**STUDY GUIDE FOR ANATOMY FOR MBBS STUDENTS**

**PREPARED BY: PROF. DR. ARUNA BASHIR**

**INTRODUCTION**

Medical education is a life-long process and MBBS curriculum is a part of the continuum of education from pre-medical education, MBBS, proceeding to house job, and post-graduation. PMC outlines the guiding principles for undergraduate medical curriculum and has defined the generic competencies and desired outcomes for a medical graduate to provide optimal health care, leading to better health outcomes for patients and societies.

**PURPOSE OF GUIDE**

To facilitate learning of the student by enlightening leaning outcomes, content/syllabus given by PMC, teaching and learning methodologies, learning resources available in the department of Anatomy and institution, assessment methods, examination regulations, academic planners and time tables. This will facilitate students in planning their educational activities in the subject of Anatomy for the two years period for MBBS.

**TARGET AUDIENCE**

1st and 2nd year MBBS students

**DURATION OF SESSION**

2 years for MBBS students

**DEPARTMENTAL STAFF**

**MBBS**

Prof.  Dr Iffat Badar (Hod and Prof.)

Dr Anis Fatima (Associate Prof.)

Dr Shumaila shakoor (Assistant Prof.)

Dr Kiran Shahid (Demonstrator)

Dr Anaum Allah (Demonstrator)

Dr Ahmad Jamal Bajwa (Demonstrator)

Dr Bakhtawar Tahir (Demonstrator)

Dr Ayesha Anwar (Demonstrator)

Dr Hira Yaseen (Demonstrator)

Dr Safwan Tariq Ch. (Demonstrator)

Dr Hasana Tariq Malik (Demonstrator)

Dr Ali Akmal Naeem (Demonstrator)

Dr Zahra Nawaz (Demonstrator)

Dr Samreen Anwar (Demonstrator)

Dr Amna Razaq (Demonstrator)

**BDS**

Prof. Dr. Aruna Bashir (Prof.)

Dr Shamaila Ejaz (Demonstrator)

Dr Maria Hashmi (Demonstrator)

**LABORATORY ASSISTANTS**

M. Ismaeel Khan

M. Imran

M. Waseem

**LABORATORY ATTENDANTS**

M. Tariq

Arif Masih

**CURATOR OF MUSEUM**

Shahzeb Imran

Humayun Sarfraz

**CLEANERS**

Rafaqat Masih

Amir Masih

 **COMPUTER OPERATOR**

Shahid Raza

**OFFICE BOY**

M. Amjad

**HIERARCHY OF DEPARTMENT OF ANATOMY**

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| PROFESSOR/HODDR IFFAT BADAR |

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| ASSOCIATE PROFESSORDR ANIS FATIMA |

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| ASSISTANT PROFESSORDR SHUMAILA SHAKOOR |

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| DEMONSTRATORS |
| DR KIRAN SHAHID DR ANAUM ALLAH DR AHMAD JAMAL BAJWADR BAKHTAWAR TAHIR  | DR AYESHA ANWARDR HIRA YASEEN DR SAFWAN TARIQ CH.DR HASANA TARIQ MALIK  | DR ALI AKMAL NAEEM DR ZAHRA NAWAZ DR SAMREEN ANWAR DR AMNA RAZAQ  |

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| --- | --- | --- | --- |
| LABORATORY ASSISTANTS | CURATORS OF MUSEUM | CLEANER | COMPUTER OPERATOR |
| M. ISMAEEL KHANM. IMRANM. WASEEM | SHAHZEB IMRANHUMAYUN SARFRAZ | RAFAQAT MASIHAMIR MASIH | SHAHID RAZA |

|  |
| --- |
| LABORATORY ATTENDANTS |
| M. TariqArif Masih  |

**LEARNING OBJECTIVES**

* The student will be able to identify the key concepts of the structure of human anatomy.
* The student will be able to build communication skills while involved in peer teaching of clinical anatomy.
* The student will be able to correlate clinical anatomy with physical diagnosis, radiologic findings and invasive procedures.
* The student will be able to demonstrate an understanding of clinical presentations and strategies for health maintenance.

**TEACHING METHODOLOGIES FOR ANATOMY**

* Interactive Lectures
* Gross Anatomy Demonstrations to Small Group
* Histology Practical Demonstrations to small group
* Power Point Presentations by students
* Clinico-Anatomical conferences
* Self Directed Learning
* Virtual dissection on Virtual Dissection Table

**ATTENDANCE REQUIREMENT FOR ANATOMY**

1. Students are expected to attend all scheduled teaching sessions and examinations
2. Attendance in lectures, practicals, and demonstrations is mandatory. Absence from these sessions will make the students ineligible to sit the final summative assessment.
3. A minimum of 75 % attendance in the lectures, practicals and demonstrations is mandatory to appear in the summative UHS examination
4. Attendance will be recorded through a log-in/log-out biometrics system
5. Absence due to illness must be certified appropriately by the General Physician

**SYLLABUS FOR 1ST AND 2ND PROFESSIONAL MBBS (PMDC AND UHS)**

**1ST PROFESSIONAL MBBS**

**GENERAL ANATOMY**

1. Brief history of Anatomy. Different disciplines of the subject

2. Anatomical nomenclature-descriptive terms

3. Skeletal system-bones

• Axial skeleton

• Appendicular skeleton

• Functions of bone

• Classification on the basis of shape, development, region and structure

• General concepts of development & ossification of bones

• Parts of young bone

• Blood supply

• Properties of bones and cartilages

• Applied aspects

4. Joints

• Structural classification

• Regional classification

• Functional classification

• Characteristics and classification of Synovial joints

• Movements of Synovial joints

• Anatomy of joints with reference to dislocation, sprain and inflammation

5. Muscle • Parts of a muscle

• Classification

• Blood supply and nerve supply of muscle

• Neuromuscular junction

• Applied anatomy of muscle with reference to spasm, paralysis, atrophy and regeneration

6. Cardiovascular system

• Heart & Blood vessels

• Types of circulation

• Anastomoses

7. Lymphatic system

• Introduction

• Lymph capillaries

• Lymph Vessels

• Lymph nodes

• Main channels

8. Somatic Nervous system

• Introduction

• Different parts of Central Nervous System (CNS) with their brief functions

• Peripheral nervous system (cranial and spinal nerves) — introduction

9. Autonomic nervous system

•Introduction to parasympathetic and sympathetic nervous system

10. Skin and fasciae

• Parts of skin

• Appendages of skin \

• Types of fasciae

11. Embalming & museum keeping

**GROSS ANATOMY**

1. Upper limb

2. Lower limb

3. Thorax

**GENERAL HISTOLOGY**

Histology will be taught concurrently with Anatomy throughout the course. Underlying principles of histological techniques and staining should be given due consideration. Most of teaching will be done on stained and mounted sections and every type of normal tissue will be covered.

1. Cell

• Cell as a whole

• Cell Membrane

• Interior of cell

• Nucleus

1. Microscopy
2. Epithelial tissues
3. Connective tissue proper
4. Cartilage
5. Bone
6. Muscular tissue
7. Nervous System

• Nervous tissue

• Cerebral cortex

• Cerebellar cortex

• Spinal cord

1. Lymphoid organs
2. Circulatory system
3. Integumentary system
4. Routine histological techniques

**GENERAL EMBRYOLOGY**

Embryology should be taught with the object of making students understand and grasp those fundamental principles, which result in better comprehension of the structural organization in the body. Stress should be laid on those developmental processes such as growth and differentiation, which have a direct bearing on clinical subjects. The genesis of congenital malformations should be one of the chief aims. All details should be kept on the essential outlines.

1. Male & female reproductive systems

2. Cell Division and Gametogenesis

3. Fertilization, cleavage, blastocyst formation and implantation

4. Development during second week

5. Development during third week

6. Embryonic period

7. Fetal period

8. Fetal membranes and Placenta

9. Introduction to genetics.

10. Teratogenesis

**2ND PROFESSIONAL MBBS**

**SPECIAL EMBRYOLOGY**

1. Head and Neck

• Pharyngeal apparatus (including pharyngeal arches, pharyngeal pouches & pharyngeal clefts)

• Tongue

• Thyroid

• Parathyroid

•Thymus

• Pituitary

• Upper respiratory system

• Face and palate

1. Body cavities

• Development of body cavities

• Formation of diaphragm

3. The respiratory system

4. The cardiovascular system

• Heart

• Great vessels

• Fetal circulation and changes at birth

5. The urinary system

• Development of Kidney

• Urinary bladder

• Urethra

• Development of adrenal glands

6. The male reproductive system

•Testis

• Genital ducts

• External genitalia

7. The female reproductive system

•Ovaries

• Oviducts

•Uterus •

• Vagina

• External genitalia

8. The Musclo-skeletal system

• Development of skeleton

• Development of muscles

9. Development of Limbs

10. Development of Integumentary System(consisting of development of skin and its appendages and development of mammary glands)

11. Special Senses (eye and ear)

12. Nervous system

13. Digestive system

• Division of Gut tube

• Mesenteries

• Liver, Gall bladder, Pancreas, Spleen

**GROSS ANATOMY**

1. Head & neck

2. Brain and spinal cord

3. Abdomen and pelvis

**SPECIAL HISTOLOGY**

• Digestive System

• Respiratory System

• Urinary System

• Male Reproductive System

• Female Reproductive System

• Endocrine Glands

• Organs of Special Senses

**NEURO-ANATOMY**

• Spinal Cord

• Medulla Oblongata

• Pons

• Mid Brain

• Cerebellum

• Thalamus

• Hypothalamus

• Basal Ganglia

• Cerebral Cortex

• Autonomic Nervous System

During study of Gross Anatomy, emphasis should be given on applied aspect, radiological anatomy, surface anatomy and cross-sectional anatomy.

**ALLOCATION OF CONTACT HOURS IN MBBS COURSE**

1st Year MBBS 250 Hrs

2nd Year MBBS 250 Hrs

Total Hours 500 Hrs

**DEPARTMENT OF ANATOMY ( CONTACT HOURS )**

**1ST YEAR MBBS**

Histology Practicals 90 x 36 = 3240 minutes

Lectures 135 x 36 = 4860 minutes

Dissection 450 x36 = 16200 minutes

Total 24300 minutes/60 = 405 hours

**Total Academic Hours: 405 Hours**

**2ND YEAR MBBS**

Histology Practicals 90 x 36 = 3240 minutes

Lectures 180 x 36 = 6480 minutes

Dissection Hall 450 x 36 = 16200 minutes

Total 25920 minutes/60 = 432 hours

**Total Academic Hours: 432 Hours**

**ALIGNMENT OF EDUCATION WITH TIME TABLE**

**1ST YEAR MBBS EMBRYOLOGY LECTURES SCHEDULE 2022**

**FACILITATOR: PROF. DR. IFFAT BADAR**

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| --- | --- |
| **DATE** | **TOPIC** |
| 7/2/22 | Gametogenesis |
| 14/2/22 | Gametogenesis |
| 21/2/22 | Gametogenesis |
| 28/2/22 | Ovarian cycle |
| 7/3/22 | Fertilization |
| 14/3/22 | Cleavage, Blastocyst formation, Uterus at the time of implantation |
| 21/3/22 | IVF |
| 28/3/22 | 2nd week of development |
| 4/4/22 | 2nd week of development |
| 11/4/22 | 2nd week of development |
| 18/4/22 | Gastrulation |
| 25/4/22 | Notochord formation and neurulation, fate map |
| 9/5/22 | Growth of embryonic disc,  |
| 16/5/22 | Further development of trophoblast |
| 23/5/22 | Embryonic period 3-8 week of development |
| 30/5/22 | Embryonic period 3-8 week of development |
| 6/6/22 | Embryonic period 3-8 week of development |
| **6/6/22** | **TEST 1** |
| 13/6/22 | Embryonic period 3-8 week of development |
| 18/7/22 | Fetal period monthly changes |
| 25/7/22 | Fetal membranes and placenta  |
| 1/8/22 | Placental anomalies |
| 15/8/22 | Twins |
| 17/8/22 | Birth defects |
| 22/8/22 | Teratology |
| 23/8/22 | Axial skeleton |
| 24/8/22 | Muscular system |
| 29/8/22 | Limbs |
| 30/8/22 | Integumentary system |
| 31/8/22 | Integumentary system |
| **16/9/22** | **TEST 2** |

**1ST YEAR MBBS HISTOLOGY LECTURE SCHEDULE 2022**

**FACILITATOR: PROF. DR. ARUNA BASHIR**

|  |  |
| --- | --- |
| **DATE** | **TOPIC** |
| 8/2/22 | Introduction |
| 15/2/22 | Epithelium 1 |
| 22/2/22 | Epithelium 2 |
| 1/3/22 | Glandular epithelium |
| 2/3/22 | Cell junction  |
| 8/3/22 | Cell surface specialization |
| 9/3/22 | Connective tissue 1 |
| 15/3/22 | Connective Tissue 2 |
| 16/3/22 | Connective 3 |
| 22/3/22 | Bone and Cartilage 1 |
| 29/3/22 | Bone and Cartilage 2 |
| 5/4/22 | Bone and Cartilage 3 |
| 12/4/22 | Muscle tissue 1 |
| 19/4/22 | Muscle tissue 2 |
| 26/4/22 | Circulatory system 1 |
| 10/5/22 | Circulatory system 2  |
| **16/5/22** | **Test 1** |
| 17/5/22 | Nervous tissue 1 |
| 24/5/22 | Nervous tissue 2 |
| 31/5/22 | Lymphoid system 1 |
| 7/6/22 | Lymphoid system 2 |
| 14/6/22 | Lymphoid system 3 |
| 19/7/22 | Integumentary system 1 |
| 26/7/22 | Integumentary system 2 |
| 2/8/22 | Respiratory system |
| 16/8/22 | Respiratory system  |
| **9/9/22** | **Test 2** |
| **23/9/22** | **Test 3** |

**1ST YEAR MBBS GENERAL ANATOMY LECTURE SCHEDULE 2022**

**FACILITATOR: DR. SHUMAILA SHAKOOR/DR. SHAMAILA EJAZ**

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| --- | --- |
| **DATE** | **TOPIC** |
| 9/2/22 | INTRODUCTION |
| 16/2/22 | BONES AND CARTILAGES |
| 23/2/22 | BONES AND CARTILAGES |
| 30/3/22 | BONES AND CARTILAGES  |
| 6/4/22 | JOINTS |
| 13/4/22 | JOINTS |
| 20/4/22 | JOINTS |
| 27/4/22 | MUSCLE |
| 11/5/22 |  MUSCLE |
| 18/5/22 | MUSCLES AND STRUCTURES RELATED TO MUSCLES  |
| 25/5/22 | CARDIOVASCULAR SYSTEM |
| 1/6/22 | CARDIOVASCULAR SYSTEM |
| 8/6/22 | CVS AND LYMPHATIC SYSTEM |
| 20/7/22 | NERVOUS SYSTEM |
| 27/7/22 | NERVOUS SYSTEM |
| 3/8/22 | NERVOUS SYSTEM |
| 10/8/22 | SKIN |
| **23/9/22** | **TEST** |

**1ST YEAR MBBS HISTOLOGY PRACTICAL SCHEDULE 2022**

**FACILITATOR: DR. AYESHA**

|  |  |
| --- | --- |
| **DATE** | **TOPIC** |
| 7-11 Feb 22 | Microscope |
| 14-18 Feb 22 | Artifacts  |
| 21-25 Feb 22 | Simple epithelium |
| 28 Feb – 4 March 22 | Compound epithelium |
| 7-11 March 22 | Glands |
| 14-18 March 22 | Connective tissue |
| 21-25 March 22 | Connective tissue |
| 28 March -1 April 22 | Cartilage |
| 4-8 April 22 | Cartilage |
| 11-15 April 22  | Bone |
| 18-22 April 22 | Muscle |
| 25-29 April 22 | Revision |
| **9-13 May 22** | **TEST 1** |
| 16-20 May 22 | Circulatory system |
| 23-27 May 22 | Circulatory system |
| 30 May – 3 June 22 | Nervous Tissue |
| 6-10 June 22 | Nervous Tissue |
| 13-16 June 22 | Lymphoid system |
| 18-22 July 22 | Lymphoid system |
| 25-29 July 22 | Lymphoid system |
| 1-5 August 22 | Skin |
| 8-12 August 22 | Skin |
| 15-19 August 22 | Respiratory System |
| 22-26 August 22 | Respiratory system |
| 29 August – 2 September 22 | Revision |
| **5-9 September 22** | **TEST 2** |

**1ST YEAR MBBS UPPER LIMB SCHEDULE 2022**

**FACILITATOR: DR ANAUM ALLAH, DR KIRAN, DR JAMAL, DR HASANA**

|  |  |
| --- | --- |
| **DATE** | **TOPIC** |
| 7/2/22 | Introduction / Clavicle |
| 8/2/22 | Clavicle |
| 9/2/22 | Scapula |
| 10/2/22 | Scapula |
| 11/2/22 | Pectoral Region (Superficial Fascia,Cutaneous Nerves + Vessels (Diagrams), Platysma, Breast) |
| 14/2/22 | Breast |
| 15/2/22 | Muscles of Pectoral region (Pectoralis major, minor, subclavius, clavipectoral fascia, serratus anterior) |
| 16/2/22 | Axilla, Boundaries, Content + Axillary Artery |
| 17/2/22 | Axillary artery/ vein/ lymph nodes |
| 18/2/22 | Brachial Plexus |
| 21/2/22 | Brachial Plexus |
| 22-24/2/22 | REVISION |
| **25/2/22** | **FIRST SUBSTAGE** |
| 28/2/22 | Sternoclavicular joint/acromioclavicular joint (Shoulder Girdle) |
| 1/3/22 | Humerus |
| 2/3/22 | Back ( Cutaneous innervations, Triangle of auscultation, lumbar triangle of Petit, Muscles connecting upper limb to vertebral column) |
| 3/3/22 | Scapular region ( muscles,rotator cuff, subacromial bursa,intramuscular spaces) |
| 4/3/22 | Axillary nerves,anastomosis around scapula |
| 7/3/22 | Arm ( Compartments, muscles) |
| 8/3/22 | Nerves and muscles of arm |
| 9/3/22 | Cubital Fossa |
| 10/3/22 | Shoulder joint |
| 11/3/22 | Radius |
| **14/3/22** | **SECOND SUBSTAGE** |
| 15/3/22 | Ulna |
| 16/3/22 | Articulated hand |
| 17/3/22 | Flexors of Forearm |
| 18/3/22 | Palm muscles |
| 21/3/22 | Nerves + vessels of front of forearm and hand |
| 22/3/22 | Spaces of hand |
| 24/3/22 | Elbow joint |
|  25/3/22 |  REVISION |
| **28/3/22** | **THIRD SUBSTAGE** |
| 29/3/22 | Muscles on back of forearm |
| 30/3/22 | Nerves and Vessels of back of forearm |
| 31/3/22 | Radioulnar joint |
| 1/4/22 | Wrist joint |
| 4/4/22 | First carpometacarpal joint |
| 5/4/22 | Cutaneous innervations of the upper limb + venous drainage + lymphatic drainage |
| 6/4/22 | REVISION |
| **7/4/22** | **FOURTH SUBSTAGE** |
| 8-11/4/22 | RADIOGRAPH + SURFACE MARKING |
| **12-14/4/22** | **FINAL STAGE** |

**1ST YEAR MBBS THORAX SCHEDULE 2022**

**FACILITATOR: DR KIRAN, DR JAMAL, DR HASANA**

|  |  |
| --- | --- |
| **DATE** | **TOPIC** |
| 15/4/22 | Inlet and Outlet |
| 18/4/22 | Sternum |
| 19/4/22 | Diaphragm |
| 20/4/22 | Thoracic vertebrae |
| 21/4/22 | Ribs |
| 22/4/22 | Thoracic wall, cutaneous innervation, muscles |
| 25/4/22 | Thoracic wall, nerve and vessels |
| 26/4/22 | Venous system, Internal thoracic artery |
| 27/4/22 | Joints |
| 28/4/22 | Movement of rib cage |
| 29/4/22 | Pleura |
| **9/5/22** | **1ST SUBSTAGE** |
| 10/5/22 | Sympathetic chain |
| 11/5/22 | Lungs 1 |
| 12/5/22 | Lungs 2 |
| 13/5/22 | Mediastinum 1 |
| 16/5/22 | Mediastinum 2 |
| 17/5/22 | Heart 1 |
| 18/5/22 | Heart 2 |
| 19/5/22 | Heart 3 |
| 20/5/22 | REVISION |
| **23/5/22** | **2ND SUBSTAGE** |
| 24/5/22 | SURFACE MARKING AND RADIOLOGY |
| **31-31/5/22-1/6/22** | **FINAL STAGE** |

**1ST YEAR MBBS LOWER LIMB SCHEDULE 2022**

**FACILITATOR: DR KIRAN, DR JAMAL, DR HASANA**

|  |  |
| --- | --- |
| **DATE** | **TOPIC** |
| 2/6/22 | Hip Bone |
| 3/6/22 | Hip Bone |
| 6/6/22 | Femur |
| 7/6/22 | Deep Fascia of The Thigh + Anterior compartment of thigh |
| 8/6/22 | Femoral triangle and adductor canal |
| 9/6/22 | Medial Compartment of Thigh |
| 10/6/22 | REVISION |
| **13/6/22** | **1st Substage** |
| 14/6/22 | Gluteal Region |
| 15/6/22 | Hip Joint |
| 18/7/22 | Posterior compartment of thigh |
| 19/7/22 | Popliteal fossa |
| 20-21/7/22 | REVISION |
| **22/7/22** | **2nd Substage** |
| 25/7/22 | Tibia |
| 26/7/22 | Fibula and patella |
| 27/7/22 | Anterior Compartment of Leg |
| 28/7/22 | Lateral Compartment of Leg |
| 29/7/22 | Knee Joint |
| 1/8/22 | Knee joint + Tibiofibular Joint |
| 2/8/22 | Dorsum of foot |
| 3/8/22 | Ankle Joint |
| 4/8/22 | REVISION |
| **5/8/22** | **3rd Substage** |
| 9/8/22 | Posterior compartment of leg |
| 10/8/22 | Posterior compartment of leg |
| 11/8/22 | Articulated foot. Subtalar and mid tarsal joints |
| 12/8/22 | Arches of Foot |
| 15/8/22 | Sole of foot |
| 16/8/22 | Sole of foot |
| 17/8/22 | Cutaneous innervation and dermatomes  |
| 18/8/22 | Venous and lymphatic drainage of lower limb |
| 19/8/22 | REVISION |
| **22/8/22** | **4th Substage** |
| **29-31/8/22** | **FINAL STAGE (written)** |

**2ND YEAR MBBS EMBRYOLOGY LECTURE SCHEDULE 2022**

**FACILITATOR: PROF. DR. IFFAT BADAR**

|  |  |
| --- | --- |
| **DATE** | **TOPIC** |
| 16/2/22 | RESPIRATORY SYSTEM  |
| 17/2/22 | RESPIRATORY SYSTEM  |
| 21/2/22 | RESPIRATORY SYSTEM/ BODY CAVITIES  |
| 23/2/22 | BODY CAVITIES  |
| 24/2/22 | BODY CAVITIES  |
| 28/2/22 | CVS  |
| 2/3/22 | CVS  |
| 3/3/22 | CVS  |
| 7/3/22 | CVS  |
| 9/3/22 | CVS  |
| 14/3/22 | CVS  |
| 16/3/22 | CVS  |
| 21/3/22 | CVS  |
| 24/3/22 | CVS  |
| 28/3/22 | GIT  |
| 30/3/22 | GIT  |
| 31/3/22 | GIT  |
| **4/4/22** | **EMBRYO TEST 1** |
| 6/4/22 | GIT  |
| 11/4/22 | GIT  |
| 13/4/22 | GIT  |
| 14/4/22 | GIT  |
| 18/4/22 | GIT  |
| 20/4/22 | UROGENITAL  |
| 21/4/22 | UROGENITAL  |
| 22/4/22 | UROGENITAL  |
| 25/4/22 | UROGENITAL  |
| 27/4/22 | UROGENITAL  |
| **28/4/22** | **HISTOLOGY TEST I** |
| 29/4/22 | UROGENITAL  |
| 9/5/22 | HEAD AND NECK  |
| 11/5/22 | HEAD AND NECK  |
| 16/5/22 | HEAD AND NECK  |
| 18/5/22 | HEAD AND NECK  |
| **19/5/22** | **EMBRYO TEST 2** |
| 23/5/22 | HEAD AND NECK  |
| 25/5/22 | HEAD AND NECK  |
| 30/5/22 | HEAD AND NECK  |
| 1/6/22 | HEAD AND NECK  |
| 2/6/22 | HEAD AND NECK  |
| 6/6/22 | HEAD AND NECK  |
| 8/6/22 | SPECIAL SENSES  |
| 13/6/22 | SPECIAL SENSES  |
| 15/6/22 | SPECIAL SENSES  |
| 18/7/22 | SPECIAL SENSES  |
| 20/7/22 | CNS  |
| 21/7/22 | CNS  |
| 22/7/22 | CNS  |
| 25/7/22 | CNS  |
| 27/7/22 | CNS  |
| 1/8/22 | CNS  |
| 3/8/22 | CNS |
| 4/8/22 | NEURO- SPINAL CORD  |
| 5/8/22 | SPINAL CORD |
| 10/8/22 | SPINAL CORD  |
| **11/8/22** | **HISTOLOGY TEST II** |
| 12/8/22 | SPINAL CORD  |
| 15/8/22 | MEDULLA  |
| 17/8/22 | MEDULLA  |
| 22/8/22 | PONS |
| 24/8/22 | CEREBELLUM  |
| **29/8/22** | **EMBRYO TEST 3** |
| 31/8/22 | CEREBELLUM  |
| 1/9/22 | MIDBRAIN  |

**2ND YEAR MBBS HISTOLOGY LECTURE SCHEDULE 2022**

**FACILITATOR: PROF. DR. IFFAT BADAR**

|  |  |
| --- | --- |
| **DATE** | **TOPIC** |
| 14/2/22 | Tongue |
| 18/2/22 | Lip & Parotid gland  |
| 25/2/22 | Submandibular & sublingual glands |
| 4/3/22 | Esophagus, General plan of GIT  |
| 10/3/22 | Stomach |
| 11/3/22 | Stomach |
| 17/3/22 | Small intestine |
| 18/3/22 | Small intestine |
| 25/3/22 | Colon & appendix |
| 1/4/22 | Rectum & anal canal |
| 7/4/22 | Liver  |
| 8/4/22 | Liver  |
| 15/4/22 | Pancreas & Gall bladder  |
| **28/4/22** | **HISTO TEST 1** |
| 12/5/22 | Kidney  |
| 13/5/22 | Kidney |
| 20/5/22 | Ureter, urinary bladder & urethra |
| 26/5/22 | Testes  |
| 27/5/22 | Testes, Epididymis  |
| 3/6/22 | Vas deferens, Seminal vesicle & Prostate |
| 9/6/22 | Ovary |
| 10/6/22 | Ovary, Fallopian tube  |
| 28/7/22 | Uterus  |
| 29/7/22 | Uterus, Cervix and vagina |
| **11/8/22** | **HISTO TEST 2** |
| 18/8/22 | Eye 1 |
| 19/8/22 | Eye 2 |
| 25/8/22 | Ear 1 |
| 26/8/22 | Ear 2 |
| 2/9/22 | Adrenal gland  |
| 5/9/22 | Thyroid, parathyroid & pineal glands  |
| 7/9/22 | Pituitary gland  |
| 8/9/22 | Spinal cord & cerebellum  |
| 9/9/22 | Cerebrum  |
| **17/10/22** | **HISTO TEST 3** |

**2ND YEAR MBBS HISTOLOGY PRACTICAL SCHEDULE 2022**

**FACILITATOR: DR. MARIA**

|  |  |
| --- | --- |
| **DATE** |  **TOPIC** |
| 14-18 Feb | Tongue |
| 21-25 Feb | Lip and parotid gland  |
| 28 Feb- 4March  | Submandibular and sublingual gland  |
| 7-11 March | Esophagus |
| 14-18 March | Stomach |
| 21-25 March | Small intestine |
| 28 March- 1st April | Colon and Appendix |
| 4-8 April | Rectum and anal canal |
| 11-15 April | Liver and Gall bladder |
| 18-22 April | Pancreas  |
| 25-29 April | Revision  |
| **28th April** | **TEST I (Written)** |
| **9-13 May**  | **OSPE TEST**  |
| 16-20 May  | Kidney  |
| 23-27 May  | Ureter, urinary bladder , urethra |
| 30-31 May & 1-3 June | Testes, Epididymis |
| 6-10 June  | Vas deferens, Seminal vesicle |
| 18-22 July  | Prostate and fallopian tubes |
| 25-29 July  | Ovary  |
| 1-5 August  | Uterus  |
| 8-12 August | Cervix and Vagina |
| **11th August**  | **TEST 2 (Written )** |
| **15-19 August**  | **OSPE TEST** |
| 22-26 August  | Cornea, retina  |
| 29-31 August & 1-2 September | Ear  |
| 5-9 September  | Adrenal gland |
| 12-16 September  | Thyroid, parathyroid and pineal gland  |
| 19-23 September  | Pituitary gland |
| 26-30 September  | Spinal cord and cerebellum  |
| 3-7 October  | Cerebrum  |
| 10-14 October  | REVISION |
| **17th October**  | **TEST 3 (Written)** |
| **17-21 October**  | **OSPE TEST**  |

**2ND YEAR MBBS ABDOMEN PELVIS SCHEDULE 2022**

**FACILITATOR: DR ANIS, DR SHUMAILA SHAKOOR, DR SHAMAILA EJAZ**

**DR. ALI**

|  |  |
| --- | --- |
| **DATE** | **TOPIC** |
| 14/2/22 | Anterior abdominal wall, Skin, Quadrants of abdomen, Fascia |
| 15/2/22 | Muscles of Anterolateral abdominal wall |
| 16/2/22 | Formation of rectus sheath, Applied aspects (Skin Incisions, cutaneous nerve supply, venous drainage, lymphatic drainage) |
| 17/2/22 | Inguinal Region (Boundaries and contents, clinical importance) |
| 18/2/22 | Male external genitalia, scrotum, testis, and Spermatic cords  |
| 21/2/22 | Peritoneum (Dispositions) |
| 22/2/22 | Lesser and Greater omentum, mesocolon,  |
| 23/2/22 | Mesentry, omental bursa, epiploic foramen |
| 24/2/22 | Supracolic/infracolic compartments/Rectouterine pouch/Recesses |
| 25/2/22 | Revision  |
| 28/2/22 | Revision  |
| **1/3/22** | **SUBSTAGE 1** |
| 2/3/22 | Esophagus, Stomach |
| 3/3/22 | Jejunum, Ileum, Large Intestine  |
| 4/3/22 | Spleen, Pancreas |
| 7/3/22 | Liver +Extrahepatic biliary apparatus  |
| 8/3/22 | Celiac trunk, superior and inferior mesenteric vessels |
| 9/3/22 | Portal vein, Portal circulation and Portocaval anastomosis, sympathetic plexuses |
| 10/3/22 | Revision  |
| 11/3/22 | Revision  |
| **14/3/22** | **SUBSTAGE 2** |
| 15/3/22 | Lumbar vertebrae |
| 16/3/22 | Posterior abdominal wall muscles, thoracolumbar fascia, Vessels of posterior abdominal wall |
| 17/3/22 | Nerves of Posterior abdominal wall, ANS  |
| 18/3/22 | Kidney  |
| 21/3/22 | Ureter+ Suprarenal gland |
| 22/3/22 | Perineum (boundaries+ anal region) |
| 24/3/22 | Deep perineal space, superficial perineal space |
| 25/3/22 | Pudendal canal + nerves and vessels |
| 28/3/22 | Revision  |
| **29/3/22** | **SUBSTAGE 3** |
| 30/3/22 | Sacrum, Bony Pelvis |
| 31/3/22 | Joints of pelvis, Pelvic diaphragm |
| 1/4/22 | Urinary bladder |
| 4/4/22 | Urethra + Ovaries |
| 5/4/22 | Uterus + Fallopian tubes |
| 6/4/22 | Ductus deferens +seminal vesicle + Prostate |
| 7/4/22 | Rectum |
| 8/4/22 | Anal Canal |
| 11/4/22 | Vessels of the pelvis |
| 12/4/22 | Surface marking  |
| 13/4/22 | Revision |
| 14/4/22 | Revision  |
| **15/4/22** | **SUBSTAGE 4** |
| **19/4/22** | **FINAL STAGE (Written)** |
| **20/4/22** | **FINAL STAGE (Ospe + Viva)** |
| **21/4/22** | **FINAL STAGE (Ospe + Viva)** |

**2ND YEAR MBBS BRAIN SCHEDULE 2022**

**FACILITATOR: DR ANIS, DR SHUMAILA SHAKOOR, DR SHAMAILA EJAZ**

**DR. ALI**

|  |  |
| --- | --- |
| **DATE** | **TOPIC** |
| - | Spinal Cord |
| 25/8/22 | Medulla  |
| 26/8/22 | Medulla  |
| 29/8/22 | Pons |
| 30/8/22 | 4th ventricle |
| 31/8/22 | Mid brain |
| 1/9/22 | Cerebellum |
| 2/9/22 | Cerebellum |
| 5/9/22 | Cerebral cortex(sulci &gyri) |
| 6/9/22 | Cerebral cortex (functional areas) |
| 7/9/22 | Revision  |
| 8/9/22 | Revision  |
| **9/9/22** | **1st substage** |
| 12/9/22 | White matter |
| 13/9/22 | White matter |
| 14/9/22 | Basal ganglia |
| 15/9/22 | Thalamus |
| 16/9/22 | 3rd Ventricle, metathalamus, Hypothalamus, epithalamus, subthalamus |
| 19/9/22 | 3rd Ventricle, metathalamus, Hypothalamus, epithalamus, subthalamus |
| 20/9/22 | Lateral ventricle, CSF, cisterns |
| - | Limbic system & Reticular formation |
| 21/9/22 | Blood supply of brain |
| 22/9/22 | Olfactory and visual pathways |
| 23/9/22 | Revision |
| 26/9/22 | Revision  |
| **27/9/22** | **2nd Substage** |
| 28-30/9/22 | Revision  |
| **3-5/10/22** | **Final stage** |

**2ND YEAR MBBS HEAD AND NECK SCHEDULE 2022**

**FACILITATOR: DR ANIS, DR SHUMAILA SHAKOOR, DR SHAMAILA EJAZ**

**DR. ALI**

|  |  |
| --- | --- |
| **DATE** | **TOPIC** |
| 22/4/22 | Skull (Norma Verticalis + Norma frontalis) Scalp |
| 25/4/22 | Face (Muscles of facial expression)+ Face(Blood vessels) |
| 26/4/22 | Face nerve supply + Clinical |
| 27/4/22 | Lacrimal Apparatus +eyelids and palpabrae |
| 28/4/22 | Deep cervical fascia |
| 29/4/22 | Posterior triangle of neck |
| 9/5/22 | Anterior triangle of neck |
| 10/5/22 | Anterior triangle of neck |
| 11/5/22 | Revision |
| 12/5/22 | Revision  |
| **13/5/22** | **1ST SUBSTAGE** |
| 16/5/22 | Cranial fossa |
| 17/5/22 | Cranial fossa |
| 18/5/22 | Meninges |
| 19/5/22 | Venous sinuses & pituitary gland |
| 20/5/22 | Orbital cavity and muscles |
| 23/5/22 | Ophthalmic nerve , 3,4,6 cranial nerves |
| 24/5/22 | Vessels of the orbit |
| 25/5/22 | Eyeball |
| 26/5/22 | Revision |
| **27/5/22** | **2ND SUBSTAGE** |
| 30/5/22 | Norma lateralis |
| 31/5/22 | Hyoid bone & Mandible |
| 1/6/22 | Temporomandibular joint |
| 2/6/22 | Temporal & infratemporal fossa, |
| 3/6/22 | Mandibular nerve+ Pterygopalatine fossa, |
| 6/6/22 | Maxillary nerve + Muscles of mastication + Maxillary artery |
| 7/6/22 | Thyroid and parathyroid gland |
| 8/6/22 | Submandibular gland |
| 9/6/22 | Parotid gland |
| 10/6/22 | Revision |
| 13/6/22 | Revision  |
| **14/6/22** | **3rd SUBSTAGE** |
| 15/6/22 | Norma occipitalis, Cervical vertebrae, Joints of neck |
| 18/7/22 | Muscles of prevertebral region, sub- occipital triangle and scalene muscles |
| 19/7/22 | Muscles of prevertebral region, sub-occipital triangle and scalene muscles |
| 20/7/22 | Cervical sympathetic trunk, cervical plexus, Dermatomes |
| 21/7/22 | Subclavian system and cervical part of esophagus and trachea |
| 22/7/22 | Tongue, Oral cavity and hypoglossal nerve |
| 25/7/22 | Hard palate + soft palate |
| 26/7/22 | Soft palate  |
| 27/7/22 | Revision  |
| **28/7/22** | **4th SUBSTAGE** |
| 29/7/22 | Pharynx |
| 1/8/22 | Pharynx |
| 2/8/22 | 9,10,11 cranial nerves, Nose |
| 3/8/22 | Nose |
| 4/8/22 | Larynx  |
| 5/8/22 | Larynx |
| 9/8/22 | Base of skull |
| 10/8/22 | External ear + middle ear cavity  |
| 11/8/22 | Middle ear cavity + internal ear  |
| 12/8/22 | 7th & 8th cranial nerve |
| 15/8/22 | Revision  |
| 16/8/22 | Revision  |
| **17/8/22** | **5th SUBSTAGE** |
| 18/8/22 | Radiology & surface marking |
| 19/8/22 | Revision  |
| **22-24/8/22** | **FINAL STAGE** |

**ASSESSMENT METHODOLOGY FIRST AND SECOND PROF. MBBS**

**FORMATIVE**

**Theory:** Single best multiple choice question and short essay tests will be conducted according to the schedule given

Histology Practical Tests, Gross OSPE tests and viva voce will be conducted according to the schedule given

**SUMMATIVE** (To be held at the end of 1st year MBBS and 2nd Year MBBS)

1. **Written**

One Paper for 1st year MBBS and One paper for 2nd Year MBBS

**Marks Distribution of each paper:**

Paper Marks 90

Internal Evaluation Marks 10

Oral & Practical Marks 90

Internal Evaluation Marks 10

Total 200 Marks

**TABLE OF SPECIFICATIONS FOR FIRST PROF. MBBS WRITTEN PAPER (UHS)**

|  |  |  |  |
| --- | --- | --- | --- |
| General anatomy | Anatomical terms and sectional planes of body, skeletal system | 1 | In reference to upper and lower limb  |
| Joints | 1 |
| Muscles | 1 |
| Circulatory system a) Cardiovascular system b) Lymphatic system | 1 |
| Nervous system | 1 |
| Skin and Fascia, Diagnostic techniques | 1 |
| General histology | Cell | 1 | 1 |
| Epithelium | 1 |
| Connective tissue, bones cartilage, connective tissue proper | 2 |
| Muscle tissue | 1 |
| Nervous tissue, skin and mammary gland | 1 |
| Lymphoid organs | 1 |
| Respiratory system | 1 |
| Vascular system | 1 |
| General embryology | Cell division (mitosis and meiosis) and gametogenesis | 1 | 1 |
| Fertilization, development 1-2 weeks | 1 |
| Development 3-8 weeks | 1 |
| Fetal period and teratogenesis | 1 | 1 |
| Fetal membranes and placenta | 1 |
| Multiple pregnancies and diagnostic procedures | 1 |
| Development of muscular system, skeletal system and limbs | 2 |
| Development of skin, appendeges and mammory glands | 1 |
| Upper limb | Pectoral region , shoulder region , axilla | 2 | 1 |
| Arm | 1 |
| Forearm | 2 | 1 |
| Hand | 2 |
| Lower limb | Gluteal region  | 1 | 1 |
| Thigh | 2 |
| Leg | 2 | 1 |
| Foot | 2 |
| Thorax | Heart | 1 | 1 |
| Lung | 1 |
| Pericardium/Pericardial sac | 1 |
| Pleura/pleural cavity | 1 | 1 |
| Thoracic wall, joints, bones and diaphragm | 1 |
| Intercostal space and contents | 1 |
| Mediastinal space and contents | 1 |

1. 25% MCQs and SEQs should clinical oriented or problem based
2. In each limb, equal distribution should be practiced in one of following issues

|  |  |  |
| --- | --- | --- |
| * Skin
 | * Muscles
 | * Joints
 |
| * bones
 | * Connective tissue
 |  |

1. SEQ s of general anatomy may be asked in reference of upper and lower limb.

**TABLE OF SPECIFICATIONS FOR SECOND PROF. MBBS WRITTEN PAPER (UHS)**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **TOPIC** | **MCQ** | **SEQ** |
| HISTOLOGY | Digestive system | 1 | 1 |
| Urinary system | 1 |
| Nervous system | 1 |
| Male reproduction system | 1 |
| Female reproductive system | 1 |
| Endocrine | 1 |
| Special scenes |
|  |  |
| EMBRYOLOGY | Body cavities , mesenteries and diaphragm | 1 | 1 |
| Respiratory system | 1 |
| Cardiovascular  | 2 |
| Nervous system | 1 |
| Urinary system | 1 | 1 |
| Male reproductive system | 1 |
| Female  | 1 |
| Digestive system | 1 |
| BRAIN | External and internal structure of brain | 2 | 1 |
| External and internal structures of spinal cord | 2 |
| Cranial nerves , their nuclei, and their intracranial courses | 1 |
| Blood supply of brain and spinal cord | 1 |
| Meninges cisternae and ventricles | 1 |
|  |
| PELVIS | Pelvic wall | 2 | 1 |
| Pelvis diaphragm, peritoneum,  | 2 |
| Pelvic viscera’s and structure | 1 |
| Perineum and urogenital diaphragm | 1 | 1 |
| ABDOMEN | Abdominal wall | 1 | 1 |
| Peritoneum | 1 |
| Abdominal viscera’s and other structures | 4 | 1 |
|  | 1 |
| HEAD AND NECK | Cranial cavity, skull, cervical vertebra and joints of neck | 2 | 1 |
| Scalp, temple and face | 1 |
| Side of neck and triangles , back of neck and cervical fascia | 2 |
| Cranial nerves and ganglia | 2 |
| Orbit eye ball and ear | 1 | 1 |
| Parotid and temporal and infratemporal and submandibular regions  | 2 |
| Mouth , pharynx and tongue | 2 |
| Nasal cavity and larynx | 1 |

1. **OSPE Examination**

**Gross and Radiological Anatomy and Embryology:**

Total no. of stations 12, each station will have 02 marks and 04 spots of identification

Each station will be given 1.5 min

Total marks shall be 24

**Histology OSPE and VIVA:**

**Short slides**

There shall be 10 slides on 10 microscopes

Students will move from one slide to the next in predetermined direction

For each station one minute shall be given, students will give points of identification of each slide

Total number of identification spots 10

Each spot will be given 01 mark

Total marks allotted shall be 10

Time consumed shall be 10 minutes

**Long Slide**

15 minutes will be given for identification, drawing and labeling

Identification, drawing and labeling of long slide marks will be 3

Interactive Examination long slide marks 7

Total marks of Histology OSPE shall be 20

1. **Anatomy structured viva marks: 46**

**LEARNING RESOURCES FOR MBBS STUDENTS**

**Recommended books**

**The latest edition of following books are recommended**

* General Anatomy by Prof. Tassaduq Hussain Sheikh
* Medical Histology by Dr. Laiq Hussain Siddique.
* Cunningham Manual Of Practical Anatomy
* Atlas of Histology by Difoire’s
* The Developing Human By Moore And Persaud
* Clinically Oriented Anatomy By Moore
* Clinical Anatomy by Snells
* Grants Dissector of Anatomy
* Wheater’s Functional Histology Text And Color Atlas
* Basic Histology Junqueira, Carneiro Contopoulos
* Grants Atlas of Anatomy
* Langman’s Medical Embryology By Saddler
* Clinical Neuroanatomy By R. Snell
* Gray’s Anatomy by Prof. Susan Standring 39th Ed., Elsevier
* Last’s Anatomy By Mc Minn

**Technologies to be used:**

* Online reading material through HEC digital library facility