ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

SEMESTER	DR. MANDAR KAPARE	DR. KARUNA KASARE	DR. VAISHALI MISHRA	DR. SUBHASH BHAGWAT
I	GENERAL PHYSIOLOGY (21) BODY FLUID & IMMUNITY (17)	SKIN & INTEGUMENTARY SYSTEM(16) BODY FLUID & IMMUNITY (18)	BIOPHYSICS & SCIENCE (15)	NERVE MUSCLE PHYSIOLOGY (18)
II	RESPIRATORY & ENVIRONMENTAL PHYSIOLOGY (25)	CARDIOVASCULAR SYSTEM (23)	ENDOCRINOLOGY (33)	CENTRAL NERVOUS SYSTEM (42)
	RENAL PHYSIOLOGY (20) BIOCHEMISTRY (15)	DIGESTIVE & NUTRITION (35) BIOCHEMISTRY (10)	REPRODUCTIVE SYSTEM (15)	SPECIAL SENSES (20)

Anand College Of Homeopathy Vaijapur

HOD
DEPARTMENT OF PHYSIOLOGY & BIOCHEMISTRY
ANAND COLLEGE OF HOMOEOPATHY
PHULEWADI ROAD,VAIJAPUR

Principal
Anand College of Homoeopathy & Hospital
Phulewadi Road, Vaijapur, Tq. Vaijapur,
Dist. Chh.Sambhaji Nagar - 423 701

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

TOTAL LECTURE PER SEMISTER	
SEMESTER I	124
SEMESTER II	121
SEMESTER III	115

TOTAL LECTURE = 360

DR. KAPARE MANDAR

SEMESTER I	TOPIC NAME	NO OF HRS
1. NOV. 25	Introduction to cellular physiology Cell Junctions	4
2. DEC. 25	Transport through cell membrane	4
3. JAN. 26	Body fluids compartments PERIODICAL I	4
4. FEB. 26	Body fluids compartments	1

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
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DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

	IMMUNITY	4
5. MAR. 26	Homeostasis IMMUNITY	4 5
6. APR. 26 7. MAY 26	White Blood Cell Platelets Haemostasis Coagulation of Blood Blood groups Blood Transfusion Blood volume Reticulo-endothelial System and Tissue Macrophage	4 8
SEMESTER II		
JUNE 26	RESPIRATORY SYSTEM AND ENVIRONMENTAL PHYSIOLOGY	6

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

	Physiological anatomy of respiratory tract Mechanism of respiration: Ventilation, diffusion of gases	
8. JULY 26	Mechanism of respiration: Ventilation, diffusion of gases	5
9. AUG. 26	Transport of respiratory gases Regulation of respiration PERIODICAL II	4
10. SEPT. 26	Pulmonary Function Test High altitude and space physiology Deep sea physiology	3
11. OCT. 26	Artificial respiration Effects of exercise on respiration DIWALI VACATION	5
11. NOV. 26	Artificial respiration Effects of exercise on respiration	4

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

	TERMINAL II	
SEMESTER III		
12. DEC. 26	RENAL PHYSIOLOGY Physiological anatomy of kidneys and urinary tract Fluid & electrolyte with acid base balance Renal circulation	4
12. JAN. 27	Urine formation: Renal clearance, glomerular filtration, tubular reabsorption, selective secretion	5
13. FEB. 27	concentration of urine, acidification of urine PERIODICAL III	4

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
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DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

14. MAR. 27	Renal function tests Micturition	5 4
15. APRIL 27	Renal functions tests Micturition BIOCHEMISTRY Carbohydrates: (Chemistry, Metabolism, Glycolysis, TCA, HMP, Glycogen synthesis and degradation, Blood glucose regulation) Lipids: (Chemistry, Metabolism, Intestinal uptake, Fat transport, Utilization of stored fat, Activation of fatty acids, Beta oxidation and synthesis of fatty acids) Proteins: (Chemistry, Metabolism, Digestion of protein, Transamination, Deamination Fate of Ammonia, Urea cycle, End products of each amino acid and their entry into TCA cycle	5 4 3 8
16. MAY 27	Enzymes: (Definition, Classification, Biological Importance, Diagnostic use, Inhibition) REVISION PRELIUM EXAM	4 3
	TOTAL	114

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
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DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

DR. KARUNA KASARE

SEMESTER I	TOPIC NAME	NO OF HRS
1. NOV. 25	SKIN & THE INTEGUMENTARY SYSTEM Skin & Integumentary System Layers of Skin Function of Skin Sweat Body temperature and its regulation	5
2. DEC. 25	SKIN & THE INTEGUMENTARY SYSTEM Skin & Integumentary System Layers of Skin Function of Skin Sweat Body temperature and its regulation	11
3. JAN. 26	BODY FLUID & IMMUNE MECHANISM Blood	10

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
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	Plasma Proteins Red Blood Cells Erythropoiesis Haemoglobin and Iron Metabolism Erythrocyte Sedimentation Rate PERIODICAL I	
4. FEB. 26	Packed Cell Volume and Blood Indices Hemolysis and Fragility of Red Blood Cells	5
5. MAR. 26	Lymphatic System and Lymph	2
6. APR. 26 7. MAY 26	Tissue Fluid and Oedema Revision Summer Vacation	2
SEMESTER II		

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
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DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

8. JUNE 26	Terminal Exam I CARDIO-VASCULAR SYSTEM Introduction to cardiovascular system Properties of cardiac muscle Cardiac cycle General principles of circulation Heart sounds	9
9. JULY 26	Regulation of cardiovascular system Normal and abnormal Electrocardiogram (ECG)	4
10. August 26	Cardiac output Heart rate Arterial blood pressure Radial Pulse Cardiovascular adjustments during exercise Periodical II	5
11.SEPT. 26	Regional circulation- Cerebral, Splanchnic, Capillary, Cutaneous & skeletal muscle circulation.	5

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
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12.OCT. 26	Terminal II DIWALI VACCATION	
13. NOV. 26	DIGESTIVE SYSTEM & NUTRITION Introduction to digestive system Composition and functions of digestive juices	3
14 DEC. 26	Gastric Juice –composition, function Pancreatic juice – composition, function	5
SEMESTER III		
13. JAN. 27	Physiological anatomy of Stomach, Pancreas, Liver, gall bladder	5
14. FEB. 27	Small intestine, Large intestine Movements of gastrointestinal tract Gastrointestinal hormones	12
15. MAR. 27	Digestion and absorption of carbohydrates, proteins and lipids PERIODICAL III	10

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
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DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

	BIOCHEMISTRY Vitamins: (Daily requirements, Dietary source, Disorders and physiological role) Minerals (Daily requirement, Dietary Sources, Disorders and physiological role)	6
16. APRIL 27	mineral metabolism Organ function tests	4
17. MAY 27	Prelim Exam	
	TOTAL	103

DR. VAISHALI MISHRA

SEMENSTER I		
1. NOV. 25	BIO-PHYSICAL SCIENCES Filtration Ultra-filtration Osmosis Diffusion Adsorption Hydrotropy, Colloid Donnan Equilibrium Tracer elements Dialysis	2

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

	Absorption Assimilation Surface tension	
2. Dec. 25	BIO-PHYSICAL SCIENCES Filtration Ultra-filtration Osmosis Diffusion Adsorption Hydrotropy, Colloid Donnan Equilibrium Tracer elements Dialysis Absorption Assimilation Surface tension	9
3. JAN. 26	Donnan Equilibrium Tracer elements Dialysis Absorption Assimilation Surface tension NERVE MUSCLE PHYSIOLOGY Physiological properties of nerve fibres	3 3

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

	Nerve fibre- types, classification, function, Degeneration and regeneration of peripheral nerves PERIODICAL I	
4. FEB. 26	Neuro-Muscular junction SUMMER VACCATION	3
5. MAR. 26	Physiology of Skeletal muscle Physiology of Cardiac muscle Physiology of Smooth muscle	9
6. APR. 26	EMG TERMINAL I	4
7. MAY 26	SUMMER VACATION	
SEMESTER II		
8. JUNE 26	ENDOCRINOLOGY	3

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

	Introduction of endocrinology and importance of PNEI axis Hormones and hypothalamo- hypophyseal axis	
9. JULY 26	Pituitary gland Thyroid gland Parathyroid Endocrine functions of pancreas	13
10. AUG. 26	Adrenal cortex PERIODICAL II	6
11.SEPT. 26	Adrenal medulla Endocrine functions of other organs	11
12. OCT. 26	TERMINAL II DIWALI VACATION	
SEMESTER III		
13.NOV. 26	REPRODUCTIVE SYSTEM Male reproductive system-testis and its hormones; seminal vesicles, prostate gland, semen.	9

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
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DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

14.DEC. 26	Introduction to female reproductive system Menstrual cycle Ovulation Menopause	6
15. JAN. 27	Infertility Pregnancy and parturition Placenta Pregnancy tests Mammary glands and lactation Fertility Foetal circulation	6
16. FEB. 27	PERIODICAL III	
17. MAR. 27	REVISION	5
18. APR. 27	REVISION	5
19. MAY 27	PRELIM EXAM	
	TOTAL	97

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
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DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

DR. BHAGWAT

SEMISTER I		
NOV. 25 TO MAY 26	Neuro-Muscular junction Physiology of Skeletal muscle Physiology of Cardiac muscle Physiology of Smooth muscle EMG	4 10 4
SEMISTER II		
JUNE 26 TO NOV. 26	CENTRAL NERVOUS SYSTEM Introduction to nervous system Neuron Neuroglia Receptors Synapse Neurotransmitters	9

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

	Reflex Spinal cord Somato-sensory system and somato-motor system Physiology of pain	8
	Brain stem, Vestibular apparatus Cerebral cortex Thalamus Hypothalamus	8
	Internal capsule Basal ganglia Limbic system	4
	Cerebellum – Posture and equilibrium Reticular formation Proprioceptors	9

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

	Higher intellectual function Electroencephalogram (EEG)	
SEMISTER III		
DEC. 26 TO MAY 27	SPECIAL SENSES Eye: Photochemistry of vision, Visual pathway, Pupillary reflexes, Colour vision, Errors of refraction Ear: Auditory pathway, Mechanism of hearing, Auditory defects Sensation of taste: Taste receptors, Taste pathways Sensation of smell: Olfactory receptors, olfactory, pathways Sensation of touch	4 4 12
	TOTAL	79

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

PRACTICAL TIME TABLE

SEMISTER I	DR. MANDAR KAPARE/ DR. KARUNA KASARE	DR. MANDAR KAPARE/ DR. KARUNA KASARE
1. NOV. 25	CLINICAL PHYSIOLOGY CASE TAKING & APPROACH TO PATIENT (05)	HEAMATOLOGY STUDY OF COMPUND MICROSCOPE (05)
2. DEC. 25	CASE TAKING & APPROACH TO PATIENT (05)	COLLECTION OF BLOOD SAMPLE (05) ESTIMATION OF HB (05) DETERMINATION OF HEMATOCRIT (05) HEMOCYTRIMETRY (05)
3. JAN. 26	GENERAL CONCEPT OF EXAMINATION (10) PERIODICAL I	TOAL RBC COUNT (10) DETERMINATION OF RBC INDICES(05)
4. FEB. 26		TOTAL LEUCOCYTIC COUNT (TLC) (10)

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
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DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

		PREPARATION & EXAMINATION OF BLOOD SMEAR(10)
5. MAR. 26	EXAMINATION OF MUSCLES, JOINTS (10)	DIFFERANTIAL LEUCOCYTIC COUNT (10) ABSOLUTE EOSINOPHIL COUNT (05) DETERMINATION OF ESR (05)
6. APR. 23	TERMINAL I	DETERMINATION OF BLOOD GROUP (05) BETERMINATION OF BLEEDING TIME & CLOTTING TIME (05) TERMINAL I
SEMISTER II		
7. JUNE 26	CARDIOVASCULAR SYSTEM RECORDING OF BP, REDIAL PULSE, ECG, CLINICAL EXAMINATION(20)	OPD (15)

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
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DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

8. JULY 26	RESPIRATORY SYSTEM- CLINICAL EXAMINATION , SPIROMETRY, STETOGRAPHY (20)	OPD(15)
9. AUG.. 26	EXAMINATION OF NERVOUS SYSTEM (20) PERIODICAL II	OPD(15)
10. SEPT. 26	SPECIAL SENSES CLINICAL EXAMINATION (20) DIWALI VACCATION	OPD(15)
11. OCT.26	SPECIAL SENSES CLINICAL EXAMINATION(20)	REPRODUCTIVE SYSTEM – DIGNOSIS OF PREGNANCY (06)
12. NOV. 26	TERMINAL II	
SEMISTER III		
13. DEC. 26	GIT CLINICAL EXAMINATION (12)	Demonstration of Uses Of Instruments Or Equipment Demonstration (6) Qualitative Analysis of Carbohydrates, Proteins And Lipids Performance

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
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		(12)
14. JAN. 27	OPD (15)	Normal Characteristics of Urine Performance (6) Abnormal Constituents of Urine Performance(12)
15. FEB. 27	OPD(15) PERIODICAL III	Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood Performance (6)
16. MAR. 27	SUMMER VACCATION	
17.APR.27	OPD(15)	Liver Function Tests Demonstration((6) Kidney Function Tests Demonstration(6) Lipid Profile Demonstration(6)

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

		Interpretation and Discussion of Results of Biochemical Tests Demonstration(6)
18.MAY 27	PRELIUM	

TOPIC	NO OF HRS
PRACTICAL/ LAB WORK	156
CLINICAL PHYSIOLOGY	148
OPD	105
TOTAL	409

Anand College Of Homeopathy Vaijapur

4/10/2025

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ANNUAL TEACHING PLAN FOR FIRST YEAR *BHMS*
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DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

PRACTICAL & CLINICAL PHYSIOLOGY:-

No Practical Demonstration /

Performance

HAEMATOLOGY

288

1 Study of the Compound Microscope Performance

2. Collection of Blood Samples Performance

3 Estimation of Haemoglobin Concentration Performance

4 Determination of Haematocrit Demonstration

5 Hemocytometry Performance

6 Total RBC Count Performance

7 Determination of RBC Indices Demonstration

8 Total Leucocytes Count (TLC) Performance

9 Preparation And Examination Of Blood Smear Performance

10 Differential Leucocyte Count (DLC) Performance

11 Absolute Eosinophil Count Demonstration

12 Determination of Erythrocyte Sedimentation Rate Demonstration

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

13 Determination of Blood Groups Performance

14 Determination of Bleeding Time and Coagulation Time Performance

BIOCHEMISTRY

1 Demonstration of Uses Of Instruments Or Equipment Demonstration

2 Qualitative Analysis of Carbohydrates, Proteins And Lipids Performance

3 Normal Characteristics of Urine Performance

4 Abnormal Constituents of Urine Performance

5 Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood Performance

6 Liver Function Tests Demonstration

7 Kidney Function Tests Demonstration

8 Lipid Profile Demonstration

9 Interpretation and Discussion of Results of Biochemical Tests Demonstration

CLINICAL PHYSIOLOGY & OPD

1 Case Taking & Approach to pt Performance

2 General Concept Of Examination Performance

3 Examination of muscles, joints, Performance

4 Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination

Performance

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

5 Respiratory System- Clinical Examination, Spirometry, Stethography Performance

6 Nervous System- Clinical Examination Performance

7 Special Senses- Clinical Examination Performance

8 Reproductive System- Diagnosis of Pregnancy Performance

9 Gastrointestinal System- Clinical Examination Performance

290

10 OPD (Applied Physiology) Demonstration & Performance

THEORY:-

1. GENERAL PHYSIOLOGY:

Introduction to cellular physiology

Cell Junctions

Transport through cell membrane and resting membrane potential Body fluids compartments

Homeostasis

2. BIO-PHYSICAL SCIENCES

Filtration Ultra-filtration Osmosis

Diffusion Adsorption Hydrotropy, Colloid

Donnan Equilibrium Tracer elements Dialysis

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

Absorption Assimilation Surface tension

3. SKIN &THE INTEGUMENTARY SYSTEM

Skin & Integumentary System

281

Layers of Skin

Function of Skin

Sweat

Body temperature and its regulation

4. BODY FLUID & IMMUNE MECHANISM

Blood

Plasma Proteins

Red Blood Cells

Erythropoiesis

Haemoglobin and Iron Metabolism

Erythrocyte Sedimentation Rate

Packed Cell Volume and Blood Indices

Haemolysis and Fragility of Red Blood Cells

White Blood Cell

Immunity

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
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DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

Platelets

Haemostasis

Coagulation of Blood

282

Blood groups

Blood Transfusion

Blood volume

Reticulo-endothelial System and Tissue Macrophage Lymphatic System and Lymph

Tissue Fluid and Oedema

5. NERVE MUSCLE PHYSIOLOGY

Physiological properties of nerve fibres

Nerve fibre- types, classification, function, Degeneration and regeneration of peripheral nerves

Neuro-Muscular junction

Physiology of Skeletal muscle

Physiology of Cardiac muscle

Physiology of Smooth muscle

EMG

6. CARDIO-VASCULAR SYSTEM

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

Introduction to cardiovascular system Properties of cardiac muscle

Cardiac cycle

General principles of circulation Heart sounds

283

Regulation of cardiovascular system

Normal and abnormal Electrocardiogram (ECG)

Cardiac output

Heart rate

Arterial blood pressure

Radial Pulse

Regional circulation- Cerebral, Splanchnic, Capillary, Cutaneous & skeletal muscle circulation.

Cardiovascular adjustments during exercise

7. RESPIRATORY SYSTEM AND ENVIRONMENTAL PHYSIOLOGY

Physiological anatomy of respiratory tract

Mechanism of respiration: Ventilation, diffusion of gases

Transport of respiratory gases Regulation of respiration Pulmonary Function Test

High altitude and space physiology Deep sea physiology

Artificial respiration

ANNUAL TEACHING PLAN FOR FIRST YEAR *BHMS*
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

Effects of exercise on respiration

8. CENTRAL NERVOUS SYSTEM

Introduction to nervous system Neuron

Neuroglia

284

Receptors

Synapse

Neurotransmitters

Reflex

Spinal cord

Somato-sensory system and somato-motor system Physiology of pain

Brain stem, Vestibular apparatus

Cerebral cortex

Thalamus

Hypothalamus

Internal capsule

Basal ganglia

Limbic system

Cerebellum – Posture and equilibrium

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

Reticular formation

Proprioceptors

Higher intellectual function Electroencephalogram (EEG)

Physiology of sleep

285

Cerebro-spinal fluid (CSF) Autonomic Nervous System (ANS)

9. ENDOCRINOLOGY

Introduction of endocrinology and importance of PNEI axis Hormones and hypothalamo- hypophyseal axis

Pituitary gland

Thyroid gland

Parathyroid

Endocrine functions of pancreas Adrenal cortex

Adrenal medulla

Endocrine functions of other organs

10. REPRODUCTIVE SYSTEM

Male reproductive system-testis and its hormones; seminal vesicles, prostate gland, semen.

Introduction to female reproductive system

ANNUAL TEACHING PLAN FOR FIRST YEAR BH
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMIST

Menstrual cycle

Ovulation

Menopause

Infertility

Pregnancy and parturition Placenta

Pregnancy tests

286

Mammary glands and lactation Fertility

Foetal circulation

11. SPECIAL SENSES

Eye: Photochemistry of vision, Visual pathway, Pupillary reflexes, Colour vision, Errors of refraction

Ear: Auditory pathway, Mechanism of hearing, Auditory defects

Sensation of taste: Taste receptors, Taste pathways

Sensation of smell: Olfactory receptors, olfactory, pathways Sensation of touch

12. DIGESTIVE SYSTEM & NUTRITION

Introduction to digestive system

Composition and functions of digestive juices

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

Physiological anatomy of Stomach, Pancreas, Liver and Gall bladder, Small intestine, Large intestine

Movements of gastrointestinal tract

Gastrointestinal hormones

Digestion and absorption of carbohydrates, proteins and lipids

13. RENAL PHYSIOLOGY

Physiological anatomy of kidneys and urinary tract

Fluid & electrolyte with acid base balance need to be include

Renal circulation

287

Urine formation: Renal clearance, glomerular filtration, tubular reabsorption, selective secretion, concentration of urine, acidification ofurine

Renal functions tests

Micturition

14. BIO-CHEMISTRY THEORY

Carbohydrates: (Chemistry, Metabolism, Glycolysis, TCA, HMP, Glycogen synthesis and degradation, Blood glucose regulation)

Lipids: (Chemistry, Metabolism, Intestinal uptake, Fat transport, Utilization of stored fat,Activation of fatty acids, Beta oxidation and

synthesis of fatty acids)

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

Proteins: (Chemistry, Metabolism, Digestion of protein, Transamination, Deamination Fate of Ammonia, Urea cycle, End products of each

amino acid and their entry into TCA cycle

Enzymes: (Definition, Classification, Biological Importance, Diagnostic use, Inhibition)

Vitamins: (Daily requirements, Dietary source, Disorders and physiological role)

Minerals (Daily requirement, Dietary Sources, Disorders and physiological role) mineral metabolism

Organ function tests

PRACTICAL & CLINICAL PHYSIOLOGY:-

No Practical Demonstration /

Performance

HAEMATOLOGY

288

1 Study of the Compound Microscope Performance

2. Collection of Blood Samples Performance

3 Estimation of Haemoglobin Concentration Performance

4 Determination of Haematocrit Demonstration

5 Hemocytometry Performance

6 Total RBC Count Performance

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

7 Determination of RBC Indices Demonstration

8 Total Leucocytes Count (TLC) Performance

9 Preparation And Examination Of Blood Smear Performance

10 Differential Leucocyte Count (DLC) Performance

11 Absolute Eosinophil Count Demonstration

12 Determination of Erythrocyte Sedimentation Rate Demonstration

13 Determination of Blood Groups Performance

14 Determination of Bleeding Time and Coagulation Time Performance

BIOCHEMISTRY

1 Demonstration of Uses Of Instruments Or Equipment Demonstration

2 Qualitative Analysis of Carbohydrates, Proteins And Lipids Performance

289

3 Normal Characteristics of Urine Performance

4 Abnormal Constituents of Urine Performance

5 Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood Performance

6 Liver Function Tests Demonstration

7 Kidney Function Tests Demonstration

8 Lipid Profile Demonstration

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

9 Interpretation and Discussion of Results of Biochemical Tests Demonstration

CLINICAL PHYSIOLOGY & OPD

1 Case Taking & Approach to pt Performance

2 General Concept Of Examination Performance

3 Examination of muscles, joints, Performance

4 Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination

Performance

5 Respiratory System- Clinical Examination, Spirometry, Stethography Performance

6 Nervous System- Clinical Examination Performance

7 Special Senses- Clinical Examination Performance

8 Reproductive System- Diagnosis of Pregnancy Performance

9 Gastrointestinal System- Clinical Examination Performance

290

10 OPD (Applied Physiology) Demonstration & Performance

THEORY:-

1. GENERAL PHYSIOLOGY:

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

Introduction to cellular physiology

Cell Junctions

Transport through cell membrane and resting membrane potential Body fluids compartments

Homeostasis

2. BIO-PHYSICAL SCIENCES

Filtration Ultra-filtration Osmosis

Diffusion Adsorption Hydrotropy, Colloid

Donnan Equilibrium Tracer elements Dialysis

Absorption Assimilation Surface tension

3. SKIN &THE INTEGUMENTARY SYSTEM

Skin & Integumentary System

281

Layers of Skin

Function of Skin

Sweat

Body temperature and its regulation

4. BODY FLUID & IMMUNE MECHANISM

Blood

ANNUAL TEACHING PLAN FOR FIRST YEAR BHM
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTR

Plasma Proteins

Red Blood Cells

Erythropoiesis

Haemoglobin and Iron Metabolism

Erythrocyte Sedimentation Rate

Packed Cell Volume and Blood Indices

Haemolysis and Fragility of Red Blood Cells

White Blood Cell

Immunity

Platelets

Haemostasis

Coagulation of Blood

282

Blood groups

Blood Transfusion

Blood volume

Reticulo-endothelial System and Tissue Macrophage Lymphatic System and Lymph

Tissue Fluid and Oedema

5. NERVE MUSCLE PHYSIOLOGY

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

Physiological properties of nerve fibres

Nerve fibre- types, classification, function, Degeneration and regeneration of peripheral nerves

Neuro-Muscular junction

Physiology of Skeletal muscle

Physiology of Cardiac muscle

Physiology of Smooth muscle

EMG

6. CARDIO-VASCULAR SYSTEM

Introduction to cardiovascular system Properties of cardiac muscle

Cardiac cycle

General principles of circulation Heart sounds

283

Regulation of cardiovascular system

Normal and abnormal Electrocardiogram (ECG)

Cardiac output

Heart rate

Arterial blood pressure

Radial Pulse

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS
2025-26 BATCH
DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

Regional circulation- Cerebral, Splanchnic, Capillary, Cutaneous & skeletal muscle circulation.

Cardiovascular adjustments during exercise

7. RESPIRATORY SYSTEM AND ENVIRONMENTAL PHYSIOLOGY

Physiological anatomy of respiratory tract

Mechanism of respiration: Ventilation, diffusion of gases

Transport of respiratory gases Regulation of respiration Pulmonary Function Test

High altitude and space physiology Deep sea physiology

Artificial respiration

Effects of exercise on respiration

8. CENTRAL NERVOUS SYSTEM

Introduction to nervous system Neuron

Neuroglia

284

Receptors

Synapse

Neurotransmitters

Reflex

Spinal cord

ANNUAL TEACHING PLAN FOR FIRST YEAR BHMS 2025-26 BATCH DEPT OF PHYSIOLOGY INCLUDING BIOCHEMISTRY

Somato-sensory system and somato-motor system Physiology of pain

Brain stem, Vestibular apparatus

Cerebral cortex

Thalamus

Hypothalamus

Internal capsule

Basal ganglia

Limbic system

Cerebellum – Posture and equilibrium

Reticular formation

Proprioceptors

Higher intellectual function Electroencephalogram (EEG)

Physiology of sleep

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Cerebro-spinal fluid (CSF) Autonomic Nervous System (ANS)

9. ENDOCRINOLOGY

Introduction of endocrinology and importance of PNEI axis Hormones and hypothalamo- hypophyseal axis

Pituitary gland

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Thyroid gland

Parathyroid

Endocrine functions of pancreas Adrenal cortex

Adrenal medulla

Endocrine functions of other organs

10. REPRODUCTIVE SYSTEM

Male reproductive system-testis and its hormones; seminal vesicles, prostate gland, semen.

Introduction to female reproductive system

Menstrual cycle

Ovulation

Menopause

Infertility

Pregnancy and parturition Placenta

Pregnancy tests

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Mammary glands and lactation Fertility

Foetal circulation

11. SPECIAL SENSES

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Eye: Photochemistry of vision, Visual pathway, Pupillary reflexes, Colour vision, Errors of refraction

Ear: Auditory pathway, Mechanism of hearing, Auditory defects

Sensation of taste: Taste receptors, Taste pathways

Sensation of smell: Olfactory receptors, olfactory, pathways Sensation of touch

12. DIGESTIVE SYSTEM & NUTRITION

Introduction to digestive system

Composition and functions of digestive juices

Physiological anatomy of Stomach, Pancreas, Liver and Gall bladder, Small intestine, Large intestine

Movements of gastrointestinal tract

Gastrointestinal hormones

Digestion and absorption of carbohydrates, proteins and lipids

13. RENAL PHYSIOLOGY

Physiological anatomy of kidneys and urinary tract

Fluid & electrolyte with acid base balance need to be include

Renal circulation

Urine formation: Renal clearance, glomerular filtration, tubular reabsorption, selective secretion, concentration of urine, acidification ofurine

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Renal functions tests

Micturition

14. BIO-CHEMISTRY THEORY

Carbohydrates: (Chemistry, Metabolism, Glycolysis, TCA, HMP, Glycogen synthesis and degradation, Blood glucose regulation)

Lipids: (Chemistry, Metabolism, Intestinal uptake, Fat transport, Utilization of stored fat,Activation of fatty acids, Beta oxidation and

synthesis of fatty acids)

Proteins: (Chemistry, Metabolism, Digestion of protein, Transamination, Deamination Fate of Ammonia, Urea cycle, End products of each

amino acid and their entry into TCA cycle

Enzymes: (Definition, Classification, Biological Importance, Diagnostic use, Inhibition)

Vitamins: (Daily requirements, Dietary source, Disorders and physiological role)

Minerals (Daily requirement, Dietary Sources, Disorders and physiological role) mineral metabolism

Organ function tests

PRACTICAL & CLINICAL PHYSIOLOGY:-

No Practical Demonstration /

Performance

HAEMATOLOGY

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1 Study of the Compound Microscope Performance

2. Collection of Blood Samples Performance

3 Estimation of Haemoglobin Concentration Performance

4 Determination of Haematocrit Demonstration

5 Hemocytometry Performance

6 Total RBC Count Performance

7 Determination of RBC Indices Demonstration

8 Total Leucocytes Count (TLC) Performance

9 Preparation And Examination Of Blood Smear Performance

10 Differential Leucocyte Count (DLC) Performance

11 Absolute Eosinophil Count Demonstration

12 Determination of Erythrocyte Sedimentation Rate Demonstration

13 Determination of Blood Groups Performance

14 Determination of Bleeding Time and Coagulation Time Performance

BIOCHEMISTRY

1 Demonstration of Uses Of Instruments Or Equipment Demonstration

2 Qualitative Analysis of Carbohydrates, Proteins And Lipids Performance

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3 Normal Characteristics of Urine Performance

4 Abnormal Constituents of Urine Performance

5 Quantitative Estimation of Glucose, Total Proteins, Uric Acid in Blood Performance

6 Liver Function Tests Demonstration

7 Kidney Function Tests Demonstration

8 Lipid Profile Demonstration

9 Interpretation and Discussion of Results of Biochemical Tests Demonstration

CLINICAL PHYSIOLOGY & OPD

1 Case Taking & Approach to pt Performance

2 General Concept Of Examination Performance

3 Examination of muscles, joints, Performance

4 Cardio-Vascular System – Blood Pressure Recording, Radial Pulse, ECG, Clinical Examination

Performance

5 Respiratory System- Clinical Examination, Spirometry, Stethography Performance

6 Nervous System- Clinical Examination Performance

7 Special Senses- Clinical Examination Performance

8 Reproductive System- Diagnosis of Pregnancy Performance

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astrointestinal System- Clinical Examination Performance

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OPD (Applied Physiology) Demonstration & Performance

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