



**GPMT SCHOOL of  
HOMOEOPATHY**

Gulabrao Patil Homoeopathic Medical College & Hospital

**ANNEXURE -IV**

**DEPARTMENT OF PHYSIOLOGY & BIOCHEMISTRY  
Academic Year 2023-2024**

**Academic Activities/Webinar/Workshop/CME/Activities in Last One Year.**

**College Code: 4205**

**Academic Planner/Advanced Teaching Plan  
Time Table (Year wise)**

**Details from 1<sup>st</sup> August 2023 to 31<sup>st</sup> July 2024**

Sr. No.	Details	Total Number in Hours
1.	Lecture	325
2.	Symposium	--
3.	Practical/Clinics	365
4.	Inter-Departmental Seminars	04
5.	Seminar	10
6.	Case presentation	--
7.	Journal Club	--

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**G. P. H. M. C. Miraj.**



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## DEPARTMENT OF PHYSIOLOGY & BIOCHEMISTRY

**ACADEMIC YEAR 2023-2024**

### STAFF LIST

Sr. No.	Name of Staff	Designation	Qualification
01	Dr Mrs. T. A Bidiwale	H.O.D & Professor	M D ( HOM)
02	Dr. Uday A. Phatak	Guest Asso. Professor	M.D. (Med)
03	Dr. Najhad N. Satarmaker	Asst. Professor	M.D.(Hom)
04	Mr. N. V. Kolekar	Lab. Technician	M.Sc. D.M.L.T

*T. A. Bidiwale*

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**ACADEMIC PLANNER**

2023-2024

**LESSON PLANNER FOR THE MONTH OF NOVEMBER-2023**

**FOUNDATION COURSE**

1<sup>ST</sup> BHMS COURSE

- Introduction
- Universal Precaution and vaccination

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**2023-2024**

**LESSON PLANNER FOR THE MONTH OF DECEMBER-2023**

**General Physiology**

- Discuss the principles of cellular physiology.
- Classify cell junctions.
- Explain the concept of homeostasis

**Body Fluid & Immune Mechanism**

- Describe the composition and functions of blood components
- Describe the origin, Forms, Variations and functions of plasma Protein
- Illustrate the synthesis of Hemoglobin
- Describe RBC formation (erythropoiesis) and its regulation

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**2023-2024**  
**LESSON PLANNER FOR THE MONTH OF JANUARY-2024**

**General Physiology**

- Describe the resting membrane potential.
- Categorise body fluids compartments.
- Explain the concept of homeostasis

**Body Fluid & Immune Mechanism**

- Explain the role of lymphoid tissues in immune responses
- Classify different types of immunity
- Describe the development and regulation of immunity.
- Explain the formation and functions of platelets.
- Illustrate the physiological basis of haemostasis

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### **ACADEMIC PLANNER**

**2023-2024**

### **LESSON PLANNER FOR THE MONTH OF FEBRUARY-2024**

#### **Bio-physical sciences**

- Filtration Ultra-filtration Osmosis
- Diffusion Adsorption Hydrotropy, Colloid
- Donnan Equilibrium Tracer elements Dialysis Absorption  
Assimilation Surface tension

#### **Body Fluid& Immune Mechanism**

- Describe different blood groups
- Discuss the clinical importance of blood grouping
- Describe blood transfusion
- Estimate Hb, RBC, TLC, RBC indices, DLC, Blood groups, BT/CT

#### **1<sup>st</sup> PERIODICAL**

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**2023-2024**  
**LESSON PLANNER FOR THE MONTH OF MARCH-2024**

**Nerve muscle physiology**

- Physiological properties of nerve fibres
- Nerve fibre- types, classification, function, degeneration and regeneration of peripheral nerves
- Neuro-Muscular junction

**Skin & the integumentary system**

- Skin & Integumentary System
- Layers of Skin
- Function of Skin
- Sweat
- Body temperature and its regulation

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**2023-2024**  
**LESSON PLANNER FOR THE MONTH OF APRIL-2024**

**Nerve muscle physiology**

- Physiology of Skeletal muscle
- Physiology of Cardiac muscle
- Physiology of Smooth muscle
- EMG

**Skin & the integumentary system**

- Sweat
- Body temperature and its regulation

**1<sup>ST</sup> TERMINAL EXAM**

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**2023-2024**

**LESSON PLANNER FOR THE MONTH OF MAY2024**

**Respiratory system and environmental physiology**

- Physiological anatomy of respiratory tract
- Mechanism of respiration: Ventilation, diffusion of gases
- Transport of respiratory gases

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**LESSON PLANNER FOR THE MONTH OF JUNE-2024**

**Respiratory system and environmental physiology**

- Regulation of respiration Pulmonary Function
- High altitude and space physiology
- Deep sea physiology
- Artificial respiration
- Effects of exercise on respiration

**Cardio-vascular system**

- Introduction to cardiovascular system
- Properties of cardiac muscle
- Cardiac cycle
- General principles of circulation Heart sounds
- Regulation of cardiovascular system

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**2023-2024**  
**LESSON PLANNER FOR THE MONTH OF JULY-2024**

**Central nervous system**

- Introduction to nervous system
- Neuron
- Neuroglia
- Receptors
- Synapse
- Neurotransmitters
- Reflex
- Spinal cord

**Cardio-vascular system**

- Normal and abnormal Electrocardiogram (ECG)
- Cardiac output
- Heart rate
- Arterial blood pressure

**2<sup>ND</sup> PERIODICAL**

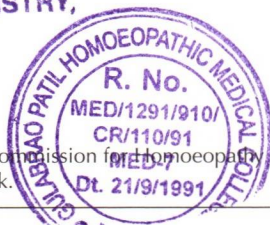
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**LESSON PLANNER FOR THE MONTH OF AUGUST-2024**

**Central nervous system**

- 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

**Cardio-vascular system**

- Radial Pulse
- Regional circulation- Cerebral, Splanchnic, Capillary, Cutaneous & skeletal muscle circulation.
- Cardiovascular adjustments during exercise

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**LESSON PLANNER FOR THE MONTH OF SEPTEMBER-2024**

**Central nervous system**

- Reticular formation
- Proprioceptors
- Higher intellectual function Electroencephalogram (EEG)
- Physiology of sleep
- Cerebro-spinal fluid (CSF) Autonomic Nervous System (ANS)

**Renal physiology**

- Physiological anatomy of kidneys and urinary tract
- Fluid & electrolyte with acid base balance need to be include

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**LESSON PLANNER FOR THE MONTH OF OCTOBER-2024**

**Endocrinology**

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

**Renal physiology**

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

**2<sup>ND</sup> TERMINAL EXAM**

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**LESSON PLANNER FOR THE MONTH OF NOVEMBER-2024**

**Endocrinology**

- Thyroid gland
- Parathyroid
- Endocrine functions of pancreas Adrenal cortex Adrenal medulla
- Endocrine functions of other organs

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**LESSON PLANNER FOR THE MONTH OF DECEMBER-2024**

**Reproductive system**

- Male reproductive system-testis and its hormones; seminal vesicles, prostate gland, semen.
- Introduction to female reproductive system Menstrual cycle

**Renal physiology**

- Renal functions tests
- Micturition

**Bio-chemistry theory**

- carbohydrates

**3<sup>RD</sup> PERIODICAL**

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**2023-2024**  
**LESSON PLANNER FOR THE MONTH OF JANUARY-2025**

**Reproductive system**

- Ovulation
- Menopause
- Infertility Pregnancy and parturition Placenta
- Pregnancy tests
- Mammary glands and lactation
- Fertility Foetal circulation

**Bio-chemistry theory**

- Lipids

**Special senses**

- Sensation of taste: Taste receptors, Taste pathways

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**LESSON PLANNER FOR THE MONTH OF FEBRUARY-2025**

**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

**Special senses**

- Eye: Photochemistry of vision, Visual pathway, Pupillary reflexes, Colour vision, Errors of refraction
- Ear: Auditory pathway, Mechanism of hearing, Auditory defects

**Bio-chemistry theory**

- Proteins

**3<sup>RD</sup> TERMINAL**

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**LESSON PLANNER FOR THE MONTH OF MARCH-2025**

**Digestive system & nutrition**

- Movements of gastrointestinal tract
- Gastrointestinal hormones
- Digestion and absorption of carbohydrates, proteins and lipids

**Special senses**

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

**Bio-chemistry theory**

- Enzymes
- Vitamins
- Minerals
- Organ function tests

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**LESSON PLANNER FOR THE MONTH OF APRIL-2025**

**REVISION**

Revision of Cardiovascular System

Revision of Respiratory System

Revision of Digestive System

Revision of Excretory System

Revision of Haematology

Revision of Endocrine System

Revision of Reproductive System

Revision of Central Nervous System

Revision of Skin and Body Temperature Regulation

Revision of Biophysics, R.E System.

Revision of Lymph, Spleen.

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**MUHS EXAM**

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## DEPARTMENT OF PHYSIOLOGY AND BIOCHEMISTRY SYLLABUS DISTRIBUTION Academic year; 2023-2024

### THEORETICAL

Dr. T.A. Bidiwale

1. Introduction
2. Nerve
3. Respiratory system
4. Endocrine
5. Reproductive system
6. Central nervous system
7. Digestive system

#### 1.Introduction;

Introduction to physiological principles. Life processes, Homoeostasis. cell structure, organelles, cell membrane, composition and function. Transport of substances across cell membrane, active transport na-K pump, osmosis, hypertonic, hypotonic, isotonic solution. D ionic equilibrium.

#### 2.Nerve;

Structure and function of nerve cell.

Bioelectric phenomena in the nerve and muscle. R.M.P. action and its propagation, neuromuscular transmission. Classification and properties of nerve fibres. Wellerian degeneration, regeneratiuon and reaction of degeneration.

Skeleto-muscular; classification of muscle fibre. Properties of skeletal muscle.

#### 3.Respiratory system;

Anatomical and Physiological dead space. Mechanism of breathing. Lung volume and capacities. Carbon dioxide carriage and co2 dissociation curve. Nervous control of respiration. chemical control of respiration. cynosis. Asphyxia.caisson's disease. Dyspnoea and periodic breathing. Pulmonary circulation. Artificial respiration. Pulmonary function tests.

#### 4.Endocrine;

Physiology of pituitary, thyroid, parathyroid, pancreas, adrenal cortex and medulla. Regulation of secretion of endocrine glands. Hypothyroidism, hyperthyroidism, thyrotoxicosis, functions of thyroid. Hyperparathyroidism. Diabetes mellitus.

#### 5.Reproductive system;







Introduction in general and types of reproduction. Physiology of testes and ovaries. Physiology of menstruation, Pregnancy and lactation. Placenta and its function, foetal circulation and respiration.

## 6. Central nervous system;

General organization, structure and function of nerve cell and neuralgia. Cerebrospinal fluid. Physiology of synapse and receptor organs. Physiology of reflex action- classification properties etc. of reflexes. Sensory and motor tracts and effects of secretion, transaction and hemisection of spinal cord. Spinal, decerebrate and decorticate preparation and regulations of posture and equilibrium. Reticular formation. Cerebellum and basal ganglia. Sensory and motor cortex. Physiology of voluntary movements. Higher function of cortex; sleep and wakefulness, EEG, memory, speech, learning. Physiology of thalamus and hypothalamus and limbic system. Physiology of autonomic nervous system, peripheral and central mechanism.

## 7. Digestive system;

General introduction, organization plan and evolutionary significance.

Composition, function and regulation of salivary, gastric, Pancreatic, intestinal and biliary secretions. Movements of G.I. tract. Absorption of G.I. tract. Physiology of Liver and Gall bladder structure and function

## Dr Najhad N. Satarmaker

### 1. Environmental Physiology

#### 2. Haematology

#### 3. Cardiovascular system

#### 4. Excretory system

#### 5. Special senses

#### 6. Lymphatic system

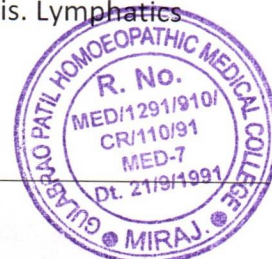
### 1. Environmental Physiology;

Skin-structure and function

Regulation of body temperature, hypothermia.

### 2. Haematology;

Composition and functions in general. physiology of plasma proteins, normal values. ESR and other blood indices. physiology of RBC, WBC, and platelets formation, fate. functions of formed elements of blood. anemia, haemoglobin, polycythemia. Body fluid compartments, their measurements, blood volume and its regulation. ABO and Rh blood group systems. coagulation and haemostasis. Lymphatics and RE system.





### 3. Cardiovascular system;

Structure and properties of cardiac muscle. Generation and conduction of cardiac impulse, ECG{normal}.cardiac cycle with reference to pressure , volume changes, heart sounds etc. Heart rate and its regulation. Haemodynamics, BP and its regulation.nervous and chemical control of blood vessel. Physiological basis of shock.

### 4.Excretory system;

General introduction, structure and functions of kidney.Mechanism of formation of urine. Mechanism of concentration and dilution of urine. Physiology of micturation.

### 5.Special senses;

Physiology of taste, smell. Vision Ear- general anatomy, conduction of sound waves through external, middle and internal ear. Peripheral and central mechanism of hearing and auditory pathways. General anatomy refractory media and protective mechanism in eye. Formation, circulation and function of aqueous humor. Physiology of optics, formation of image, accommodation errors of refraction, acuity of vision.physiology of retina, dark and light adoption, photochemistry of vision, color vision. Visual pathway and effect of various levels.

Vitamins-water soluble and fat soluble. Hypovitaminosis.

### 6.Lymphatics and RE System

By Dr. Uday Phatak BIOCHEMISTRY

Biochemical principles and elementary constituents of protoplasm.chemistry of proteins. Chemistry of carbohydrates.Chemistryof lipids. Enzymes and vitamins. Metabolism of proteins, fats, carbohydrates, minerals.

Vitamins-water soluble and fat soluble. Hypovitaminosis

### Dr. Uday Phatak

Skeleto-muscular; classification of muscle fibre. Properties of skeletal muscle.

### PRATICALS

#### Dr T.A. Bidiwale

- 1.Haematology
- 2.Biochemistry

#### Dr. Najhad N. Satarmaker

- 1.Clinical
2. Instruments.

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## DEPARTMENT OF PHYSIOLOGY & BIOCHEMISTRY

Academic Year 2023-24

### List of Books in Department

- 1) Samson Wrights -Applied Physiology
- 2) Exercise Physiology- William Mcardle
- 3) Textbook of Medical Physiology- Prof. G.K. Pal
- 4) Textbook of Medical Physiology- Prof. G.K. Pal- part I
- 5) Textbook of Medical Physiology- Prof. G.K. Pal- part II
- 6) Anatomy & Physiology in Health & Illness- Ross & Wilson
- 7) Harpers Biochemistry- Murray
- 8) Concise Medical Biochemistry- Sucheta P. Dandekar
- 9) Human Physiology- B J Meyer
- 10) Textbook of Medical Physiology –Indu Khurana (2 copies)
- 11) Textbook of Practical Physiology – C.L.Ghai (2 copies)
- 12) Handbook of Experimental Physiology & Biochemistry- Dr P V Chadha
- 13) Medical Physiology- R.K. Maurya
- 14) Review of Medical Physiology- William Ganong
- 15) Prep Manual for Undergraduate physiology- Vijaya Joshi
- 16) Human Physiology-vol- I-Dr C C Chatterjee (2 copies)
- 17) Human Physiology-vol-II-Dr C C Chatterjee (3 copies)
- 18) A Handbook of Practical Physiology-Dr P D Ranbhise
- 19) Human Physiology-Andrew Davies
- 20) Concise Medical Physiology- Chaudhari
- 21) Biochemistry-Pankaja Naik
- 22) Essentials of Biochemistry- Pankaja Naik
- 23) Medical Physiology-Asis Das
- 24) Textbook Of Medical Physiology- Guyton.
- 25) Concise Medical Physiology- Guyton -Hall
- 26) Principles of Anatomy & Physiology- Toratora
- 27) Grays Anatomy
- 28) Handbook of general Anatomy- B D Chaurasia.
- 29) Textbook of Biochemistry-Dr K. Rambabu
- 30) Textbook of Medical Biochemistry-M.N. Chatterjee
- 31) Fundamentals of Biochemistry-Dr.A.C.Deb
- 32) Essentials of Medical Physiology-K Sembulingam(3)
- 33) Biochemistry for clinical Medicine-Ira Thabrew
- 34) Textbook of Biochemistry-DM Vasudevan
- 35) Practical Biochemistry—Geeta Damodaran(2)







- 36) Hutchinsons Clinical Methods
- 37) Biochemistry- U.Satyanarayana

### Complimentary Copies:-

- 1) Last minute Revision Biochemistrtry- Saumya & Anurag Shukla
- 2) Comprehensive Textbook of Medical Physiology Vol I- G.K.Pal
- 3) Comprehensive Textbook of Medical Physiology Vol II-G.K.Pal
- 4) Ghai's Textbook of Practical Physiology-Revised & Edited by V.P.Varshney, Mona Bedi.
- 5) Physicon- Sanoop K.S, Mridul G.S, Nishanth P.S
- 6) Physiology Prep Manual for undergraduates- Vijaya Joshi, Sadhana Joshi- Mendhurwar- 5<sup>th</sup> & 6<sup>th</sup> Edition
- 7) Viva Voice in Biochemistry- S. Kavitha
- 8) Practical Physiology Book- M.Chandrashekar, Nitesh Mishra
- 9) Last Minute Revision Physiology-Saumya & Anurag Shukla
- 10) Textbook of Biochemistry- D.M.Vasudevan.
- 11) LPR Fundamentals of Medical Physiology-L. Prakasam Reddy.
- 12) Biochemistry – Pankaja Naik
- 13) Fundamental of Medical Physiology- Harminder Singh, Itika Singh, Mridul Yadav
- 14) Essentials of Biochemistry- 3<sup>rd</sup> edition- Pankaja Naik
- 15) Ghai's Textbook of Practical Physiology- V.P.Varshey Mona Bedi
- 16) Practical Physiology- A Students workbook – V.P.Varshey
- 17) Comprehensive Textbook medical Physiology Vol 1 G.K. Pal
- 18) Comprehensive Textbook medical Physiology Vol 2 G.K. Pal

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**DEPARTMENT OF PHYSIOLOGY & BIOCHEMISTRY  
ACADEMIC YEAR – 2023-24**

**LIST OF MODELS**

**WET MODELS**

- 1) Optic Tract
- 2) Right & Left Lung
- 3) Saggital Section of Head-Neck & Brain.
- 4) Liver with Gall Bladder.
- 5) Tongue Thorax
- 6) Right & Left Kidney & Abdominal Aorta
- 7) Omentum.
- 8) Stomach.
- 9) Thyroid, Corticoid & Larynges
- 10) Small Intestine.
- 11) Brain & Spinal Cord.

**MODELS**

- 12) Ear
- 13) Heart
- 14) Eye
- 15) Kidney
- 16) Model of Heart
- 17) Electrical model of Circulation
- 18) Electrical model of Synaptic Transmission
- 19) Electrical model of Ion exchange mechanism in Nephron

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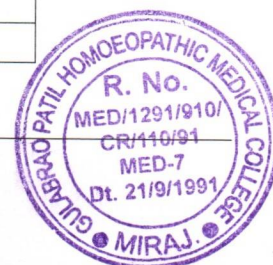
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## DEPARTMENT OF PHYSIOLOGY & BIOCHEMISTRY ACADEMIC YEAR – 2023-24 LIST OF CHARTS

Cell & Tissues	
SR. NO.	NAME
1)	Cell
Blood	
1)	Blood cells (Haemopoiesis)
2)	Blood clotting factors and mechanism of clotting
3)	Scanning electron micrograph of blood cells
4)	Composition and functions of Blood
5)	Determination of blood groups
6)	Symptoms of anemia
Cardiovascular system	
1)	Aorta & its primary branches
2)	Principle veins
3)	Hepatic portal circulation
4)	Anterior view of heart
5)	Cardiac cycle
6)	Area of Auscultation of Heart
7)	Pulse points
8)	General plan of circulation
9)	Normal ECG of single heart beat
10)	Cardiac Dysrhythmia
Respiratory system	
1)	Bucket handle movement of Respiration
2)	Portion of Lobule of Lung
3)	Structure of alveolus
4)	O <sub>2</sub> - CO <sub>2</sub> Transport at tissue level and lung level
Digestive System	
1)	Digestive enzymes
2)	Location of salivary glands
3)	Stages of Deglutition
4)	Balanced Diet (food guide pyramid)
5)	Cephalic, Gastric and Intestinal phases of Gastric Digestion
Excretory System	
1)	Cortical Nephron







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2)	Renal circulation
3)	Countercurrent concentration of urine
4)	Summary of Functions of Nephron
<b>Endocrine System</b>	
1)	Location of Endocrine glands
2)	Anterior View of Thyroid gland
3)	Thyroid hormone abnormalities
4)	Adrenal Cortical Hormone abnormalities
<b>Reproductive System</b>	
1)	Female Reproductive System
2)	Female Reproductive Cycle
3)	Developmental Changes of Ovarian Cycle
4)	Male Reproductive System
5)	Stages of Spermatogenesis
6)	Spermiogenesis and structure of sperm
<b>Nervous System</b>	
1)	Neuron
2)	Meninges & Ventricles of Brain
3)	Functional Areas of Cerebrum
4)	Autonomic nervous system
5)	Direct( Pyramidal )Pathway
6)	Neuromuscular Junction

## Special Senses

- 1) Tongue
- 2) Structure of Ear
- 3) Skin
- 4) The Eye ball and layers of retina
- 5) Ishihara chart
- 6) Anterior View of Lacrimal Apparatus
- 7) Optic Pathway
- 8) Structure of taste bud
- 9) Snellen's Chart

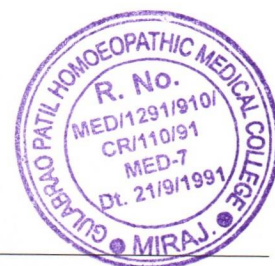
## R.E. SYSTEM

- 1) Lymphatic System and structure of lymph node
- 2) Composition of lymph

## BIOCHEMISTRY

- 1) Krebs cycle
- 2) Glycolysis

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- 3) Absorptive state metabolic pathway
- 4) Post Absorptive state metabolic pathway

### PIONEERS OF PHYSIOLOGY

- 1) Jan Baptista Van Helmont
- 2) Ida Henrietta Hyde
- 3) William P. Murphy
- 4) Richard Bright
- 5) Mario Capecchi

### CLINICAL CHARTS

- 1) Check Your Own Eyes.
- 2) Check Your Own Tongue.
- 3) Check Your Own Nails
- 4) Check Your Own Nose.

### NORMAL VALUE DISPLAY CHARTS

- 1) Blood sugar level
- 2) Atmospheric Pressure
- 3) Urine Output
- 4) Normal GFR
- 5) 1<sup>st</sup>Heart sound
- 6) RBC count
- 7) Blood Urea
- 8) Heart rate
- 9) 2<sup>nd</sup>Heart sound
- 10) Blood Pressure
- 11) WBC count
- 12) Normal Body Temperature





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- 13) Salivary Secretion
- 14) Cardiac cycle time
- 15) Cardiac Output
- 16) Respiratory Rate
- 17) Tidal Volume
- 18) Platelet count.

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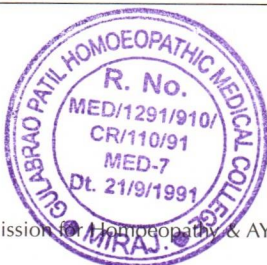




## DEPARTMENT OF PHYSIOLOGY & BIOCHEMISTRY ACADEMIC YEAR – 2023-24 LIST OF INSTRUMENTS

Sr. No.	Name of Article	Quantity
1	Microscope with oil immersion	35
2	Equipment for ESR estimation/Westerngreen pipette for ESR	25
3	Haematocrite Tubes	30
4	Autoanaiyser/Semi autoanalyser	01
5	Haemoglobinometer	52
6	Haemocytometer	50
7	Sphygnomanometer	50
8	Stethoscope	25
9	Clinical thermometer (Digital)	25
10	Knee-Hammer	25
11	Tunning Fork	2 Sets
12	Stethographs and Pneumographs	05
13	Electrocardiograph Machine	01
14	Electronic Stopwatch	04
15	Glass Distilation(double apparatus)	01
16	Centrifuge Medium speed	02
17	Colorimeter( Photoelectric)	02
18	PH Meter( electric)	01
19	ColourPerceptionlantern( Edridge green)	01
20	Incubator	01
21	Educational CD	As require
	DVD	As require
	Films	As require
	Slides	As require
	Models	As require
	Audio VisualAids	As require
22	Perimeter	03
23	Spirometer	01
24	Tonometer	01
25	Handgrip Dinamometer	01
26	Bicycle ergometer	01
	Facility for Animal Eperiments demonstration with thehelp of audio visual aids	Available
	No. of additional items available	10

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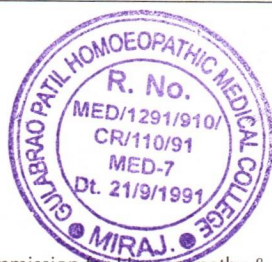
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**ACADEMIC YEAR – 2023-24**  
**LIST OF INSTRUMENTS**  
**Biochemistry**

Sr. No.	Name of Article	Quantity
1	Monopan balance	01
2	Centrifuge	01
3	Chemical balance	01
4	Water Baths	02
5	Urinometer	25
6	Hydrometer	02
7	Albuminometer	20
8	Glucometer	20
9	Thermometer	10
10	Colorimeter	01
11	Hot air oven	01
12	Doubal Dist. Apparatus	01
14	Pipette	10
15	Burette	10
16	Wire gauze	10
17	Beakers	25
18	Flasks	25
19	Burners	24
20	Rubber Tubing	Available
21	PH Meter	01
22	Stands	03
23	Clamps	04

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**ACADEMIC YEAR – 2023-24**  
**List Of Transparencies**

SR.NO.	NAME	SR.NO.	NAME
01	Receptors-Types	11	Extrapyramidal tract
02	Receptor Potential-Action Potential –Properties	12	Difference between pyramidal & extrapyramidal tract
03	Ascending Tracts	13	Upper motor neuron & Lower motor neuron paralysis
04	Descending tracts	14	Tracts of Spinal cord
05	Tract of Goll & Burdach	15	T.S of spinal cord
06	Lat/Dorsal Spinothalamic Tract (2)	16	Neurons in Gray Horn of spinal cord
07	Ventral/Ant. Spinothalamic Tract (2)	17	Ascending tracts of spinal cord
08	Cerebellar Tracts (Flechsig's & Gower's Tract)	18	Hypothalamus
09	Difference between posterior column tract & Anterolateral spinothalamic tract	19	Clotting factors.
10	Pyramidal tract		

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