DEPARTMENT OF HUMAN PHYSIOLOGY & BIOCHEMISTRY.

SYLLABUS DISTRIBUTION

2024 - 2025

01	Dr. KEDAR MAHADIK	Theory	a) Skin & The Integumentary System
			b) Body Fluid & Immune
			Mechanism
		1 0	c) Cardio vascular system
		3"	d) Endocrinology
		Practical	a) Clinical & OPD
02	Dr. VARSHA KUMBHAR	Theory	a) General Physiology
02	Dr. VARSHA KUMBHAK	Theory	b) Nerve Muscle Physiology
		,	c) Respiratory System Nerve
			d) CNS
	3		e) Digestive System
		114	
		Practical	a) Clinical & Biochemistry
03	Dr. MAYUR KAKDE	Theory	a) Biophysics
03	Bi. iii)(1 Git 1 ii ii i	, 'x	b) Reproductive system
			c) Special Senses
			d) Vitamins
	17.0		e) Biochemistry
			f) Renal Physiology
		Practical	a) Hematology, Clinical &
			Biochemistry



DEPARTMENT OF HUMAN PHYSIOLOGY & BIOCHEMISTRY

Subject Code: Hom UG - PB I B.H.M.S. (2024)

A/Y: 2023 - 2024

Advance Teaching Plan - Dr. varsha kumbhar (No. of

	1 1 2	lectures 3	3 per week= 12 per month)	
Sr. No	Month	Name of Topic	Distribution of Subtopics of Lectures	No. of Lecture s Requir ed for each
1	DECEMBE R 2024	Foundation Course		1
2	JANUARY 2025	Foundation Course		1
-	Tagain New York	General Physiology (20) (Semester 1)	Definition & general introduction	3
			Describe and discuss the principles of homeostasis	3
e 4 e 4			Describe the structure & functions of cell	3
			List the organelles present in cell	1
			Enumerate the functions of organelles	2
3	february 2025	General Physiology (20) (Semester 1)	List the name of intracellular junction	1
			Discuss the importance of intracellular Junction	1
			Explain Passive transportation	2
			Explain Active Transportation	2
			Explain Vesicular Transportation	2
			First Periodical Assessment last week (PA-I)	5 days
		Nerve Muscle Physiology (15)	Nerve fiber- Definition, types, classification, function, Degeneration and regeneration of peripheral nerves	1
		Ya	Explain structure and function of neuroglia	1
Teat .	Departme	H.O.D. ent of Human Physiology nd Biochamistry eopate dedical College	To understand the physiological properties of nerve fibers	2
7	Sai Homo	nd Biochemistry eopatr - fedical College	To understand the degeneration & regeneration of neuron	2

			To describe Neuromuscular Junction	2
			To understand the physiological properties of Skeletal Muscle	2
			o understand the physiological properties of Smooth Muscle	2
5	April 2025	Respiratory System		3
	<u> </u>	And Environmenta Physiology (25)	Mechanism of respiration	3
			First Term Test - 3rd week (TT-I)	10 day
			Ventilation	3
6	May 2025	Respiratory System		1
		And Environmenta Physiology (25)	Transport of respiratory gases	3
		SUMMER VACATION	Regulation of respiration	1
7	June 2025	Respiratory System		3
		And Environmenta Physiology (25)	High altitude and space physiology	1
		, 51515gy (25)	Deep sea physiology	1
			Artificial respiration	1
		Central Nervous	Effects of exercise on respiration	4
		System (35)	Introduction to nervous system	1
			Receptors	1 1
8	July 2025	Central Nervous	Synapse	2
	System (35)	System (35)	Neurotransmitters	1
		Reflex activity	2	
		Spinal cord	4	
			Second Periodical Assessment 1st week (PA-II)	5 day
9	July 2025	Central Nervous	Spinal cord	4
		System (35)	Somato-sensory system and somato- motor system	2
			Physiology of pain	1
× .			Physiology of pain	1
			Brain stem	1
			Vestibular apparatus	11
			Cerebral cortex	2
10	August 2025	Central Nervous	Hypothalamus	1
		System	Internal capsule	1
		(35)	Thalamus	1-
			Basal ganglia	1
College	Donordmont	H.O.D.	Limbic system	1
37/18	And	f Human Physiology Riomemistry atny Medical College	Cerebellum - Posture and	2

		Let all the state of the state	Reticular formation	
				1
			Proprioceptors	1
			Higher intellectual function	2
		And the second	Electroencephalogram (EEG)	1
11	September 2025	Central Nervous	Physiology of sleep 1	
_	2025	System (35)	Cerebra-spinal fluid (CSF)	1
		Digestive System	Autonomic Nervous System (ANS)	2
	- 1	& Nutrition	Introduction to digestive system	3
25.			Composition and functions of digestive juices	5
12	October 2025	Digestive System & Nutrition	Second Term Test – 1st week (TT-II) including viva voice	10 days
-		18 ³	Composition and functions of digestive juices	1
			Physiological anatomy of Stomach, Pancreas, liver and Gall bladdef, Small intestine, Large intestine	3
s W.			Physiological anatomy of Stomach, Pancreas, Liver and Gall bladder, Small intestine, Large intestine	3
13	November2025	Digestive System & Nutrition	Physiological anatomy of Stomach, Pancreas, Liver and Gall bladder, Small intestine, Large intestine	2
			Movements of gastrointestinal tract	3
			Movements of gastrointestinal tract	2
£ 80 ¹			Physiological anatomy of Stomach, Pancreas, Liver and Gall bladder, Small intestine, Large intestine	4
8			Physiological anatomy of Stomach, Pancreas, Liver and Gall bladder, Small intestine, Large intestine	1
14	December2025	Winter vacation Digestive System & Nutrition	Physiological anatomy of Stomach, Pancreas, Liver and Gall bladder, Small intestine, Large intestine	3
	9 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		14th Month -third Periodical Assessment (PA-III)	5 days
15	January 2025	Digestive System & Nutrition	Gastrointestinal hormones	2
			Digestion and absorption of carbohydrates, proteins and lipids	2
			Revision	
16	February 2025	Revision	Revision	
17	March 2025	Medica	Preparatory holidays 1 week before exam H.O.D.	Physiolog
1	April 2025	Santo Co	University exam Department of Human And Biochem	stry

DEPARTMENT OF HUMAN PHYSIOLOGY & BIOCHEMISTRY

Subject Code: Hom UG - PB

I B.H.M.S. (2024)

A/Y: 2024 - 2025

Advance Teaching Plan - Dr. MAYUR KAKADE (No. of lectures 3 per week= 12 per month)

SR	MONTH	Name of Topic	Distribution of Subtopics of Lectures	No. of Lectures Required for each
NO		2 V 1		1
1	DECEMBER 2024	Foundation course		
2	JANUARY 2025	Foundation Course Bio-Physical	Filtration & Ultra-filtration Osmosis	3
		Sciences (15)	Diffusion	2
			Adsorption & Hydrotropy	1
			Colloid, Donnan Equilibrium,	2
			Tracer elements & Dialysis	1
			Atomic structures	2
ž		Bio-Physical	Absorption & Assimilation	1.
3	february	Sciences (15)	Acid base balance & Buffer	1
			Surface tension	1
			Membrane potential	2
			First Periodical Assessment last week (PA-I)	5 days
4	March2025	Reproductive	Define puberty & Discuss the role of LH & FSH in development of puberty	1
4		System (15)	Explain puberty for its onset, and stages. Describe the causes for delayed &precocious puberty.	1
			Describe the structure & Function of male reproductive system	1
		3	Describe the structure & Function of male reproductive system	1
			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
			Descripe menstrual cycle with hormonal, uterine and ovarian changes	3
5	April 2025	Reproductive System	Describe the physiological effects of female sex hormones	1
		(15) Special Senses	Discuss the contraceptive methods for male and female.	1 :
			Discuss the physiology of pregnancy, parturition & lactation.	2
			Eye: Photochemistry of vision, Visual pathway, Pupillary reflexes, Colour vision, Errors of refraction	2
			First Term Test - 3rd week (TT-I)	10 days
			Eye: Photochemistry of vision, Visual pathway, Pupillary reflexes, Colour vision, Errors of refraction	6
6	May 2025	Special Senses SUMMER VACATION	Ear: Auditory pathway, Mechanism of hearing, Auditory defects	6
7	June 2025	Special Senses	Sensation of taste: Taste receptors, Taste pathways	4
		Bio- Chemistry - (20)		4
			Carbohydrates	6
			Lipids	4
			Proteins	2
8	July 2025	Bio- Chemistry -	Proteins	2
		(20)	Enzymes	2
			Minerals	3
			Organ function tests	2
			Second periodic test(PAII)	5 DAYS



9	August 2025		Physiological Anatomy of Kidney, and	4
	August 2025	Renal Physiology	Physiological Anatomy of Kidney, and Urinary tract	4
			Fluid & electrolyte with acid base balance need to be include	2
			Renal circulation	2
			Urine formation: Renal clearance, glomerular filtration, tubular reabsorption, selective secretion, concentration of urine, acidification of urine	2
10	September 2025	Renal Physiology	Urine formation: Renal clearance, glomerular filtration, tubular reabsorption, selective secretion, concentration of urine, acidification of urine	6
			Renal Function Tests	2
11	October2025		Second terminal test (TT II)	10 DAYS
			REVISION	6
12	November2025	Winter vacation	REVISION	8
13	December		Revision	12
	2025		Third periodic assessment (PA III)	5DAYS
14	JANUARY 2026		REVISION	
15	FEB 2026		REVISION	
16	MARCH2026		PREPARATORY HOLIDAYS	7 DAYS
17	APRIL2026	The state of the s	UNIVERSITY EXAM	



DEPARTMENTOFHUMANPHYSIOLOGY&BIOCHEMISTRY

Subject Code: HomUG-PB IB.H.M.S.(2024)

A/Y:2024-2025

Advance Teaching Plan - Dr. Varsha, Kumbhar & Dr. Mayur Kakade PRACTICAL (Hematology, Clinical, Biochemistry)

(No. ofPractical2hrsperweek=8hrspermonth

Sr. No	Month	NameofTopic	DistributionofSubtopics of Lectures	No. of Lectures Requiredforeach
1	December 2024	Foundation course		
2	January	Haematology	StudyoftheCompoundMicroscope	5
2	2025	Haematology	Collectionofblood sample	3
			Collectionofbloodsample	2
3	February 2025		EstimationofHaemoglobin concentration	5
	-		Determinationofhematocrit	1
4	March		FirstPeriodicalAssessment1sweek (PA-I)	5days
	2025		Determinationofhematocrit	4
			Hemocytometry	2
	A m sil		Hemocytometry	3
5	April 2025		TotalRBCcount	5
	May		FirstTermTest-3 rd week(TT-I)	10 days
6	2025	4 ,	TotalRBCcount	5
			DeterminationofRBCindices	1
7	June 2025	Summer vacation	DeterminationofRBCindices	4
_		Vacation	Totalleucocytecount	4
8	2025	* =	NervousSystem-ClinicalExamination	4
9	-		SecondPeriodicalAssessment1stw eek (PA-II)	5days
	2025		Totalleucocytecount	3
			NervousSystem-ClinicalExamination	3
1	0 Septemb	е	Totalleucocytecount	3
	2025		NervousSystem- ClinicalExamination	5



PHYSIOLOGY&BIOCHEMISTRY SubjectCode:HomUG-PB IB.H.M.S.(2024)

A/Y:2024-2025

Advance Teaching Plan - Dr. MAYUR KAKADE

PRACTICAL (Haematology, Clinical, Biochemistry)

(No.ofPractical2hrsperweek=8hrspermonth)

Sr. No	Month	NameofTopic	DistributionofSubtopics of Lectures	No. of Lectures Requiredforeach
1	December 2024	Foundation course		
2	January	Haematology	StudyoftheCompoundMicroscope	5
	2025	; * j	Collectionofblood sample	3
3	February		Collectionofbloodsample	2
	2025		EstimationofHaemoglobin concentration	5
			Determinationofhematocrit	1.00
4	March 2025		FirstPeriodicalAssessment1stweek (PA-I)	5days
		Determinationofhematocrit	4	
			Hemocytometry	2
5	April		Hemocytometry	3
	2025	3 3	TotalRBCcount	5
6	May		FirstTermTest-3 rd week(TT-I)	10 days
	2025		TotalRBCcount	5
			DeterminationofRBCindices	1
7	June 2025	Summer vacation	DeterminationofRBCindices	4
8	July 2025		Totalleucocytecount	4
	2023		NervousSystem-ClinicalExamination	4
9	August 2025		SecondPeriodicalAssessment1stwe ek (PA-II)	5days
			Totalleucocytecount	3
			NervousSystem-ClinicalExamination	3
10	Septembe r		Totalleucocytecount	3
	2025		NervousSystem- ClinicalExamination	5



11	October 2025		Preparationandexaminationof blood smear	. 4
			NervousSystem-ClinicalExamination	3
12	November	Wintervacation	SecondTermTest-3rdweek(TT-II)	10days
	2025		Preparationandexaminationof blood smear	3
			DemonstrationofUsesOf InstrumentsOrEquipment	2
	No.		Qualitative Analysis of Carbohydrates, Proteins And Lipids	1
13	December 20	Wintervacation	Preparationandexaminationof bloodsmear	3
			QualitativeAnalysisof Carbohydrates,ProteinsAndLipids	2
14	January 2026	<u> </u>	DifferentialLeucocyteCount(DLC)	4
			Qualitative Analysis of Carbohydrates,Proteins And Lipids	4
15	February 2026		ThirdPeriodical Assessment1•¹week (PA-III)	5days
	* ×	The state of the s	DifferentialLeucocyteCount(DLC)	3
			Qualitative Analysis of Carbohydrates,Proteins And Lipids	3
16	March	- 9 16 - 2	DifferentialLeucocyteCount(DLC)	4
	2026		NormalCharacteristicsofUrine	4
17	April		ESR,BloodGroup,BT&CT	4
	2026		AbnormalConstituentsofUrine	4
	, (°)		Revision	4
18	May 2026		Universityexam	



DEPARTMENTOFHUMANPHYSIOLOGY&BIOCHEMISTRY

Subject Code: HomUG-PB

IB.H.M.S.(2024)

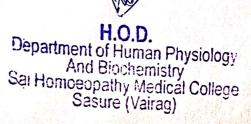
A/Y:2024-2025

Advance Teaching Plan -Dr. Kedar Mahadik PRACTICAL(Clinical)

(No. ofPractical2hrsperweek=8 hrspermonth)

Sr. No	Month	NameofTopic	DistributionofSubtopics of Lectures	No. of Lectures Required for each
1	November 2023	Foundation course		
2	December	Clinical Physiology	CaseTaking&Approach topt	5
	2023		GeneralConceptofExamination	3
3	January 2024	Clinical Physiology	GeneralConceptofExamination	8
4	February 2024	Clinical Physiology	FirstPeriodical Assessment1stweek (PA-I)	5days
	2024		Examinationofmuscles, joints	6
5	March	Clinical Physiology	Examinationofmuscles, joints	4
	2024		Cardio-VascularSystem-RadialPulse	4
6	April 2024	Clinical	FirstTermTest-3 rd week(TT-I)	10days
g V		Physiology	Cardio-VascularSystem-Blood Pressure Recording	4
7	May 2024	Summer vacation	Cardio-VascularSystem-Blood Pressure Recording &ECG	4
8	June 2024	Clinical Physiology	Cardio-VascularSystem-Clinical Examination	4
	55.7 S		OPD	4
9	July 2024	Clinical Physiology	SecondPeriodicalAssessment 1st week(PA-11)	5days
			RespiratorySystem-Clinical Examination	6
10	August 2024	Clinical Physiology	RespiratorySystem-Clinical Examination	5
			Respiratory System- Spirometry, Stethography	3





11	September 2024	Clinical Physiology	OPD	8
12	October	Wintervacation	SecondTermTest- 3rdweek(TT-II)	10days
	2024		ReproductiveSystem-Diagnosisof Pregnancy	5
心的			SpecialSenses-ClinicalExamination	2
13	November 2024	Wintervacation	SpecialSenses-ClinicalExamination	5
14	December 2024	Clinical Physiology	SpecialSenses-ClinicalExaminatio'}	8
15	January 2025	Clinical Physiology	ThirdPeriodicalAssessment1sweek (PA-III)	5days
	2020		GastrointestinalSystem-Clinical Examination	6
16	February 2025	Clinical Physiology	GastrointestinalSystem- Clinical Examination	4
2025	Filysiology	OPD	4	
17	March 2025		Revision	8
18	April2025	Alika (- Calyana Kadalaka b	Universityexam	

