SECOND YEAR MBBS CURRICULUM

2025-26

VISION STATEMENT

The vision of King Edward Medical University is to be a renowned national and world-class academic institution, maintaining a leading role in medical education, innovative research, and the provision of international-standard healthcare services.

MISSION STATEMENT

King Edward Medical University will prepare health professionals in accordance with the highest professional standards to practice evidence-based medicine, maintain international quality of patient-centered care in the healthcare delivery system, and produce research scholars demonstrating excellence in knowledge, skills, and ethical values, empowered with community-oriented, self-directed learning and professional development.

INTRODUCTION

Core Philosophy: The Traditional Model

The curriculum is delivered through a traditional, subject-based model, where Anatomy, Physiology, and Biochemistry are taught as distinct, independent disciplines. This pedagogical approach focuses on departmental specialization, allowing students to master the granular details of each subject within its own academic silo. By gaining a deep, concentrated understanding of each subject, students build the foundational "building blocks" of knowledge required for future clinical integration.

Academic Pillars of the Curriculum

- **Anatomy:** The focus shifts toward regional anatomy, specifically the Head and Neck, Neuroanatomy, and Genitourinary systems. Students engage in detailed cadaveric dissection, emphasizing the spatial relationships of structures that are essential for surgical and diagnostic accuracy.
- **Physiology:** This subject explores the complex regulatory mechanisms of the human body. The curriculum covers advanced systems including the Central Nervous System, Special Senses, and the Endocrine and Reproductive systems, detailing how these components maintain homeostasis.
- **Biochemistry:** The Second Year focuses heavily on Metabolic Integration. Students study the intricate biochemical pathways of carbohydrates, lipids, and proteins, alongside molecular biology and genetics, to understand the chemical basis of life and the molecular origins of disease.

COURSE TIMELINE ANATOMY

Total Duration: 32 weeks

Total Hours: 250

Regions	Duration	Lectures Embryology + Histology	Practicals Histology	Demonstrations (Gross Anatomy)	Dissection	Total Hours
Head & Neck Endocrinology	11 +1 weeks 28-01-26 to 29-04-26	35	09	44	10	98
Neurosciences	6+1 weeks 30-04-26 to 18-07-26	16	04	24	06	50
Gastrointestinal Tract	6+1 weeks 20-07-26 to 26-08-26	17	08	24	06	55
Genitourinary	5+1 weeks 27-08-26 to 03-10-26	16	6	20	05	47
Total Contact Hours		84	27	112	27	250

COURSE TIMELINE PHYSIOLOGY

Total Duration: 32 weeks

Total Hours: 216

Starting date of the session	First week of January
Venue	Physiology Lecture Hall on Physiology Floor
Course coverage	9 Months
No. of total lectures	Five Lectures/week
Days of Physiology lectures	One lecture each on Tuesday, Thursday,
	Friday and Saturday of each week.

PRACTICALS

Starting date of the session	First week of January
Venue	Physiology Laboratory
Days of Physiology practicaIs	Monday, Tuesday, Thursday and Saturday.

TUTORIALS/Small Group Discussions

Starting date of the session	First week of January
Venue	Demonstration Rooms and Physiology
	LT in Physiology department.
Days of Physiology tutorials/PBL	Every Wednesday from 12:30 to 02:30 PM

LECTURES	**PRACTICALS**	**TUTORIALS**	**Total hours**
120 hrs	48 hrs	48 hrs	216

COURSE TIMELINE BIOCHEMISTRY

Total Duration: 32 weeks

Total Hours: 182

THEORY:	
Starting date of the session	28-01-2026
Venue	Biochemistry Lecture Hall 2 Maqbool Ahmed Block
Course coverage	9 Months
No. of total lectures	Four Lectures/week
Days of Biochemistry lectures	One lecture each on Monday, Wednesday, Thursday, and Friday of each week.

PRACTICALS	
Starting date of the session	28-01-2026
Venue	Biochemistry Laboratory
Days of Biochemistry Practicals	Monday, Tuesday, Thursday and Saturday

TUTORIALS/SMALL GROUP DISCUSSIONS	
Starting date of the session	28-01-2026
Venue	Demonstration Rooms in Biochemistry department.
Days of Biochemistry tutorials/Problem based learning	Monday, Tuesday, Thursday and Saturday

LECTURES	PRACTICALS	TUTORIALS	TOTAL
118	32	32	182

Learning Methodologies

Education is facilitated through a structured combination of:

1. **Didactic Lectures:** Providing comprehensive theoretical frameworks for each subject.
2. **Practical Laboratory Sessions:** Developing essential technical skills, such as performing physiological examinations and biochemical assays.
3. **Dissection Hall Sessions:** Offering hands-on anatomical exploration to bridge the gap between textbook descriptions and biological reality.
4. **Tutorials:** Encouraging academic dialogue and refining the student's ability to communicate complex scientific concepts.

Goal of the Year

The ultimate objective of the Second-Year curriculum is to ensure that every student achieves a mastery of the Normal Human State. By the end of this year, students are expected to possess rigorous scientific discipline and the vast knowledge base necessary to transition into clinical years, where they will begin to study how these normal processes are altered by pathology and managed through therapeutics.

Schedule and Timelines for 2nd Year MBBS

The second year MBBS curriculum is structured over a 9-month academic session to ensure comprehensive coverage of the syllabus. To maintain the rigor of the traditional silo-based model, the teaching-learning activities are distributed across theoretical, practical, and small-group formats starting from January 28, 2026.

1. Theory Lectures

Theoretical foundations are established through a consistent weekly schedule designed to cover the breadth of metabolic and molecular biochemistry.

- Total Duration: 9 Months.
- Frequency: Four-Five lectures/subjects per week.
- Venue: Biochemistry Lecture Hall, 2 Maqbool Ahmed Block, Physiology Lecture Theatre, Anatomy Lecture Theatre.

2. Practical Sessions

Hands-on laboratory training is conducted to bridge theoretical knowledge with technical proficiency in biochemical analysis.

- Commencement: January 28, 2026.
- Weekly Schedule: Conducted four days a week/ subject.
- Venue: Biochemistry Laboratory, Histology Laboratory, and Physiology Laboratory

3. Tutorials

To reinforce complex concepts and promote interactive learning, students participate in small-group sessions.

- Commencement: January 28, 2026.
- Format: Includes traditional tutorials and Problem-Based Learning (PBL) sessions.
- Weekly Schedule: Held four days a week for Biochemistry and Anatomy and once a week for Physiology
- Venue: Demonstration Rooms and tutorial rooms.

CODE OF CONDUCT FOR STUDENTS

1. TIMINGS

The students are encouraged to follow the timings of lectures, practical & tutorial classes.

2. ATTENDANCE & SEND UP EXAMINATION

A minimum criterion for attendance for appearing in university examination is set to be 75%. The students are informed about their attendance record and deficiency twice a year. Classes are also arranged in summer vacations to meet the deficiency.

3. PRACTICAL NOTE BOOKS AND LAB COATS

- It is mandatory for students to wear a lab coat during practical classes.
- Practical copies are maintained and checked after every practical.
- Practical copy carries 5 marks in Professional examination.

ASSESSMENT METHODS

1. Internal Assessment
2. Formative Assessment
3. Summative Assessment

CLASS TESTS (DURING ACADEMIC SESSION)

- Class Tests are conducted comprising of Long Essay questions, MCQs and SEQs each month.
- Viva Voce are also conducted at regular intervals
- Sendup at the end of the year includes the entire syllabus.
- Results are displayed promptly

ASSESSMENTS RULES & REGULATIONS

- Tests are conducted sharp at the given time.
- Students are not allowed to enter the examination hall after 15 minutes of the scheduled examination time.
- Students must sit according to the specified seating arrangement
- Cell phones are strictly prohibited in the examination hall.
- Pass score in each assessment is 50%

Office of The Professor of Anatomy Department, KEMU.

Time Table of 2nd Year MBBS (2026-2027) Classes

Day	08:00 - 09:00	09:00 - 10:00	10:00 - 10:30	10:30 - 11:30	11:30-12:30	12:30 - 02:30
Monday	Anatomy Demonstration	Anatomy Dissection	BREAK	Anatomy Lecture (Histology)	Biochemistry Lecture (Lecture Theatre 02)	**Practial** Histology C Physiology A Biochemistry B Biochemistry Tutorial D
Tuesday	Anatomy Demonstration	Anatomy Dissection		Anatomy Lecture (Histology)	Physiology Lecture	**Practial** Histology A Physiology B Biochemistry D Biochemistry Tutorial C
Wednesday	Anatomy Lab			Biochemistry Lecture (Lecture Theatre 02)	Physiology Lecture	Tutorial Phsiology
Thursday	Anatomy Demonstration	Anatomy Dissection		Physiology Lecture	Biochemistry Lecture (Lecture Theatre 02)	**Practial** Histology D Physiology C Biochemistry A Biochemistry Tutorial B
Friday	Integrated Lecture / Pakistan Studies	Anatomy Lecture (Embryology)	(10:00-11:00) Biochemistry Lecture		11:00-12:00 Physiology Lecture	
Saturday	Anatomy Demonstration	Anatomy Dissection	Break	Anatomy Lecture (Embryology)	Physiology Lecture	**Practical** Histology B Physiology D Biochemistry C Biochemistry Tutorial A

Lectures of Anatomy and Physiology will be delivered in Anatomy & Physiology Lecture Theatres, and Lectures of Biochemistry will be delivered in the Lecture Theatre 02 of Maqbool Ahmed Block.

21.01.26

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Dean Basic Sciences
Head of Anatomy Department
King Edward Medical University, Lahore.

Prof. Dr. Muhammad Shakil
Head of Biochemistry Department,
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Dr. Maryam Rao
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DEPARTMENT OF PHYSIOLOGY

At the end of the course the student should be able to:

BODY FLUIDS AND KIDNEY

1. Describe the components and quantitative measurements of body fluids.
2. Discuss the different fluid compartments, tissue and lymph fluid.
3. Describe the structure of the kidney and nephron and explain general functions of the kidney.
4. Describe the GFR and its regulation.
5. Describe the formation of urine including filtration, re-absorption and secretion.
6. Discuss plasma clearance.
7. Describe the mechanism of concentration and dilution of urine
8. Describe regulation of osmolality, water balance and acid base balance
9. Describe the role of the kidney in blood pressure regulation.
10. Describe the hormonal functions of the kidney.
11. Describe acidification of urine and its importance.
12. Describe the mechanism of micturition and its control.

Applied Physiology:

Understands:

1. Renal plasma clearance tests and their clinical significance.
2. Dehydration, rehydration, overhydration and oedema.
3. Renal failure and dialysis.
4. Metabolic acidosis and alkalosis.
5. Abnormalities of micturition.

NERVOUS SYSTEM

1. Describe general organization of the nervous system.
2. Describe the properties of synaptic transmission.
3. Classify the neurotransmitters and explain their functions.
4. Explain neuropeptides and their functions
5. List the types and describe the properties and functions of sensory receptors.
6. Describe the pathways for transmission of somatic sensations
7. Define reflex action. Classify and describe reflexes
8. Describe the muscle spindle and Golgi tendon organ. Explain their functions.
9. Describe the physiology of the pain and analgesia system.
10. Explain the functions of the cerebral cortex.

it. Differentiate between the sensory and motor cortex and their functions.

12. Describe the motor pathways, including pyramidal and extrapyramidal.

13. Describe basal nuclei (basal ganglia) and their functions.
14. Describe cerebellum and its function.
15. Describe the functions of vestibular apparatus.
16. Explain the organization and functions of reticular formation.
17. Explain mechanism and regulation of the muscle tone.
18. Describe the control of posture and equilibrium.
19. Explain the physiology of sleep.
20. Describe the physiology of memory.
21. Describe the mechanism and control of speech.
22. Discuss the functions of thalamus
23. Discuss the functions of hypothalamus
24. Explain the components and functions of limbic system.
25. Describe the production, circulation, absorption and functions of CSF.
26. Describe the blood brain and blood CSF barriers and their clinical significance.
27. Describe the organization and functions of the autonomic nervous system.

Applied Physiology

Understands:

1. Significance of dermatomes.
2. Injuries of the spinal cord.
3. Hemiplegia and paraplegia.
4. Diseases related to Basal ganglia.
5. Effects of cerebellar dysfunction.
6. Hydrocephalus.
7. Alzheimer's disease.
8. Speech disorders
9. Sleep disorders.
10. **Clinical** abnormalities of pain.

ENDOCRINOLOGY

1. Classify the hormones and describe mechanism of their action
2. Name the hormones secreted by the anterior and posterior pituitary and describe their regulation and functions.
3. Describe the neuroendocrine functions of the hypothalamus
4. Describe the physiological changes of growth and aging.
5. Describe the functions and regulation of the hormones secreted by thyroid gland.
6. Describe the hormones regulating calcium homeostasis (parathormone, vitamin D and calcitonin)
7. Name the hormones secreted by the adrenal cortex and describe their functions and regulation.

8. Name the hormones secreted by the adrenal medulla and describe their functions and regulation.
9. Describe the endocrine functions of the pancreas and regulation of pancreatic hormones.
10. Describe the endocrine functions of the pineal gland.

Applied Physiology

Understands:

1. Acromegaly, gigantism and dwarfism.
2. Effects of pan-hypopituitarism.
3. Diabetes insipidus.
4. Thyrotoxicosis, myxedema and cretinism
5. Pheochromocytoma.
6. Cushing's disease/syndrome.
7. Addison's disease.
8. Hypocalcemia and hypercalcemia.
9. Adrenogenital syndrome.
10. Conn's syndrome. 1
11. Diabetes mellitus and hypoglycemia.

GASTROINTESTINAL TRACT

1. Describe the general functions of gastrointestinal tract.
2. Describe the enteric nervous system, control of gastrointestinal motility and secretion
3. Describe mastication, swallowing and their control
4. Describe the motility of the stomach, small intestine, large intestine and regulation.
5. Describe the functions of GIT hormones
6. Describe gallbladder motility and its regulation
7. Explain mechanism of vomiting and its control pathway
8. Explain defecation and its control pathway

Applied Physiology

Understands:

1. Dysphagia
2. Achalasia cardia
3. Diarrhea and constipation
4. Megacolon

REPRODUCTION

1. Describe the functions of the male reproductive system.
2. Describe the mechanism of erection and ejaculation.
3. Describe the production and function of testosterone.
4. Describe the physiological changes during male puberty.

5. Describe the function of the female reproductive system.
6. Explain the production and function of estrogen and progesterone.
7. Describe the functions of hypothalamic-hypophysia I-gonadal axis.
8. Describe the ovarian and endometrial cycle.
9. Describe the physiological changes during female puberty and menopause.
10. Discuss pregnancy and explain the physiological changes taking place in the mother.
11. Describe the functions of placenta.
12. Discuss the hormones regulating parturition, lactation and development of breast.

Applied Physiology

Understands:

1. Male infertility.
2. Female infertility.
3. Postmenopausal syndrome.
4. Contraception.
5. Basis for pregnancy tests.
6. Hypogonadism.
7. Cryptorchidism.

SPECIAL SENSES

1. Describe the optics of the eye, mechanism of accommodation, **light** reflex.
2. Explain visual acuity, depth perception, neural functions of the retina.
3. Describe the errors of refraction and their corrections.
4. Describe the secretion, circulation, drainage and functions of aqueous humor.
5. Describe the movements of eyeballs.
6. Describe the visual transduction, color vision, visual cortex and visual pathway.
7. Describe the mechanisms for the light and dark adaptation.
8. Describe the functions of external ear.
9. Enumerate the contents of middle ear cavity and functions of the middle ear
10. Describe the structure and functions of internal ear.
11. Explain the determination of the sound frequency, loudness, direction of sound, auditory pathway and auditory cortex.
12. Describe the signal transduction for hearing.
13. Describe the signal transduction for taste and smell.
14. Describe the pathways for the sense of taste and smell,

Applied Physiology

Understands:

1. Types of deafness.
2. Errors of refraction.
3. Lesions of the visual pathway.

4. Night blindness.
5. Color blindness.
6. Squint.
7. Argyll Robertson pupil.
8. Horner's syndrome.
9. Abnormalities of sense of smell and taste.
10. Glaucoma.

PHYSIOLOGY PRACTICAL SECOND YEAR MBBS

NERVOUS SYSTEM

1. Examination of superficial reflexes.
2. Examination of deep reflexes.
3. Examination of motor system.
4. Cerebellar function tests.
5. Examination of sensory system.
6. Examination of cranial nerves.

SPECIAL SENSES

1. Plotting of the field of vision (perimetry and confrontational methods).
2. Testing the visual acuity for near and distant vision.
3. Elicitation of light reflex (direct and consensual) and accommodation reflex.
4. Ophthalmoscopy.
5. Examination of color vision.
6. Examination of hearing.
7. Examination of taste and smell.

PREGNANCY TEST

Learning Objectives/ Outcomes:

By the end of the course, the 2nd year students should be able to:

1. Bioenergetics and Biologic Oxidation

By the end of this topic, students should be able to:

1. Discuss the concept of redox reactions and redox couples.
2. Describe enzymes and coenzymes of biological oxidation and reduction.
3. Describe the process of the respiratory chain and its components.
4. Describe the role of electron flow in oxidative Phosphorylation, ATP Synthase in synthesis of ATP along with their inhibitors & uncouplers.

2. Metabolism of Carbohydrates

By the end of this topic, students should be able to:

1. Illustrate the processes & energetics of glycolysis, gluconeogenesis along with their reversible, irreversible steps catalyzed by specific enzymes and regulation of blood glucose level.
2. Explain the Reactions of Citric acid cycle, Cori's cycle, glycogenesis and glycogenolysis, the hexose monophosphate (HMP) shunt, Uronic acid pathway.
3. Discuss digestion, absorption of carbohydrates and metabolism of Monosaccharides, Disaccharides.
4. Discuss disorders related to monosaccharide and disaccharide metabolism along with their diagnosis based on biochemical tests & their complications.
5. Classify glycogen storage diseases based on enzyme deficiency,their related metabolic pathways, clinical manifestations, complications.

3. Metabolism of Lipids

By the end of this topic, students should be able to:

1. Describe Mobilization, transport, synthesis, oxidation & regulation of fatty acids, TAGs, sterols, phospholipids & glycolipids.
2. Enumerate ketone bodies, eicosanoids, plasma lipoproteins, their various types, synthesis, degradation and utilization.
3. Describe metabolism of Phospholipids and Sphingolipids
4. Illustrate steps of cholesterol synthesis, its fate, functions, regulation and associated disorders.
5. Describe Biosynthesis and Fate of Bile acids and their significance in health and disease.
6. Describe disorders related to fatty acid oxidation, triglyceride & ketone bodies synthesis, cholesterol & lipoprotein metabolism.
7. Describe fatty liver

4. Metabolism of Proteins and Amino acids

By the end of this topic, students should be able to:

1. Explain steps of amino acid oxidation and their metabolic fate, including various processes of nitrogen transfer, nitrogen excretion and ammonia intoxication

2. Describe the process of urea formation, the urea cycle and its regulation along with genetic defects of the urea cycle.

3. Discuss disorders related to urea synthesis, ammonia disposal, and amino acid metabolism.

4. Describe the functions, pathways of each amino acid synthesis and degradation, and genetic disorders of individual amino acids

5. Discuss intermediates formed from the carbon skeleton of amino acids.

6. Describe metabolism of nitrogen-containing compounds.

5. Integration and Regulation of Metabolic Pathways

By the end of this topic, students should be able to:
a. Define Fed-fast cycle and Starvation.
b. Describe Metabolism, Anabolic and Catabolic pathways.
c. Draw the concept map showing the integration of metabolic pathways indifferent tissues

6. Metabolism of Nucleotides.

By the end of this topic, students should be able to:
1. Describe De novo synthesis of purines, pyrimidines, their recycling, degradation and related disorders
2. Discuss derivatives of Purines and Pyrimidines and their role in Health and Disease

7. Basis of Genetics & Molecular Biology

By the end of this topic, students should be able to:
1. Describe genes & chromosomes
2. Explain DNA and RNA metabolism
3. Describe the process of protein synthesis
4. Discuss regulation of gene expression
5. Discuss Molecular Biology Techniques

Sr. No	2nd YEAR (MBBS)		
	Topics	**No. of Lectures**	**No. of Tutorials**
1.	Biological Oxidation	7	2
2.	Carbohydrates Metabolism	18	5
3.	Lipids Metabolism	18	4
4.	Protein & Amino Acids Metabolism	15	4
5.	Nucleotides Metabolism	7	3
6.	Integration of Metabolic Pathways	5	1
7.	Biochemical Genetics/ Molecular Biology	26	6

8.	Endocrinology	8	2
9.	Water & Electrolyte balance, Acid-Base Regulation	6	2
10.	Cancer and Xenobiotic	5	1
11.	Biochemistry of Digestive Tract	3	2

PRACTICALS SECOND YEAR MBBS:

- The introduction of techniques and instrumentation of clinical biochemistry like centrifugation, spectrophotometry (visible, UV, infra-red and atomic absorption). pH metry, chromatography, electrophoresis, enzyme-linked immunosorbent assay (ELISA), micro pipetting, flame photometry and ion selective electrode (ISE) technique
- Collection, preservation, and storage of blood sample
- Estimation of various substances in blood and other biological fluids, like glucose , Creatinine, urea, protein, albumin, uric acid, and calcium, total cholesterol; HDL Cholesterol, and triacylglycerol; demonstration of Creatinine clearance; and oral glucose tolerance test (OGTT)
- Determination of plasma enzyme activities of alanine amino transferase (ALT),aspartate amino transferase (AST), amylase, creatine phosphokinase (CK), alkaline phosophatase (ALP), and lactate dehydryogenase (LDH)
- Clinical interpretation of common laboratory values of the compounds and enzymes as listed above.
- Determination of amino acids in urine by paper chromatography (demonstration)

ACADEMIC TIMELINE

- **Course Duration:** 9 months (32 weeks of active session)
- **Total lectures**: 128 lectures (4 lectures per week).
    - Basic Biochemistry Lectures.
    - Clinically oriented lectures
- **Practicals:** One/week for each batch for two hours
- **Tutorials/Problem based Learning Sessions:** One/week for each batch for two hours

ACADEMIC CALENDER 2025-2026

	SECOND YEAR MBBS
Session	28-1-2026 – 28-10-2026
1st Class Test	16-03-2026
2nd Class Test	1st week of June 2026
3rd Class Test	Mid September 2026
Practical Test	October 2026
Sendup	End of November 2026

Professional Examination	December 2026-January 2027

DEPARTMENT OF ANATOMY

ACADEMIC CALENDAR

Session start date 28th Feb. 2026

Session end date 10th Oct. 2026

Tentative date of sendup 1st week of November 2026

Tentative date of professional examination. 1st week of December 2026

TEACHING AND LEARNING STRATEGIES

LARGE GROUP DISCUSSION:

Venue: Anatomy Lecture theatre in Anatomy department

Number of total lectures: 4 Lectures/week

Days of Anatomy lectures: Monday, Tuesday, Friday, Saturday

PRACTICALS:

Venue: Histology laboratory in Anatomy Department Once a week for 2hrs Days of Histology Practical: Monday, Tuesday, Thursday, Saturday.

SMALL GROUP DISCUSSSION (Demonstration/Dissection):

Venue: Dissection hall 5 days per week, 2hrs each Days: Monday, Tuesday, Wednesday, Thursday, Saturday

CONTACT HOURS

- **Total teaching/contact Hours: 256**
- Contact hours for Lectures: 128 x 1 = 128 hours
- Contact hours for Practical: 32 x 2 = 64 hours
- Contact hours for Tutorials: 32 x 2 = 64 hours

COURSE CONTENT

HEAD & NECK & ENDOCRINOLOGY 28-01-2026 to 29-04-2026 (11+1 weeks)	NEUROSCIENCES 30-04-2026 to 18-07-2026 (6+1 weeks)
GROSS ANATOMY: - Cranium, Face & Scalp, Meninges, Pterygopalatine Fossa, Ear, Orbital & Oral Cavity, Parotid, Temporal & Infratemporal regions, Nose, Bones & Fascia of Neck, Triangles of Neck, Pharynx, Larynx Glands & Neurovascular Structures of Neck	**GROSS ANATOMY:** - Spinal Cord, Brainstem, Cerebellum, Cerebrum, Reticular Formation, Limbic System, Basal Ganglia, Cranial Nerves, Thalamus, Hypothalamus, Autonomic System, Meninges, CSF & Ventricular System
Special Embryology - Development of Skeletal System (2) - Development of Body Cavities (2) - Development of Respiratory System (3) - Development of CVS (8) - Development of Head & Neck (6) - Development of Special Senses (4)	**Special Embryology** - Development of Muscular System (2) - Development of Limbs (2) - Development of Skin & Mammary Glands (2) - Development of Nervous System (5)
Special Histology - Histology of Lip, Tongue & Salivary Glands (3) - Histology of Endocrine System (3) - Histology of Special Senses (4)	**Special Histology** - Histology of Nervous System (4) - Histology of Mammary Glands (1)
Histology Practical - Lip - Tongue - Glands: Salivary, Thyroid, Parathyroid, Adrenal & Pituitary - Eyelid & Cornea - Eyeball & Retina - Pinna	**Histology Practical** - Spinal Cord - Cerebrum - Cerebellum - Mammary Gland

GIT 20-07-2026 to 26-08-2026 (5+1 weeks)	GENITOURINARY 27-08-2026 to 03-10-2026 (5+1 weeks)
Gross Anatomy - Lumbar Vertebrae, Anterior Abdominal Wall, Peritoneum, Esophagus, Stomach, Small & Large Intestines, Large Blood Vessels Of Gut, Lumbar Plexus, Extrahepatic Biliary Apparatus, Spleen, Pancreas & Liver.	**Gross Anatomy** - Posterior Abdominal Wall, Kidney & Ureter, Suprarenal Gland & Chromaffin System, Sacrum, Bony Pelvis, Pelvic Walls & Floor, Urinary Bladder & Urethra, Rectum & Anal Canal, Male & Female Reproductive Organs, Perineum, Male & Female External Genitalia, Internal Iliac Vessels & Sacral Plexus
Special Embryology - Development of GIT (8)	**Special Embryology** - Development of Urogenital system (6)
Special Histology - Histology of GIT (9)	**Special Histology** - Histology of Renal system (3) - Histology of Male and female Genital system (6)
Histology Practical - Esophagus - Stomach - Small Intestine - Large Intestines (Colon & Appendix) - Rectum & Anal Canal - Liver & Gallbladder - Pancreas	**Histology Practical** - Kidney & Ureter - Urinary Bladder & Urethra - Testis & Vas Deferens - Prostate Gland & Seminal Vesicle - Ovary & Uterine Tube - Uterus

GASTROINTESTINAL TRACT (GIT)

Topic	Learning Outcomes

Oral Cavity Hard & Soft Palate	• Describe the gross anatomical features of the oral cavity, its boundaries, contents with neurovascular supply and lymphatic drainage. • Identify the skeletal framework of the hard palate, its constituent bones, sutures, foramina and correlate it to cleft palate formation. • **Outline** the muscles of the soft palate including their **attachments, nerve supply and actions.** • **Explain and correlate** the role of the soft palate in **swallowing and speech**, with relevant clinical conditions (e.g., cleft palate, palatal paralysis).
Tongue & Hypoglossal Nerve	• Describe the structure of the tongue including its musculature, neurovascular supply and lymphatic drainage. • Explain the anatomical basis and clinical features of hypoglossal nerve lesion. • Outline the lymphatic drainage pathways and routes of spread of carcinoma in the oral cavity.
Salivary glands. (Parotid, submandibular and sublingual)	• Describe the location, anatomical features, relations, neurovascular supply of the parotid gland. • Enlist the structures entering and leaving the parotid gland. • Trace the course and opening of the parotid duct. • Outline the branching pattern of the facial nerve and correlate it with clinical features of facial nerve injury and complications of parotid tumor surgery. • Explain the anatomical basis of common parotid gland disorders including viral inflammation (mumps), bacterial parotitis, and Frey's syndrome. • Describe the location, morphology, relations, neurovascular supply and lymphatic drainage of submandibular and sublingual glands and identify their openings.
Anterior Abdominal Wall	• Identify and mark the anatomical planes and quadrants used in abdominal division and explain their clinical significance in organ localization and surgical practice. • Draw and label the cutaneous innervation and dermatomes of the anterolateral abdominal wall. • Discuss the clinical significance of dermatomes in visceral pain localization, referred pain patterns, neurological assessment and nerve blocks. • Outline the basic organization and continuity of the fascia of the anterior abdominal wall with surrounding regions. • Explain the clinical relevance of abdominal fascia in spread of fluid/infection, surgical incisions, wound healing and hernias. • Describe the arterial supply and lymphatic drainage of the anterolateral abdominal wall, and explain the clinical correlation of its venous drainage in caput medusae. • Describe the attachments, nerve supply and actions of the muscles of the anterolateral abdominal wall. • Identify and mark these muscles on cadavers and anatomical models. • Illustrate the extent, formation and contents of the rectus sheath at different levels. • Discuss the role of abdominal wall muscles in trunk movement, core stability, intra-abdominal pressure, respiration and visceral support. • **Describe the common abdominal incisions, their anatomical basis and clinical indications.**
Inguinal Canal	• Describe the formation, extent and modifications of the inguinal ligament. • Locate superficial and deep inguinal ring on a cadaver or simulated subject. • Explain the boundaries, extent and direction of inguinal canal. • Enumerate the contents of inguinal canal in males and females. • Enlist the layers and contents of spermatic cord. • Explain the anatomical basis of the cremasteric reflex, including its reflex arc, nerve supply, and clinical significance. • **Define different types of hernias: inguinal, femoral, umbilical, epigastric, incisional, lumbar.** • **Differentiate between direct and indirect inguinal hernias and correlate their clinical features and anatomical relevance.**

Peritoneum	• Define peritoneum and differentiate between parietal and visceral peritoneum. • Explain the somatic and autonomic innervation of peritoneum with clinical correlation to pain localization. • Define peritoneal cavity and divide it into different potential spaces. • Enlist the boundaries of greater sac, lesser sac and epiploic foramen. • Trace the horizontal and vertical disposition of peritoneum in the abdominal cavity. • Describe omenta, mesenteries, ligaments, recesses, pouches and paracolic gutters. • Trace the spread and accumulation of fluid within the peritoneal cavity. • **Discuss the anatomical basis of peritonitis, ascites, abdominal paracentesis, peritoneal dialysis and peritoneal adhesions and adhesiotomy.**
Esophagus & Stomach	• Describe the gross anatomy of esophagus with its neurovascular supply and lymphatic drainage. • Enlist esophageal constrictions. • Describe the anatomical basis of Dysphagia, esophageal varices, barrette esophagus, achalasia cardia and Gastro Esophageal Reflux Disease (GERD) • Describe the anatomical position, parts, external and internal features, relations and peritoneal reflections of stomach on a prosected specimen. • Draw and label the vascular supply and lymphatic drainage of the stomach. • Discuss the nerve supply of stomach with a special reference to vagotomy. • **Explain the underlying anatomy of hypertrophic pyloric stenosis, peptic ulcers, partial and total gastrectomy and carcinoma of the stomach.** • **Describe the importance of endoscopy in evaluation of esophageal varices and Barium meal in radiographic evaluation of esophageal and gastric disorders.**

Small Intestine	• Enlist different parts of duodenum and describe their peritoneal and visceral relations, neurovascular supply and lymphatic drainage.
	• Locate the opening of common bile duct on a model of duodenum.
	• Differentiate between jejunum and ileum on gross examination.
	• Trace the attachment of root of mesentery in a cadaver/ Anatomical model.
	• **Describe the anatomical relevance of the following conditions:**
	  ○ **Duodenal ulcers.**
	  ○ **Meckel's diverticulum.**
	  ○ **Intestinal obstruction (volvulus, intussusception)**

Large Intestine	• Distinguish between small and large intestine on gross examination. • Define appendices epiploicae, Teniae Coli and Haustra. • Describe the gross anatomy of caecum and appendix including peritoneal and visceral relations, neurovascular supply and lymphatic drainage. • Identify the ileocecal junction and locate appendix on a cadaver. • Demonstrate different positions of appendix on an anatomical model. • Describe the gross anatomy and relations (visceral & peritoneal) of ascending, transverse descending and sigmoid colon. • Draw and label the arterial supply of colon. • Describe the venous, lymphatic drainage and nervous innervation of the colon. • **Describe anatomical relevance of acute appendicitis and pain in right illiac fossa.** • **Mark the incision of appendectomy on a cadaver/ model and differentiate between open and laparoscopic appendectomy.** • **Explain anatomical basis of ulcerative colitis, spread of colorectal carcinoma, diverticulosis, volvulus, colostomy, sigmoidoscopy and colonoscopy.**
Rectum and Anal Canal	• Describe the gross anatomy and relations (visceral & peritoneal), neurovascular supply and lymphatic drainage of rectum and anal canal. • Recognize different zones of anal canal by defining pectinate line and white line of Hilton. • Differentiate between the structure and nerve supply of internal and external anal sphincter. • Enumerate the boundaries, contents and communications of ischioanal fossa.

	• Differentiate between **internal and external hemorrhoids** based on anatomical location, venous drainage, nerve supply, and clinical features. • **Describe the anatomical basis and clinical features of rectal prolapse, rectal examination, anal fissure, anal fistula and perianal abscess.**
Great Vessels of Abdomen	• Describe the extent, course, and anatomical relations of the abdominal aorta. • Classify and outline the branches of the abdominal aorta including its major subdivisions. • Explain the origin, course, and distribution of major branches. • Discuss aortic aneurysm, aortic dissection, branch occlusion, palpation sites and relevance in surgical procedures. • Describe the formation, course, relations, tributaries and termination of IVC. • Explain inferior vena cava syndrome and its role in venous obstruction. • Trace the collateral circulation in IVC obstruction. • **Describe the role of IVC in central venous access and in abdominal and vascular surgeries.**
Portosystemic Anastomosis	• Describe the formation, course, relations, tributaries and termination of portal vein. • Explain the concept of the portal venous system and trace the flow of blood from abdominal organs to the liver sinusoids and hepatic circulation. • Define portosystemic anastomoses and describe their sites, contributing vessels and functional significance. • **Define portal hypertension with its clinical features and complications.**
Liver	• Describe the location, lobes, surfaces, peritoneal and visceral relations of liver. • Palpate the liver in a simulated subject and define hepatomegaly. • Enlist bare areas of liver. • Explain its blood supply, lymphatic drainage, and nerve supply. • Draw and label the segments of liver. • **Describe the surgical importance of liver resection and biopsy.** • **Discuss the role of Pringle's maneuver in controlling hepatic bleeding during liver surgery.** • **Define liver cirrhosis and explain its clinical relevance to portal hypertension.**
Biliary System	• Name different parts of biliary tree and describe their relations and neurovascular supply. • Describe the formation, course, relations and termination of the common hepatic and bile duct. • Enlist the boundaries and contents of Calot's triangle and explain its surgical importance. • • **Define obstructive jaundice, gallbladder gangrene, cholelithiasis, choledocholithiasis, cholecystitis.** • **Describe underlying mechanism of biliary colic and its referral to other sites.** • **Mark the incision of cholecystectomy on a cadaver.** • **Describe the types of cholecystectomy (open, laparoscopic, robotic, and subtotal) with reference to relevant hepatobiliary anatomy.**
Pancreas	• Describe the location, parts, relations, neurovascular supply and lymphatic drainage of pancreas. • Outline the course of main and accessory pancreatic ducts and identify their openings. • **Describe the anatomical basis of pancreatitis, pancreatic carcinoma and its spread.** • **Describe the role of ERCP (Endoscopic Retrograde Cholangiopancreatography) in the evaluation and management of disorders of the biliary and pancreatic ductal systems.**
Spleen	• Demonstrate the anatomical position of spleen. • Describe its location, surfaces, borders, poles, relations, neurovascular supply and the contents of hilum. • **Explain clinical manifestations of splenomegaly, splenic rupture and splenectomy.**

HEAD & NECK & ENDOCRINOLOGY

TOPICS	LEARNING OUTCOMES
Topographic anatomy of Skull. Cranial Cavity	Demonstrate the anatomical position of skull with special emphasis on planes of anatomical position. • Appreciate the normas of skull from different views along with its foramina • Enlist the structures traversing the foramina of the bones of the skull • Identify important bony landmarks on the bones as viewed from lateral, superior, inferior, anterior and posterior views. • Identify the bones forming the boundaries of orbit, nasal cavity, oral cavity, temporal, infratemporal fossa &pterygopalatine fossa on the given bone. (detail to be done with relevant topics) • Describe and demonstrate the boundaries and gross features of cranial fossae. • List and demonstrate foramina along with structures passing through them in anterior, middle and posterior cranial fossae. • Recognize and demonstrate the important sutures, fontanelle and impressions on the interior of cranial vault.
Meninges and Dural Venous sinuses	• Explain the meninges of brain and spinal cord along with the reflections of dura mater in brain. • Enlist paired and unpaired Dural venous sinuses along with their attachments • Describe the location, important relations, and communications of the cavernous sinus and enumerate structures passing through it. • Describe the clinical presentation of following clinical disorders associated with meninges and Dural venous sinuses: • Meningitis • Epidural hemorrhage • Subdural hemorrhage • Subarachnoid hemorrhage
Mandible	• Describe the ramus and body of the mandible concerning its bony features and attachments. • Identify the anatomical parts of the mandible along with its foramina and structures passing through it • Explain the clinical presentation of different fractures of the mandible with relevant anatomical basis • Identify the bony landmarks and site of attachment of muscle.

Scalp	• Correlate gross features of each layer with an anatomical basis of black eye, profuse bleeding, gaping wound, spread of scalp infection and hematoma formation. • Demonstrate the extent of the scalp on the given model. • Identify the muscles and neurovascular structures related to scalp on prosected specimen/given models. • Describe the layers of the scalp in a sequential order
Face	• Elucidate the cutaneous innervation of face • Enlist the group of facial muscles according to the orifices they guard. • Describe the nerve supply of muscles of facial expressions. • Describe the course of arteries, veins, lymphatics and nerves of the face with the help of model. • Describe the course and distribution of facial nerve • Emphasize the relationship of facial nerve with pterygopalatine and submandibular ganglia • Highlight the effects of lesion of facial nerve at different levels • Differentiate anatomical basis of clinical presentation of UMN and LMN lesion of facial nerve • Correlate gross features of face with anatomical basis of danger area, trigeminal neuralgia, Bell's palsy. • Identify muscles of facial expressions • Demonstrate the cutaneous innervation of the face on the given model • List embryological sources of head and neck structures with special emphasis on pharyngeal apparatus. • Tabulate the nerve and blood supply and derivatives of all arches, pouches, clefts and membranes.
Submandibular Region	• Describe the location of major salivary glands (anatomical relations) along with opening of their ducts. • Illustrate the secretomotor nerve supply of major salivary glands. • Revisit boundaries of submandibular triangle • Describe the parts, relations, neurovasculature of submandibular gland. • Illustrate the routes of submandibular ganglion • Describe the distribution of submandibular ganglion • Correlate the anatomy of submandibular fascial space with Ludwig's angina • Identify the nerves, vessels and glands in the sub mandibular regions on the given model. • Describe the histomorphological features of salivary glands with regards to their secretory and ductal systems • Identify H&E Stained slides of submandibular gland and sublingual glands and draw their labelled diagrams.

Parotid Region	• Elucidate the surfaces, borders, shape, location, parts, relations and drainage of parotid gland • List contents of parotid region • Trace the pathway of autonomic supply of parotid gland. • Enumerate structures embedded in parotid gland in a sequential order. • Interpret the following clinical conditions related to parotid gland: Infection (mumps) , tumor and stone of parotid gland and Frey's Syndrome. • Identify the nerves, vessels and glands in the parotid region on the given model • Identify H&E Stained slides of parotid gland and draw their labelled diagrams.
Orbit	• Revisit the skeletal framework of bony orbit and its communications • Enlist the contents of orbit • Describe the course and distribution of ophthalmic nerve and artery. • Enumerate different components of the lacrimal apparatus • Describe the nerve supply of the Lacrimal gland • Define Horner's Syndrome • Explain the developmental anomalies of the nasolacrimal duct • Identify extraocular muscles, and neurovascular structures of eyeball on given models. • Tabulate the attachments, nerve supply, and actions of extraocular muscles • Justify the movements of extraocular muscles based on their attachments • Identify extraocular muscles, and neurovascular structures of the eyeball on given models • Illustrate the course and distribution of 3, 4 and 6 CNs • Outline the route and distribution of ciliary ganglion
Tongue and oral Cavity	• Outline the floor, roof, lateral walls and vestibule of oral cavity. • Describe topographic features of tongue. • Tabulate the actions and nerve supply of muscles (intrinsic and extrinsic) of tongue • Tabulate the attachments, nerve supply, actions of muscles of soft palate. • Illustrate the pathway of gag reflex. • Differentiate a case of UMN and LMN lesion of hypoglossal nerve • Correlate Lymphatic drainage of different parts of tongue with spread of malignancy • and infection of tongue.
Temporal & infratemporal regions + TMJ	• Identify the location, boundaries, contents and communications of temporal and infratemporal fossa on a given model and skull. • Describe the course and distribution of mandibular nerve from origin to distribution • Tabulate the attachments, actions and nerve supply of muscles of mastication. • Trace location, various routes and distribution of otic ganglion • Justify role of lateral pterygoid as a peripheral heart on anatomical basis of pterygoid venous plexus • Elucidate importance of pterygoid venous plexus in case of intracranial spread of infection to cavernous sinus. • Specify the origin and distribution of superficial temporal, First and second parts of the maxillary artery • Specify the origin and distribution of Chorda tympani till it joins the lingual nerve. • Outline the type, articular surfaces, capsule, ligaments, supporting factors, movements, and nerve supply of TMJ • Describe movements of TMJ regarding axes and muscles producing them • Correlate a case of dislocation and reduction of TMJ with anatomical knowledge of TMJ.

	• Identify the nerves, vessels and muscles in temporal and infratemporal fossa on the given model. • Identify the involved articular surfaces and site of attachment of muscles on the given model • Demonstrate the different movements at the temporomandibular joint on the given model.
Nose and Paranasal Sinuses	• Describe features of different walls of nose. • Describe the features, vascular supply, nerve supply and openings in lateral wall of nose • Describe the features, vascular supply, and nerve supply of the medial wall of the nose • Highlight the significance of Little's area in a case of epistaxis • Identify the location of pterygopalatine fossa on skull • List bones forming walls of pterygopalatine fossa • Enumerate its contents and communications • Describe the distribution of third part of maxillary artery, nerve and pterygopalatine ganglion • Justify the role of pterygopalatine ganglion in hay fever/allergies • Outline the development of nose and paranasal sinuses • Identify the location of paranasal sinuses in sagittal section of skull • Demonstarte the location and drainage of paranasal sinuses in skull and on radiograph • Demonstrate the structure of lateral wall of nose on the given model • Identify the location of pterygopalatine fossa on skull.
EAR	• Describe the gross anatomical features of the auricle, external auditory meatus, and tympanic membrane. • Correlate the role of first and second pharyngeal apparatus in development of ear. • Describe the differentiation of otic capsule into inner ear. • Correlate the anomalies of external ear with neural crest cells • Identify the histological structure of different parts of ear, particularly the external and internal ear • Identify the gross features of external ear on given model • Identify H&E-stained slide of pinna and cochlea and draw their labelled diagrams. • Correlate nerve supply of external ear and tympanic membrane with clinical significance (perforation of tympanic membrane) • Justify the anatomical basis of otoscopy in infants and adults. • Describe the gross anatomical features, boundaries, structures and contents of middle ear cavity. Describe the structures forming the walls of middle ear cavity on the given model. • Trace/ Outline the pathway and distribution of facial nerve within petrous part of temporal bone • Identify the walls of middle ear on given model. • Highlight the importance of infection in middle ear cavity in relation to its relevant communications. • Identify the bony and membranous parts of inner ear on model • Describe the histological structure of sensory receptor areas of internal ear like Organ of Corti maculae acousticae and crista ampullaris • Identify the cells and spaces in cochlea • Identify the parts of bony and membranous parts of inner ear on given model.

	• Describe various hearing Abnormalities • Discuss the various hearing tests including auditory evoked potentials (especially in reference to menier's disease) • Interpret audiometry findings in perceptive and conductive deafness • Discuss presentation, investigation and management of hearing loss and common hearing disorders.
NECK	• **<u>Hyoid bone & Cervical vertebrae</u>** • Explain the gross features and attachments of the hyoid bone • Give distinguishing features of each cervical vertebra. Compare the key anatomical features of each cervical vertebra. • Enumerate structures passing through foramina • Identify the types and movements of atlantoaxial and atlanto-occipital joints • Outline ligamentous attachments on cervical vertebrae. • **<u>Superficial & deep cervicalFascia</u>** • Outline contents of the superficial fascia of the neck (platysma, external jugular vein) • Enumerate the layers of deep cervical fascia. • Trace / Specify the attachments of investing, pre-tracheal, carotid sheath, and prevertebral layers of fascia. • Identify various modifications and neck spaces formed by fascial attachments. • Comprehend / Describe the clinical • importance of neck spaces in the spread of infection. **<u>Triangles of neck:</u>** • Tabulate the attachments, nerve supply, actions of superficial and deep muscles of neck (sternocleidomastoid, suprahyoid, infrahyoid, suboccipital, prevertebral muscles,). • Identify boundaries and contents of triangles of neck on model • Describe the origin, course and distribution of vessels and nerves of neck (cervical plexus, Ansa cervicalis, Common carotid artery, Internal jugular vein, subclavian vessels) • Analyze a case of lesion of accessory glossopharyngeal and vagus nerve on anatomical basis. • Describe the clinical features of torticollis **<u>Larynx</u>** • Describe laryngeal wall in detail with emphasis on cartilages, ligaments, muscles, vascular supply and nerve supply. • Analyze mechanism of abduction and adduction of vocal cords • Distinguish clinical presentations of injury to external, internal and recurrent laryngeal nerves. • Recognize clinical significance of piriform fossa. • Explain the following with reference to their anatomical basis: • Laryngoscopy • Aspiration of foreign body from laryngopharynx. **<u>PHARYNX</u>** • Differentiate extent, anatomical features, vascular supply, nerve supply of three parts of pharynx on anatomical basis List muscles of pharynx with nerve supply and action • Name structures passing through the spaces between muscles of pharynx

	• Trace origin of pharyngobasilar fascia on base of skull. • Correlate anatomical knowledge of pharayngobasilar fascia with patency of nasopharynx • Justify role of Eustachian tube in equalizing middle ear pressure, age related obliquity • Describe anatomical route of spread of infections from nasopharynx to middle ear. • Relate boundaries of tonsillar fossa and tonsillar bed with significant structures that must be protected during tonsillectomy. • Define Kilian's dehiscence Skill • Identify and locate different subdivisions and boundaries of pharynx on given model. **<u>Lymphatic drainage of neck</u>** • Enumerate the groups of lymph nodes draining the neck. • Describe their location and areas of drainage. • Describe the formation of jugular lymph trunk. • Describe the clinical importance of • `lymphatic drainage of neck.
Endocrine Glands	• Classify the glands • Describe the structure and location of all endocrine glands in the body Describe the gross anatomy, neurovascular supply and clinical importance of pituitary gland. • Describe the gross anatomy, neurovascular supply and clinical importance of Thyroid gland • Describe the gross anatomy, neurovascular supply and clinical importance of parathyroid glands • Describe the development and congenital anomalies of parathyroid glands • Revisit the gross anatomy, neurovascular supply and clinical importance of endocrine portion of pancreas. • Revisit the gross anatomy, neurovascular supply and clinical importance of adrenal gland •

Neurosciences

Course Content	Learning Outcomes
Spinal Cord	• List the major divisions, components of the central nervous system. • Demonstrate the structure of brain and spinal cord on prosected specimens and models. • Identify the normal structure of brain and spinal cord in the images of CT scan & MRI. Explain the gross appearance and the nerve cell groups in the anterior, posterior, and lateral gray columns of the spinal cord • Enumerate and illustrate the arrangements of ascending and descending tracts (white matter) in spinal cord at various levels. • Explain the given clinical conditions related to ascending and descending tracts of spinal cord. Explain the various thermal sensations, thermal receptors, and their excitation and transmission of thermal signals in the nervous system

	• Classify the different types of pain.
	• Compare the perception and transmission of the different types of pain.
	• Explain the pain suppression system in the brain and spinal cord.
	• Describe the brain's opiate system endorphins and enkephalins
	• Explain the role of proprioceptors (muscle spindles and Golgi tendon organs) in motor movements
	• Explain dynamic and static stretch reflex
	• Describe the flexor reflex and the crossed extensor reflex.
	• Explain the reciprocal inhibition and reciprocal innervation.
	• Identify the reflexes of posture and locomotion in the spinal cord.
	• Explain the role of primary motor cortex, premotor area, and supplementary motor area in the control of voluntary motor movements.
	• Identify the various pathways for the transmission of signals for voluntary motor control from the motor cortex to the muscles.
	• Explain the significance of anterior motor neurons as the lower motor neurons.
	• Identify the role of the brain stem in controlling motor function and role in posture of the body against gravity.
	• Explain the role of pyramidal and extrapyramidal tract in the voluntary motor movements.
	• Describe the clinical abnormalities of pain and other somatic sensations
	• Determine the anatomical and pathophysiological relevance of the following clinical conditions:
	  • Upper motor neuron lesions, lower motor neuron lesions
	  • Hemiplegia, paraplegia and Quadriplegia
	  • Spinal shock syndrome
	  • Complete cord transection syndrome
	  • Anterior cord syndrome
	  • Central cord syndrome
	  • Brown sequard syndrome
	  • Syringomyelia

	• Poliomyelitis • Multiple sclerosis • Amyotrophic lateral sclerosis
Brainstem	• Describe the gross appearance and internal structure of the medulla oblongata. • Illustrate the cross sections of medulla oblongata at different levels. Explain the effects of raised pressure in the posterior cranial fossa on the structures contained within it. • Describe the gross features and internal structure of pons. • Illustrate cross-section of pons at different levels showing major structures at each level. • Describe the gross appearance and internal structure of the midbrain. • Illustrate cross sections at the level of superior colliculus and inferior colliculus showing major structures at each level.
Cerebellum	• Enumerate and illustrate histological layers of cerebellar cortices and different cell types of these layers. • Summarize the characteristic developmental events of Cerebellum • Describe the gross features of cerebellum. • List intracerebellar nuclei and types of fibers constituting white matter of cerebellum and explain their routes of entry and exit. • Explain the pathways carrying afferent and efferent fibers to and from the cerebellum.
Cerebrum	• Identify main sulci and gyri of cerebral hemispheres and describe the extent of each of them. • Explain the divisions of cerebral lobes on superolateral, medial, and inferior surfaces of cerebral hemispheres. • Enumerate fibers making up the white matter of cerebral hemispheres and describe each of them. • Identify different components of cerebrum on prosected specimen • Describe the cortical functional areas in different lobes of cerebral hemispheres • Draw and Label Homunculus. Define important clinical correlates. • Describe internal structure of cerebral hemisphere; white matter, Basal ganglia, Lateral ventricle

Diencephalon Basal Ganglia	• Discuss the Location, Relations, Blood supply, nuclei and major connections of Thalamus, Hypothalamus, Epithalamus, Subthalamus, Metathamalus • Describe and Illustrate the Hypothalamic and pituitary gland Nuclei with their functions, location afferents. • Describe the Hypotha amo-Hypophyseal Portal System. • Describe connections and functions of different nuclei constituting basal ganglia. • List hyperkinetic disorders related with various basal nuclei like chorea, hemiballismus and athetosis, • Describe Parkinson disease regarding • etiology, pathophysiology, clinical features and treatment. •
Ventricular system	•Describe the anatomical organization of ventricular system of brain •Explain the boundaries of each ventricle along with their choroid plexus. •Explain formation, circulation and absorption of CSF. •Enlist the structures forming blood brain and blood CSF barriers •Identify the features of various ventricles on models and prosected specimen. • Illustrate the floor of fourth ventricle
Limbic System	• Explain the functions of various components of limbic system and role of hippocampus in memory. • Classify memories based on type of sensory experience, time of retention, synaptic facilitation and habituation • Explain the process of consolidation of memory through chemical and anatomical changes occurring at the synapse.
BLOOD SUPPLY OF BRAIN, CSF	• Describe the blood supply of different parts of brain and spinal cord emphasizing on circle of Willis • Explain the formation and importance of venous system • Identify various blood vessels of brain and spinal cord on models and prosected specimen. • Explain the significance of blood brain barrier. • Describe the process of lumbar puncture, including sequential enumeration of the anatomical structures that a needle passes through during a spinal tap. • Explain causes & varieties of Hydrocephalus

HISTOLOGY PRACTICALS

Date	Topic
02-02-2026 to 07-02-2026	Lip
09-02-2026 to 14-02-2026	Tongue
16-02-2026 to 21-02-2026	Salivary glands (Parotid, submandibular, sublingual)
23-02-2026 to 28-02-2026	Thyroid & Parathyroid gland
02-03-2026 to 07-03-2026	Adrenal gland
09-03-2026 to 14-03-2026	Pituitary gland
16-03-2026 to 21-03-2026	Eyelid
24-03-2026 to 28-03-2026	Cornea
30-03-2026 – 11-04-26	Batch C (Cornea) Batch A, D,B (Revision)
13-04-26 to 17-04-26	Eye Ball
20-04-26 to 24-04-26	Pinna
27- 04-26 to 02-05-26	Revision
04-05-2026 to 09-05-2026	Spinal Cord
11-05-2026 to 16-05-2026	Cerebellum
18-05-2026 to 23-05-2026	Cerebrum
25-05-2026 to 30-05-2026	Mammary Gland
20-7-26 to 25-7-26	Oesophagus
27-7-26 to 1-8-26	Stomach

3-8-26 to 8-8-26	Small intestine
10-8-26 to 15-8-26	Large intestine (Colon & Appendix)
17-8-26 to 22-8-26	Rectum & Anal canal
24-8-26 to 29-8-26	Liver & Gall bladder
31-8-26 to 5-9-26	Pancreas

7-9-26 to 12-9-26	Kidney & Ureter
14-9-26 to 19-9-26	Urinary bladder & Urethra
21-9-26 to 26-9-26	Testis & Vas deferens
28-9-26 to 3-10-26	Prostate gland & Seminal vesicles
5-10-26 to 10-10-26	Ovary, Uterine tube & Uterus