			Vestibular apparatus	1

34.			Cerebral cortex	1
35.			Cerebral cortex	1
36.			Hypothalamus	1
37.			Internal capsule	1
38.			Thalamus	1
39.			Basal ganglia	1
40.			Limbic system	1
41.			Cerebellum - Posture and Equilibrium	2
42.	JULY2026	Central Nervous System (35)	INTERNAL ASSESSMENT 2	5DAYS
43.			Reticular formation	1
44.			Proprioceptors	1
45.			Higher intellectual function &	2
46.			Electroencephalogram (EEG)	1
47.			Physiology of sleep	1
48.			Cerebra-spinal fluid (CSF)	1
49.			Autonomic Nervous System (ANS)	2
50.	AUGUST2026	Renal Physiology(20)	Physiological Anatomy of Kidney, and Urinary tract	4
51.			Fluid & electrolyte with acid base balance need to be include	2
52.			Renal circulation	2
53.			Urine formation: Renal clearance, glomerular filtration, tubular reabsorption, selective secretion, concentration of urine, acidification of urine	4
54.	SEPTEMBER 2026		Urine formation: Renal clearance, glomerular filtration, tubular reabsorption, selective secretion, concentration of urine, acidification of urine	4
55.			TERMINAL EXAM 2	10 DAYS
56.			Renal Function Tests	2
57.			Micturition	2
58.	OCTOBER 2026	Renal Physiology(20)	Micturition	2
59.		Special Senses(20)	Eye: Photochemistry of vision, Visual pathway, Pupillary reflexes, Colour vision, Errors of refraction	2
60.		Special Senses(20)	Eye: Photochemistry of vision, Visual pathway, Pupillary reflexes, Colour vision, Errors of refraction	6
61.			Ear: Auditory pathway, Mechanism of hearing, Auditory defects	2

62.	NOVEMBER 2026	Special Senses(20)	Ear: Auditory pathway, Mechanism of hearing, Auditory defects	4
63.			Sensation of taste: Taste receptors, Taste pathways	4
64.			Sensation of smell: Olfactory receptors, olfactory, pathways Sensation of touch	4
65.	DECEMBER 2026		INTERNAL ASSESMENT 3	5DAYS
66.			REVISION	
67.	JANUARY 2027		REVISION	
68.	FEBRUARY 2027		REVISION	



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Department of Human Physiology
And Biochemistry
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Sasura (Vairagi)

DEPARTMENT OF HUMAN PHYSIOLOGY & BIOCHEMISTRY

Subject Code: HomUG-PB

IB.H.M.S. (2023)

Advance teaching plan AY 2025-26

Dr Madhubala Ingale

(No. of lectures 4 per week = 16 per month)

SR NO	MONTH	NAME OF TOPIC	DISTRIBUTION OF SUBTOPIC	NO. OF LECTURE
1	DEC 2025	Foundation program	10 days	3
2		Skin and integumentary system (15) semester 1	Discuss the layer of skin with function of skin	2
			Structure of hair with its function	2
	Jan 2026		Structure of nail with its function	2
			Glands of the skin	2
			Structure of different glands of skin With their functions	2
			Regulation of body temperature through skin	2
3		Nerve muscle physiology (15) semester 1	Neuron Classify neurons	1
			Structure and function of neuroglia	1
			Excitability & Conductivity	1
			Discuss graded & action potential	1

			Discuss the causes & grade of injury	1
			Identify the stages of degeneration Discuss the stages of regeneration	1
	Jan last week		Periodic assessment PA 1	
	Feb 2026		Illustrate the Structure of Neuro-Muscular Junction	1
			Discuss the Neuromuscular Transmission	1
			Disorders of neuromuscular Junction	1
			Illustrate the mechanism of skeletal muscle contraction. Describe the general mechanism of muscle contraction.	1
			Discuss Excitation of skeletal muscle	1
			Discuss the disorders of Skeletal Muscles	1
			Explain Contraction of smooth muscle	1
			Explain Nervous & hormonal control of smooth muscle contraction	1
			Illustrate Functional Anatomy of cardiac Muscle	1
			Explain process of excitability & contractility	1
			Explain properties of cardiac muscle	1
	March2026		First terminal exam TT 1	10 days
4	April 2026	Cardiovascular system(20) semester 2	Describe the functional anatomy of heart including chambers	2
			Pacemaker tissue and conducting system.	1

		Morphological Properties of heart	1
		Electrical properties of heart	1
		Discuss the events occurring during the cardiac cycle	1
		Pressure changes during cardiac cycle	1
		ECG changes during each cardiac cycle	1
		Explain different heart sounds with their measurement technique	2
		Clinical importance of Murmurs & Triple heart sound	2
	May 2026	Discuss normal ECG with it's waves and intervals	2
		Explain in electrocardiography with unipolar & bipolar recording	1
		Classify arrhythmias	2
		Different degree of heart block. Explain Myocardial Infarction	2
		Haemodynamics of circulatory system	2
		Summer vacation	15 days
		Describe the factors affecting heart rate,	2
	June 2026	Regulation of cardiac output	1
		Factors affecting cardiac output	2
		Understand the blood pressure regulation	1
		Discuss the determinants	1

			of arterial blood pressure	
			Describe coronary, cerebral, capillary, pulmonary & splenic circulation	2
			Explain mechanism responsible for shock & syncope	2
			Discuss the mechanism of hypertension	2
	July 2026		Periodic assessment 2	5 days
5		Endocrinology (30) semester 2	Mechanism of action of steroid, protein and amine hormones	2
			Regulation of hormone from the hypothalamus	1
			Homoeostatic mechanism of secretion of hormone through Hypothalamus	1
			Physiological anatomy of pituitary gland	1
			Secretion of anterior pituitary hormone	1
			Secretion of growth hormone	1
			Functions of growth hormone	1
			Effects of altered secretion of GH	1
			Explain the actions and control of secretion of prolactin	1
			Secretion of posterior Pituitary hormones	1
			Functions of ADH, Discuss the functions of Oxytocin Describe pituitary insufficiency	2
			Physiological anatomy of	1

			Thyroid gland	
			Formation & secretion of thyroid hormone	1
			Explain the transport & metabolism of thyroid hormone	1
	August 2026		Regulation and action of thyroid hormone	1
			Effect of altered secretion of Thyroid hormone	1
			Action of parathormone and Calcitonin	2
			Discuss the role of Calcitonin in the maintenance of calcium homoeostasis in body	1
			Effect of altered secretion of para thyroid hormone	1
			Physiological anatomy of Adrenal Cortex gland	1
			Formation, secretion, and functions of Glucocorticoid hormone	1
			Formation, secretion, and functions of Mineralocorticoid hormone	1
			Formation, secretion, and functions of Sex hormones	1
			Physiological anatomy of Adrenal Medullary gland	1
			Physiological anatomy of Pancreatic gland	1
			Action and regulation of Glucagon	1
	Sept 2026		Action and regulation of Insulin	2
			Effects of altered secretion of Pancreatic Hormone	2

			Functions of hormone of thymus gland	1
			Functions of hormone of pineal gland	1
	Sept 2026		Terminal 2	10 days
6	October 2026	Digestive system and nutrition semester 3	Structure, Function & Innervation of digestive system	2
			Classify salivary glands. Mention the innervation of salivary glands.	1
			Composition of saliva and functions of saliva	1
			Mechanism of salivary secretion	1
			Control of salivary secretion	1
			Clinical relevance of salivary gland & salivary secretion	1
			Process of mastication and stages of swallowing	2
			Structure, functions of stomach	1
			Diwali vacations	7 days
			Mechanism & regulation of gastric juice secretion	1
			Process of digestion in stomach	1
			Movements of stomach, phases of vomiting	1
	November 2026		Structure, composition & functions of pancreatic juice	2
			Mechanism & regulation of pancreatic juice secretion	2
			Exocrine pancreatic insufficiency	1

		Structure & functions of Liver, Explain the signs of liver insufficiency	2
		Structure & function of gall bladder	1
		Composition & function of liver bile	1
		Composition & function of gall bladder bile	1
December 2026		Periodic assessment 3	5 days
		Control & mechanism of bile secretion	1
		Clinical significance of liver functions.	1
		Clinical significance of Gall Bladder functions	1
		Composition, mechanism of secretion, function & regulation of Small intestine	2
		Movement of gastrointestinal tract, it's regulation & function.	2
		Clinical importance of small intestine	2
		Movements of large intestine, Describe the process of absorption & secretion in large intestine	2
		Process of defecation	1
		Clinical significance of large intestine	1
		Digestion & absorption of carbohydrates	
		Digestion & absorption of Fats	1
		Digestion & absorption of protein	1

			Absorption of water, electrolytes	1
			Absorption of vitamins & minerals	1
	Jan 2027		Revision	
	Feb 2027		Revision	