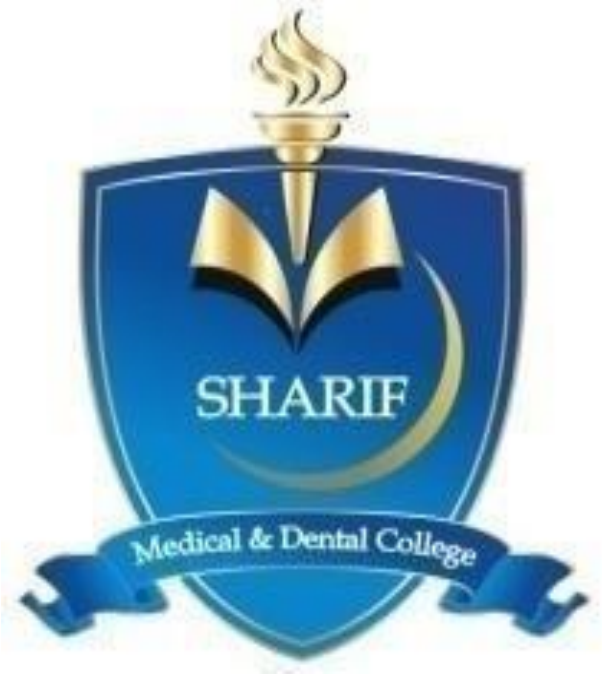
Department of Anatomy



Study Guide For

2nd Year MBBS

Sharif Medical & Dental College, Lahore

PREFACE

Study guides are aimed at helping students fully comprehend their curriculum and its objectives. While textbooks are widely regarded as the most important learning resource, they require augmentation by facilitation and practical guidance. With a well-designed study guide, a student would have acquaintance with the goals of learning the curriculum and assessment modalities. In short, the student shall have insight into the entire timeline of the academic year.

As advised by UHS, the annual academic schedule is followed at SMDC. The students of MBBS are taught anatomy for the first two years of their degree course, while BDS students study anatomy during their first year. For MBBS students, Gross Anatomy, General Anatomy, Histology, and Embryology are covered in two years, with the regions divided between them. The Anatomy Department has created a course plan that fits our institution's vision and the UHS guidelines. This study guide includes a comprehensive list of the sections taught in our department, the time allocated for each of them, and the teaching techniques employed such as small group discussions, lectures, practicals and demonstrations on bones, dissected specimens, and models. Schedule of the assessments planned for the entire year has also been highlighted along with the marks distribution for the professional examinations. A list of reference books and reading material is also included at the end of the guide. We hope that this guide helps provide the students with valuable guidance.

Prof. Dr. Nausheen Raza
MBBS, M. Phil
Professor & HOD of Anatomy Department
SMDC, Lahore
Date: 26-02-2021

Vision & Mission of UHS

Qualitative and Quantitative Revolution in Medical Education and Research through Evolution and thereby improve Health Care delivery to Populace.

UHS shall be innovative global center of excellence in learning and research, supporting a community of scholars and professionals committed to serving society, promoting the development of students to reach their true potential in becoming competent, ethical, caring, and inquiring health professionals for the benefit of the country and the wider world.

Mission of SMDC

Sharif Medical & Dental College is dedicated to best serve the nation through preservation and dissemination of advanced knowledge and educating the students by latest trends in learning and research reaching levels pars excellence.

The Institution is committed to provide standardized quality medical education to its students by inculcating professional knowledge, skills and responsibilities in them with the aim of:

- Preparing them as modern physicians having initiative to act as future leaders in their respective fields and becoming lifelong learners.
- Encouraging the spirit of critical thinking through research and publication.
- Building up an understanding of the ethical values compatible with our religion, culture and social norms.
- Developing a sense of being responsible citizens of the society possessing professional competence and instilling in them the values of hard work and dedication thus preparing them to be accountable to the stakeholders and the state.

The Institution is devoted to keep abreast its faculty with the latest trends in Medical Education encompassing teaching/learning methodologies, assessment tools, research opportunities and professionalism to facilitate their professional development, competencies and commitment towards continues learning.

Our patient-centered mission is achieved by outstanding medical care & services in professional practice with due emphasis and focus on our local health needs.

Our mission further elaborate upon establishing academic and research facilities in areas of local demand under global gold standards and leading advancement in research, education & patient care.

Vision of SMDC

To be recognized for the provision of a safe and functional environment conducive to collaborative teaching & learning, comfortable working atmosphere, and conducting world class research through professionalism and excellence.

TABLE OF CONTENTS

PLANNED TEACHING ACTIVITIES FOR 2nd YEAR MBBS
DEPARTMENT OF ANATOMY

In the MBBS course program, PMC has assigned 250 hours to the subject of Anatomy. To help students make the most of their day, these hours are distributed among numerous modes of information transfer (MIT). These MITs are intended to assist students to correlate normal anatomical structures to their clinical importance macroscopically, microscopically, and developmentally, since the study of anatomy sections of gross anatomy, histology, general anatomy, and embryology.

Lectures

The total number of hours allotted for lectures has been divided across the embryology, neuroanatomy and histology sections, totaling 90 hours. The Professor, Associate Professors, and Assistant Professors will deliver these lectures. The students are directed to take notes during the lectures and are encouraged to participate actively. The lecturer will list the objectives of the lecture at the start so that the students can know how to focus study from the recommended books.

Practical classes

The 2nd year MBBS class of 100 students is divided into 4 batches of 25 students each. Each batch has one practical class every week, focused on histology. The class is 2 hours long and the students are taught one component of normal human histology each week. The class is conducted by a demonstrator under the supervision of a senior instructor. The students are given an introduction about the tissue under study and are then instructed to observe the slides under a microscope. The attendance of the day is marked after a student correctly draws the slide on his/her practical notebook and gets it checked by the instructor.

Small-Group Discussions (SGDs)

SGDs are scheduled four times a week and consist of various activities such as dissection, demonstrations of dissected specimens and models, presentations, assignments, and classes of gross anatomy. These are conducted in 3 batches and each is assigned a demonstrator. All 3 batches are supervised by an Assistant Professor or Associate Professor. The students are directed to dissect cadavers and observe the dissected specimens to grasp the knowledge of the normal gross anatomy structures, bones, and radiology.

Self-directed learning

In the self-directed learning time, scheduled twice a week, the students are divided into 2 batches and allocated a classroom or library where they can catch up on assignments and ask for their teacher's assistance if required. This encourages group study practices as well.

TRAINING PROGRAM FOR DEPARTMENT OF ANATOMY 2nd YEAR MBBS CLASS

Schedule of Special Embryology Lectures MBBS 2nd Year Class (Session 2020-2021)

Sr. No	Topics
1.	Spinal Cord
2	Spinal Cord, Clinical Correlate
3	Hind Brain, Midbrain
4	Fore Brain
5	Clinical Correlate
6	Peripheral & Autonomic Nervous System
7	Pleuropericardial and pleuroperitoneal membranes
8	Diaphragm
9	Diaphragm - Developmental defects
10	Pharyngeal Arches
11	Pharyngeal Pouches
12	**Test – I** (CNS, Body Cavities)
13	Congenital Malformations
14	Thymus, Thyroid & Parathyroid
15	Tongue and Salivary Glands
16	Face
17	Face, Nasal Cavity, Paranasal Sinuses
18	Palate, Palatal Abnormalities
19	Eye
20	Eye
21	Larynx & Trachea
22	Lungs
23	Ear
24	**Test – II** (Pharyngeal Apparatus, Respiratory System & Eye)
25	Foregut, Esophagus
26	Stomach
27	Omental bursa, Duodenum
28	Liver, Pancreas, Spleen
29	Midgut
30	Caecum, Appendix, Congenital Malformations
31	Hind Gut
32	Congenital Malformations
33	Genitourinary System, Pronephros
34	Mesonephros
35	Metanephros
36	Urinary Bladder, Urethra
37	Paramesonephric Ducts

38	**Test – III (GIT, Ear, Urinary System)**
39	Uterus
40	Vagina, Prostate
41	Gonads - Testis
42	Ovaries, Mesonephric Ducts
43	External Genitalia
44	Congenital Malformations
45	Inguinal Canal, Descent of Gonads
46	Congenital Malformations
47	Heart Tube
48	Sinus Venosus, Atria
49	Ventricles, Bulbuscordis
50	Truncus Arteriosus
51	Valves, Conducting System, Congenital Anomalies
52	Congenital Anomalies
53	Arteries
54	Arteries
55	Veins
56	Veins
57	Fetal Circulation
58	**Test – IV** (CVS, Genital System)

Facilitator:

Prof. Dr. Nausheen Raza
Dr. Ammara Ghafoor

Schedule for Histology 2nd Year MBBS Session 2020-2021

Sr. No	Lecture Topics
1.	Introduction – Oral Cavity
2	Esophagus
3	Stomach
4	Small Intestine
5	Large Intestine
6	Salivary glands
7	Liver
8	Gall bladder, Pancreas
9	Kidney
10	Ureter, Urinary bladder
11	Testis
12	Duct system
13	Male Urethra
14	Glands(Seminal vesicle, Prostate& Urethral Glands)
15	Ovary
16	Fallopian tubes, Uterus
17	Cervix, Vagina, Female Urethra
18	Urethra
19	Pituitary Gland, Pineal gland
20	Adrenal Gland
21	Thyroid & Parathyroid Gland
22	Eye
23	Eye
24	Ear
25	Ear
26.	**Test I GIT**
27.	**Test II Urogenital System**
28.	**Test III Endocrine System, Special Senses, Female reproductive system**

Facilitators:

Prof. Dr. Tasneem A. Raza

Dr. Maimoona Shaukat

Schedule of Neuroanatomy Lectures MBBS 2nd Year Classes

Sr. No	Topic Lecture
1	Receptors, Effectors
2	Nerve Fiber & Classification, Typical Spinal Nerve, Reflex arc, Brain Barriers
3	Spinal Cord I, Ascending tracts
4	Spinal Cord I, Descending tracts
5	Clinical Correlates Spinal Cord
6	Special Sensory Pathways
7	Autonomic nervous system
8	**Test**

Facilitator:
Dr. Nadia Ahmad

Gross Anatomy
Head & Neck Teaching Schedule for 2nd Year MBBS (2020-2021)

Sr. No	Topic
1.	Introduction to skull, gender differences, anatomical position, Norma verticalis
2	Norma Occipitalis, Norma Frontalis, Orbital cavity
3	Norma Lateralis & Temporal fossa, boundaries & contents of infratemporal fossa
4	Scalp, muscle of face, eyelid, blood, nerve supply & lymphatic's of scalp & face
5	Parotid gland & its nerve supply, Otic ganglion
6	Mandible, muscles of mastication & Mandibular nerve
7	Temporomandibular joint & Clinical correlates
8	Cranial Cavity
9	Cranial Cavity
10	**1stSubstage (Viva)**
11	Pterygopalatine fossa and ganglion
12	Maxillary artery & nerve
13	Meninges, Dural venous sinuses, Emissary veins
14	Eye ball, 2nd Cranial nerve & Cranial nerve testing
15	Extraocular muscles, 3rd, 4th& 6th Cranial nerves & Cranial nerve testing
16	Ophthalmic nerve & vessels
17	Lacrimal apparatus, Ciliary ganglion
18	**2nd Substage (Written)**
19	Deep cervical fascia Sternocleidomastoid & triangles of neck, 11th Cranial nerve
20	Cervical vertebrae & their joints
21	Hyoid bone, supra & infrahyoid muscles
22	Prevertebral muscles & Scalene muscles
23	Cervical plexus & Cervical sympathetic trunk

24	Norma basalis
25	Norma basalis
26	Thyroid & parathyroid gland
27	**3rdSubstage (Viva)**
28	Nasal cavity, Nasal septum and 1st C.N, Paranasal sinuses
29	Submandibular & sublingual gland, Submandibular ganglion
30	Ninth nerve and styloid apparatus
31	Oral cavity, soft palate and its muscles
32	Pharynx, Subclavian & carotid artery, venous & lymphatic drainage of the neck
33	**4thSubstage (Written)**
34	Tongue and 12th &10th Cranial nerve
35	Larynx
36	Larynx
37	External ear, Auditory tube, Tympanic membrane
38	Middle ear and 7th Cranial nerve
39	Internal ear and 8th Cranial nerve
40	**5thSubstage (OSPE)** + Radiology + Surface Anatomy
41	Radiology
42	Surface Anatomy
43	**Stage (Written)**
44	**Stage (Viva & OSPE)**

Facilitator:

Batch A: Dr. Abeer Zaki
Batch B: Dr. Qirrat Hameed
Batch C: Dr. Nadia Ahmad

Brain Teaching Schedule for 2nd Year MBBS (2020-2021)

Sr. No	Topic
1.	Introduction spinal cord, external features
2	Interpeduncular fossa
3	Spinal cord ascending tracts
4	Spinal cord descending tracts
5	Medulla oblongata
6	Medulla oblongata
7	Pons
8	Midbrain, Blood supply of Mid brain & Hind brain
9	Cerebellum
10	Cerebellum
11	4th Ventricle, CSF & its circulation

12	**Substage I – Written**
13	Cerebrum gross features
14	The Thalamus & Thalamic connections
15	White matter of cerebrum
16	Epithalamus, Metathalamus, Subthalamus
17	Hypothalamus
18	Third ventricle
19	Lateral Ventricle
20	Basal ganglia
21	Blood Supply of Brain & Spinal Cord
22	Internal Capsule
23	Limbic system
24	Blood Brain barrier, Blood CSF
25	Cortical areas & their relation to blood supply
26	**Substage II (Viva)**
27	**Stage OSPE**
28	**Stage Written MCQs & SEQs Stage Viva**
29	**Stage Viva**

Facilitator:

Batch A: Dr. Qirrat Hameed
Batch B: Dr. Nadia Ahmad
Batch C: Dr. Abeer Zaki

Abdomen & Pelvis Teaching Schedule for 2nd Year MBBS (2020-2021)

Sr. No	Topic
1.	Abdominal Wall (Planes & Divisions), its Neurovascular Supply, Incisions
2	Rectus Sheath, Inguinal Hernias, Inguinal Canal, Superficial and Deep Inguinal Rings
3	Peritoneum
4	Peritoneum, Special Peritoneal Regions
5	Esophagus Abdominal part, Coeliac trunk
6	Stomach
7	Small Intestines
8	Autonomic Nervous System, Portal vein, Portosystemic junctions
9	Pancreas, Spleen
10	Liver, Gall Bladder, Biliary tract
11	**1st Substage (Written)**
12	Kidney
13	Abdominal part of Ureters, Suprarenal Glands, Inferior Vena Cava, Abdominal Aorta

14	Lumbar plexus, Lumbar Vertebrae, Intervertebral Joints
15	Sacrum, Posterior Abdominal Wall
16	Lumbosacral and Sacroiliac Joints, Pubic Symphysis
17	Bony Pelvis, Pelvis-Sex differences
18	**2nd Substage (OSPE)**
19	Pelvic mechanism, Pelvic Diaphragm
20	Uterus
21	Ovaries, Uterine Tubes, Vagina
22	Pelvic part of Ureter, Urinary Bladder
23	Prostate, Male Urethra, Seminal Vesicles
24	Rectum, Anal Canal
25	Sacral plexus, Lymph nodes &Vessels of Pelvis
26	**3rdSubstage (Viva)/**Perineum,Urogenital region
27	**3rdSubstage (Viva)**/ Perineum,Urogenital region
28	Pudendal Canal, vessels & nerves
29	Superficial and Deep Perineal pouches
30	Anal region, Ischiorectal fossa
31	Female &Male External Genitalia
32	**4thSubstage (Viva)/** Surface marking and radiology
33	**4thSubstage (Viva)/**Surface marking and radiology
34	**Stage Written SEQ**
35	**Stage Written MCQ**
36	**Stage Viva/OSPE**
37	**Stage Viva/OSPE**

Facilitator:

Batch A: Dr. Nadia Ahmad
Batch B: Dr. Abeer Zaki
Batch C: Dr. Qirrat Hameed

Schedule for Histology Practicals 2nd Year MBBS Session 2020-2021

Sr. No	Practicals
1.	Lip
2	Tongue
3	Esophagus
4	Stomach
5	Small Intestine
6	Colon, Appendix
7	Rectum, Anal Canal
8	Salivary Glands
9	Liver
10	Gall bladder, Pancreas
11	Kidney
12	Ureter, Urinary bladder
13	Testes
14	Ductus deference, Edididymis
15	**Revision**
16	Prostate gland, Seminal Vesicle
17	Ovary
18	Fallopian tube
19	Uterus
20	Cervix, Vagina
21	Pituitary gland
22	Adrenal gland
23	Thyroid and Parathyroid gland
24	Eye
25	Eye
26	Pinna
27	**Revision**

Facilitators:

Prof. Dr. Tasneem A. Raza

Dr. Maimoona Shaukat

LIST OF TOPICS IN THE SUBJECT OF ANATOMY AND THEIR LEARNING OBJECTIVES

Special Embryology

Topic	Learning Objectives Students should be able to:	MIT (Mode of information transfer)
Development of Pharyngeal Apparatus:	**Knowledge** ➢ Enumerate the components of pharyngeal apparatus and list derivatives of each (arch, cleft, pouch and membrane). ➢ Describe the development of tongue, thyroid gland and thymus. ➢ Describe the development of face, Nasal cavity and palate. ➢ Discuss different congenital malformation related to the development of aforementioned.	**LGIS (Large group interactive session)**
Development of Body Cavities and Diaphragm	**Knowledge** ➢ Discuss the development of the body cavities, mesenteries and diaphragm. ➢ Discuss the congenital anomalies related to these structures.	**LGIS (Large group interactive session)**
Development of Digestive System	**Knowledge** ➢ Describe the development of gastrointestinal tract (fore-gut, mid-gut and hind-gut). ➢ Explain the development of liver, pancreas, spleen and gall bladder. ➢ Discuss different congenital malformation related to the development of aforementioned.	**LGIS (Large group interactive session)**
Respiratory System:	**Knowledge** ➢ Describe the development of upper and lower respiratory passages. ➢ Discuss the stages of lung maturation. ➢ Discuss tracheoesophageal fistula and respiratory distress syndrome.	**LGIS (Large group interactive session)**
Cardiovascular System:	**Knowledge** ➢ Describe the development of heart, aorta, aortic arches, superior and inferior vena cava and portal vein. ➢ Describe the fetal circulation and changes in circulation taking place at birth. ➢ Discuss the congenital anomalies of cardiovascular system.	**LGIS (Large group interactive session)**

Development of Urinary System	**Knowledge** ➢ Describe the development of kidneys, ureters, urinary bladder and urethra. ➢ Discuss congenital malformations related to these structures.	**LGIS (Large group interactive session)**
Development of Genital System	**Knowledge** ➢ Describe the development of testes, epididymis, vas deferens, seminal vesicles and prostate. ➢ Describe the development of the ovaries, uterus and vagina. ➢ Describe the development of male and female external genital organs. ➢ Discuss the congenital abnormalities related to these structures.	**LGIS (Large group interactive session)**
Development of Nervous System:	**Knowledge** ➢ Enumerate the brain vesicles & describe their development and enlist their derivatives. ➢ Describe the development of spinal cord. ➢ Enumerate the derivatives of neural crest cells. ➢ Discuss the development of autonomic nervous system. ➢ Discuss the congenital malformations of the nervous system.	**LGIS (Large group interactive session)**
Development of Ear	**Knowledge** ➢ Explain the development of external, middle and internal ear. ➢ Describe the congenital abnormalities of each.	**LGIS (Large group interactive session)**
Development of Eye	**Knowledge** ➢ Describe the development of lacrimal apparatus, eyeball and optic nerve. ➢ Discuss the congenital abnormalities related to eyeball.	**LGIS (Large group interactive session)**

Special Histology

Topic	**Learning Objectives** Students should be able to:	**MIT (Mode of information transfer)**
Digestive System:	**Knowledge** ➢ Define the epithelium lining the oral cavity, tongue,	**LGIS (Large group**

	gums, hard and soft palate, pharynx and lips ➢ Discuss the histological structure of tongue, oesophagus, stomach, small intestine, large intestine, appendix and anal canal. Explain the transition in epithelial lining relative to their functions. ➢ Describe the histological structure of salivary glands, Liver, Pancreas and Gall Bladder in the light of their functionality. **Skill** ➢ Identify, draw and label light microscopic diagram of lip, tongue, esophagus, stomach, small & large intestine, liver, gallbladder, pancreas and slivary glands.	**interactive session)** **LAB**
Urinary System:	**Knowledge** ➢ Describe the histological structure of kidney, ureter, urinary bladder and urethra **Skill** ➢ Identify, draw and label light microscopic diagram of kidney, ureter, urinary bladder.	**LGIS (Large group interactive session)** **LAB**
Male Reproductive System:	**Knowledge** ➢ Describe histological structure of testis, epididymis, vas deferens, seminal vesicle and prostate and relate it to their functions. **Skill** ➢ Identify, draw and label light microscopic diagram of testes, epididymis, vas deferens, seminal vesicle & prostate.	**LGIS (Large group interactive session)** **LAB**
Female Reproductive System:	**Knowledge** ➢ Describe histological structure of ovaries, fallopian tube, uterus and vagina. Explain their functions related to their structure. **Skill** ➢ Identify, draw and label light microscopic diagram of ovary, fallopian tube, uterus, vagina & cervix**.**	**LGIS (Large group interactive session)** **LAB**
Endocrine System:	**Knowledge** ➢ Describe the histological structure and functions of Pituitary, Thyroid, Parathyroid Adrenals and Islets of Langerhans. **Skill** ➢ Identify, draw and label light microscopic diagram of pituitary gland, adrenal gland, thyroid & parathyroid glands.	**LGIS (Large group interactive session)** **LAB**
Eye	**Knowledge**	**LGIS (Large**

	➢ Describe the histological structure of various layers of eyeball with emphasis on cornea and retina and give their functions **Skill** ➢ Identify, draw and label light microscopic diagram of eyelid, cornea & retina.	**group interactive session)** **LAB**
Ear:	**Knowledge** ➢ Describe the histological structure of external, middle and internal ear in detail; correlate their functions to the structure **Skill** ➢ Identify, draw and label light microscopic diagram of pinna.	**LGIS (Large group interactive session)** **LAB**

Head & Neck

Topic	**Learning Objectives** Students should be able to:	**MIT (Mode of information transfer)**
Skull **Norma verticalis, frontalis, lateralis, occipitalis, basalis** **Cranial Cavity**	**Knowledge** ➢ Describe the bones forming the anterior, superior, lateral, posterior and basal view of skull on the given bone. ➢ Describe the bones forming the boundaries of orbit, nasal cavity and oral cavity and mark their boundaries. ➢ Describe the bones forming the cranial cavity. **Skill** ➢ Mark the main anatomical landmarks on norma occipitalis, verticals, lateralis, frontalis & basalis. ➢ Identify the boundaries of temporal, infratemporal fossa and pterygopalatine fossa on the given bone. ➢ Identify the boundaries of anterior, middle & posterior cranial fossa and structures passing through various foramina.	**SGD(Small group discussion)/ Demo**
Scalp	**Knowledge** ➢ Describe layers of scalp. ➢ Describe the course of arteries, veins and nerves supplying the scalp with the help of model. ➢ Describe the danger area of the scalp **Skill** ➢ Identify the course of arteries, veins and nerves supplying the scalp with the help of model &	**SGD/ Demo**

	specimen.	
Face	**Knowledge** ➢ Describe the anatomy of muscles of face along with their nerve supply with the help of models. ➢ Describe the course of arteries, veins and nerves supplying the face with the help of model. ➢ Describe the features of facial infections and cavernous sinus thrombosis. **Skill** ➢ Identify the course of arteries, veins and nerves supplying the face with the help of model & specimen.	**SGD/ Demo**
Trigeminal nerve **Facial nerve**	➢ Trace the pathway of trigeminal nerve from nucleus to target organs ➢ Enumerate the divisions of trigeminal nerve ➢ Describe the features of trigeminal neuralgia ➢ Describe the pathway of mandibular nerve from nucleus to target organs ➢ Describe the pathway of maxillary nerve from nucleus to target organs ➢ Describe the lesions of nerves with special reference to infections of molar teeth ➢ Describe the course of facial nerve in face ➢ Enumerate its branches ➢ Discuss the involvement of nuclei of facial nerve in bell palsy ➢ Differentiate between upper and lower motor neuron lesions	**SGD/ Demo**
Salivary gland	**Knowledge** ➢ Enumerate salivary glands ➢ Describe the locations of major salivary glands **Skill** ➢ Trace the secretomotor nerve supply of major salivary glands ➢ Describe the structures involved in parotid infections	**SGD/ Demo**
Temporomandibular joint	**Knowledge** ➢ Name the ligaments of TMJ. ➢ Describe the movements of jaw at TMJ with special reference to axis and muscles producing them. ➢ Describe the clinical signs of anterior dislocation of TMJ and explain the steps of its reduction. **Skill** ➢ Identify the type of TMJ.	**SGD/ Demo**

	➢ Identify the articular surfaces of TMJ on a given model or dry bones.	
Infratemporal region	**Knowledge** ➢ Enlist the structures forming various boundaries of infratemporal fossa. ➢ Enlist the communications of infratemporal fossa and the structures traversing each. ➢ Enumerate the contents of infratemporal fossa. Discuss the relationships of various contents of infratemporal fossa. ➢ Discuss the attachments, actions and nerve supply of muscles of mastication. **Skill** ➢ Identify the location of infratemporal fossa on a given model and skull.	**SGD/ Demo**
Deep cervical fascia	**Knowledge** ➢ Enumerate the layers of deep cervical fascia ➢ Describe the attachments of investing, pretracheal, and prevertebral layers of fascia ➢ Describe the modification of prevertebral layer into axillary sheath ➢ Describe the formation of carotid sheath and its contents ➢ Describe the spaces within fascia ➢ Describe the clinical significance of retropharyngeal space ➢ Describe the relation of layers of fascia and spread of infection ➢ Describe the significance of merging of carotid sheath with pretracheal layer of fascia to prevent spread of infections	**SGD/ Demo**
Neck:	**Knowledge** ➢ Describe the muscles of neck along with their nerve supply with the help of models ➢ Describe the features of torticollis ➢ Enumerate triangles of neck ➢ Describe the muscles forming the boundaries of triangles ➢ Describe the contents of triangles and their importance ➢ Describe the lesions of the spinal accessory nerve in posterior triangle ➢ Enumerate the main vessels in neck & describe the	**SGD/ Demo**

	course and branches of main vessels of neck ➢ Describe the importance of monitoring jugular venous pulse in heart diseases ➢ Enumerate causes of prominence of external jugular vein **Skill** ➢ Trace the course of glossopharyngeal nerve, vagus nerve, accessory nerve and hypoglossal nerve on the given model, from nucleus to target organs. ➢ Enumerate branches of each of the above nerve	
Oral cavity	**Knowledge** ➢ Enumerate the vessels and verves supplying the oral cavity. ➢ Discuss clinical correlations of oral cavity. Identify structures forming the boundaries of oral cavity. Identify structures in the floor of oral cavity with the help of models. **Skill** ➢ Identify the structures forming the boundaries of oral vestibule.	**SGD/ Demo**
Palate	**Knowledge** ➢ Enumerate muscles of soft palate on the model ➢ Enumerate blood supply and nerve supply of soft palate **Skill** ➢ Identify the main features of hard palate and soft palate. ➢ Identify the main muscles forming the palatoglossal and palatopharyngeal arches	**SGD/ Demo**
Tongue	**Knowledge** ➢ Describe the gross features of parts of tongue ➢ Describe the blood supply, nerve supply, lymphatic drainage of tongue ➢ Describe the movements of tongue	**SGD/ Demo**
Pharynx	**Knowledge** ➢ Describe the following parts of pharynx on the given model • Oropharynx • Nasopharynx • Laryngopharynx ➢ Describe muscles of pharynx ➢ Describe lymphoid tissue in the pharynx ➢ Describe the importance of structures passing	**SGD/ Demo**

	through the spaces between muscles of pharynx while performing tonsillectomy ➢ Describe spread of infections from nasopharynx to middle ear ➢ Enumerate the main nerves in neck **Skill** ➢ Trace the course of glossopharyngeal nerve, vagus nerve, accessory nerve and hypoglossal nerve on the given model, from nucleus to target organs. ➢ Enumerate branches of each of the above nerve	
Lymphatic drainage of Head & Neck	**Knowledge** ➢ Enumerate the groups of lymph of 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 head and neck	**SGD/ Demo**
Larynx	**Knowledge** ➢ Explain the gross features of inlet of larynx, piriform fossa, laryngeal folds, cavity of larynx ➢ Correlate the laryngeal anatomy to foreign bodies aspiration ➢ Explain the gross features of intrinsic muscles of larynx, extrinsic muscles of larynx, movements of vocal folds ➢ Describe the cartilage involvement in fractures of the laryngeal skeleton **Skill** ➢ Identify the gross features of • cartilages of larynx • membranes of larynx • Trace the course of following nerves of larynx • Internal laryngeal nerve • External laryngeal nerve • Inferior laryngeal nerve	**SGD/ Demo**
Ear **Vestibulo-cochlear nerve**	**Knowledge** ➢ Describe the gross anatomical features of external ear Auricle External auditory meatus ➢ Describe the blood supply, nerve supply and lymphatic drainage of external ear. ➢ Correlate the significance of straightening the auditory canal during clinical examination with the	**SGD/ Demo**

	anatomical structure of canal. ➢ Describe the gross anatomical features of middle ear ➢ Describe the structures forming the walls of middle ear cavity on the given model ➢ Describe the contents of middle ear cavity **Skill** ➢ Identify the parts of ear ossicles on the given model **Knowledge** ➢ Describe the muscles present in middle ear cavity ➢ Describe the gross features of auditory tube ➢ Describe the nerve supply of auditory tube ➢ Discuss the clinical coorelates related with ear **Skill** ➢ Identify the parts of bony labyrinth on the given model ➢ Identify the parts of membranous labyrinth on the given model ➢ Identify the parts of cochlea of semi-circular canal on the given model. **Knowledge** ➢ Describe the gross features of bony labyrinth ➢ Describe the gross features of membranous labyrinth ➢ Describe the orientation of semicircular canals and ducts within the inner ear ➢ Describe the gross features of internal acoustic meatus ➢ Describe anatomical structures involved in perforation of tympanic membrane ➢ Discuss the consequences of damage to vestibulocochlear nerve **Skill** ➢ Trace the course of vestibulocochlear nerve in the inner ear on the given model ➢ Identify the area of supply of vestibular nerve on the given model ➢ Identify the area of supply of cochlear nerve ➢ Identify the gross features of vestibulocochlear ganglion on model	
Orbit **Extraoccular muscles** **Occulomoto**	**Knowledge** ➢ Describe the bony orbit ➢ Enlist the structures present in the orbit ➢ Describe gross features of eye lids ➢ Describe the attachment of muscles of eyelid	**SGD/ Demo**

r, Trochlear & Abducent nerves	➢ Describe the attachment of orbital septum ➢ Describe the distribution of Blood Vessels and Lymph Vessels of the Orbit ➢ Describe the anatomical structures involved Inflammation of the Palpebral Glands ➢ Describe the extraocular muscles of eye ➢ Describe the movements of eyeball ➢ Correlate the anatomical lesions in nuclei of nerve supplying the extraocular muscles with the loss of function in muscles ➢ Describe the origin course and distribution of occulomotor, trochlear and abducent nerves.	
Lacrimal apparatus	**Knowledge** ➢ Enumerate the structures forming lacrimal apparatus ➢ Describe the gross features of each part of lacrimal apparatus ➢ Describe the nerve supply of lacrimal apparatus ➢ Discuss its clinical applied.	**SGD/ Demo**
Eyeball **Optic nerve**	**Knowledge** ➢ Describe the coats and parts of eyeball and discuss the blood supply and verve supply of eyeball ➢ Describe the formation of olfactory bulb and optic tract **Skill** ➢ Trace the pathway of optic nerve from nucleus to target organs	**SGD/ Demo**
Nose **Olfactory nerve**	**Knowledge** ➢ Describe the structure of external nose and nasal cavity ➢ Describe the concha and meatus in the lateral wall ➢ Enumerate the sinuses opening in them ➢ Discuss anatomical structures involved in nasal fractures ➢ Correlate the anatomical structure of nasal mucosa with clinical manifestations of rhinitis **Skill** ➢ Trace the pathway of Olfactory nerve form nucleus to target organs on a model	**SGD/ Demo**
Paranasal sinuses	**Knowledge** ➢ Describe the gross features of paranasal sinuses ➢ Describe infections of sinuses ➢ Describe the Drainage of mucus in relation to sinusitis	**SGD/ Demo**

	➢ Describe the Function of Paranasal Sinuses ➢ Discuss the anatomical structures involved in sinusitis with special reference to clinical consequences of infections of the ethmoidal cells of the ethmoidal sinuses	
Cranial nerves	**Knowledge** ➢ Discuss the intracranial and extra cranial course of all cranial nerves ➢ Discuss clinical correlations and examination of all cranial nerves.	**SGD/ Demo**
Imaging of Head & Neck	**Skill** ➢ Identify the bones forming skeleton of head on radiograph ➢ Identify boundaries of orbit &paranasal sinuses on radiograph	**SGD/ Demo**
Surface Marking	**Skill** ➢ Mark the main vessels of head & neck on the given subject	**SGD/ Demo**

Brain & Neuroanatomy

Topic	**Learning Objectives** Students should be able to:	**MIT (Mode of information transfer)**
Introduction to Nervous System	**Knowledge** ➢ Describe the divisions of the nervous system and their components and briefly describe how they function. ➢ Enumerate structures within spinal and cranial cavities ➢ Define ventricles and CSF. ➢ Define coverings of brain and spinal cord.	**SGD(Small group discussion)/ Demo**
Meninges & venous sinuses of Brain	**Knowledge** ➢ Identify meninges of brain on the given model ➢ Describe the dural reflections with special emphasis on tentorium cerebelli and falx cerebri. ➢ Explain the features of spaces within meninges ➢ Define Meningitis ➢ Explain the structures encountered during lumbar puncture ➢ Enumerate the nerves and blood vessels supplying the meninges.	**SGD/ Demo**

	➢ Describe the attachments of meninges with the help of dissection ➢ Demonstrate the supratentorial and infratentorial compartments of tentorium cerebelli with the help of dissection. ➢ Describe the extradural and subdural hematoma. ➢ Explain the attachments of dural venous sinuses of brain with the help of diagrams ➢ Describe the important relations with the help of diagrams ➢ Discuss the importance of facial vein connection with dural venous sinuses.	
Structure of spinal cord, ascending & descending tracts of spinal cord	**Knowledge** ➢ Describe the structure of spinal cord ➢ Describe the structure of gray matter and white matter in spinal cord. ➢ Enumerate the major ascending and descending tracts of spinal cords Describe the pathways for superficial and deep sensations. ➢ Describe the effects of lesions of section of spinal cord ➢ Outline the pathways of voluntary movements ➢ Describe the location of first ,second and third order neurons	**SGD/ Demo**
Structure of Brainstem	**Knowledge** ➢ Describe gross features of medulla on a given model ➢ Describe the internal structure of medulla with the help of different cross sections ➢ Correlate the significance of raised pressure in posterior cranial fossa to its effects on medulla oblongata ➢ Discuss nuclei of cranial nerves present in medulla. ➢ Describe clinical correlations of medulla ➢ Explain the internal structure of Pons with cross sections at different levels ➢ Discuss nuclei of cranial nerves lying in pons ➢ Discuss the anatomical structures involved in Pontine hemorrhage ➢ Describe the internal structure of midbrain with cross sections at different levels ➢ Discuss nuclei of cranial nerves lying in midbrain. ➢ Enumerate the clinical consequences of trauma to midbrain	**SGD/ Demo**

	Skill ➢ Identify the gross features of medulla, pons & midbrain on a given model & specimen.	
Cerebellum	**Knowledge** ➢ Describe the gross features of cerebellum on the given model ➢ Explain the cerebellar nuclei and their connection with other parts of brain. afferent fibers and efferent fibers ➢ Discuss the effect of lesions of cerebellum on voluntary movements	**SGD/ Demo**
Cerebrum	**Knowledge** ➢ Correlate the anatomical lesions of nuclei of thalamus and hypothalamus with the clinical conditions like diabetes inspidus and obesity ➢ Describe the features of telencephalon & diencephalon parts of following on a given model. **Skill** ➢ Identify the gross features of thalamus & hypothalamus.	**SGD/ Demo**
Reticular formation & limbic system	**Knowledge** ➢ Discuss reticular formation and its afferent and efferent projections ➢ Describe functions of reticular formation ➢ Discuss components of limbic system ➢ Discuss connecting pathways of the limbic system ➢ Discuss afferent and efferent pathways of hippocampus ➢ Discuss clinical correlations of reticular formation and limbic system	**SGD/ Demo**
Basal nuclei	**Knowledge** ➢ Discuss corpus striatum and its nuclei ➢ Discuss their connections, direct and indirect pathway ➢ Discuss clinical correlations of basal nuclei ➢ Discuss parkinsonism in detail	**SGD/ Demo**
Cerbrum	**Knowledge** ➢ Describe the gross features of the lobes of cerebrum. ➢ Explain the phenomenon of cerebral dominance ➢ Discuss clinical correlations of cerebral cortex ➢ Discuss the effects of lesions in the Motor cortex on voluntary movements and speech. ➢ Discuss the effect of lesion in the Frontal eye field in	**SGD/ Demo**

	relation to personality change. Classify the cerebral fibers of according to their connections. ➢ Describe the fibers present in the brain. ➢ Explain the effects of lesions of different parts of internal capsule **Skill** ➢ Identify the main sulci and gyri of cerebral hemispheres on the given model ➢ Identify the location of major sensory and motor areas within specific lobes with the help of dissection ➢ Identify the major sensory and motor areas of cortex with the help of dissection	
Blood supply of brainstem, spinal cord & cerebrum	**Knowledge** ➢ Describe the blood supply of different parts of brain ➢ Explain the formation and importance of circle of Willis with diagram ➢ Describe the blood supply of different parts of cerebrum	**SGD/ Demo**
Imaging of CNS	**Knowledge & Skill** ➢ Describe the appearance of different parts of brain in ➢ Normal radiographs ➢ MRI ➢ CT scan	**SGD/ Demo**
Ventricles of brain	**Knowledge** ➢ Enumerate ventricles of brain ➢ Describe the relations and boundaries of each ventricle ➢ Describe the formation of choroid plexus ➢ Explain the process of production and absorption of CSF by arachnoid villi ➢ Explain the causes of overproduction and blockage of CSF ➢ Enumerate the varieties of hydrocephalus	**SGD/ Demo**

Abdomen & Pelvis

Topic	Learning Objectives Students should be able to:	MIT (Mode of information transfer)
Division of abdomen into regions and quadrants and their contents	**Knowledge** ➢ Describe the Division of abdomen into regions and quadrants ➢ Enlist the contents of abdominal regions.	**SGD(Small group discussion)/ Demo**
Anterior abdominal wall	**Knowledge** ➢ Describe the details of anterior abdominal wall. ➢ Identify the layers of abdominal wall. ➢ Identify the superficial and deep fascia and muscles of abdominal wall. ➢ Describe the formation of rectus sheath and its importance.	
Nerves of abdomen	**Knowledge** ➢ Describe nerve supply of anterior and posterior abdominal wall. ➢ Identify & create a visual representation of nerves supplying the abdomen. ➢ Sequence and categorize information on the segmental sympathetic supplies and referred pain. ➢ Explain the basic structure of paravertebral plexuses. ➢ Describe somatic nervous supply of abdomen	
Inguinal Canal	**Knowledge** ➢ Describe Walls of Inguinal Canal ➢ Describe Deep Inguinal Ring & Superficial Inguinal Ring ➢ Enlist Coverings of spermatic cord ➢ Explain Mechanics of the inguinal Canal ➢ Define hernia and describe its types ➢ Discuss Direct & indirect Inguinal Hernia ➢ Discuss Surface marking of inguinal canal **Skill** ➢ Identify Structures passing through inguinal canal	

Peritoneal Cavity & Peritoneal Relationships	**Knowledge** ➢ Define peritoneum ➢ Understand the different folds of peritoneum, i.e., peritoneal ligaments, omenta and mesenteries. ➢ Discuss the pouches, recesses and gutters formed by peritoneal enfoldings ➢ Describe greater and lesser sacs ➢ Enlist the intraperitoneal and retroperitoneal viscera ➢ Discuss vertical tracings of peritoneum. Describe arrangement of peritoneum in transverse section of male pelvis ➢ Describe arrangement of peritoneum in transverse section of female pelvis ➢ Discuss nerve supply of peritoneum ➢ Discuss clinical correlates of peritoneum including peritoneal infection, peritoneal pain. ➢ Discuss the clinical importance of peritoneal cavity as dialyzing chamber	
Posterior Abdominal Wall	**Knowledge** ➢ Describe muscles of posterior abdominal wall. **Skill** ➢ Identify structures forming posterior abdominal wall. ➢ Identify attachments of lumber fascia	
Lymphatic Drainage of Abdomen	**Knowledge** ➢ Name the lymph nodes draining the abdomen ➢ Enlist the lymphatics draining the abdominal wall & the abdominal viscera. ➢ Describe the lymphatic trunks, cisterna chili & the thoracic duct. **Skill** ➢ Identify the terminal group of lymph nodes around abdominal aorta	
Lumbar Vertebrae	**Knowledge** ➢ Explain general characteristics of lumbar vertebrae including body and arch of lumbar vertebrae ➢ Describe processes like superior and inferior articular, transverse, spinous, mammillary accessory processes ➢ Describe first lumbar vertebra & fifth lumbar vertebra	

	➢ Discuss lumbar spinal stenosis	
Esophagus (abdominal part), stomach	**Knowledge** ➢ Explain gross features of abdominal part of esophagus & stomach. ➢ Name their peritoneal & visceral relations. ➢ Explain their blood supply, lymphatic drainage & nerve supply ➢ Describe achalasia, GERD and esophageal varices. ➢ Discuss gastric ulcer and its perforation, cancer of stomach and its lymphatic spread.	
Duodenum and pancreas	**Knowledge** ➢ Describe four parts of duodenum ➢ Give their blood supply and venous drainage **Skill** ➢ Identify duodenum ➢ Identify the relations of different parts of duodenum	
Small Intestine & large intestine (comparison of two)	**Knowledge** ➢ Describe the basic anatomy of small &large intestine ➢ Explain the basic gross features which differentiate large intestine from small intestine **Skill** ➢ Identify the important gross features of large intestine ➢ Identify the appendix on the basis of its distinguished features **Knowledge** ➢ Give relations of small and large intestine. ➢ Describe the characteristics of ano-rectal regions ➢ Discuss the blood supply, nerve supply and venous and lymphatic drainage of small and large intestine. ➢ Discuss clinical correlates of small and large intestines and appendix ➢ Discuss meckels diverticulum, resection of different parts of gut and its clinical effect ➢ Discuss clinical problems occurring due to occlusion of GIT blood vessels	**SGD(Small group discussion)/ Demo**
Blood supply of Abdomen	**Knowledge** ➢ Describe the position and the vertebral levels of	**SGD/ Demo**

	aorta in the abdomen. ➢ Enlist the main branches of the aorta and their territories. ➢ Explain the applied anatomy of the aorta. ➢ Describe the formation of inferior vena cava ➢ Enlist the tributaries of inferior vena cava ➢ Explain abdominal and thoracic relations of this vein ➢ Discuss clinical importance of inferior vena cava.	
Liver , Gall bladder and biliary tract	**Knowledge** ➢ Describe the anatomical structure of liver. ➢ Discuss its relations ➢ Give its blood supply lymph drainage and nerve supply ➢ Discuss its clinical correlations ➢ Describe the location, size, relation and blood supply of gallbladder ➢ Explain differences between Intra & Extra Hepatic Biliary Systems ➢ List different components of Extra-hepatic biliary System **Skill** ➢ Identify lobes, surfaces and ligaments of liver. ➢ Identify bare area of liver on a model of liver. ➢ Identify the right & left hepatic ducts, common hepatic duct, cystic ducts, bile duct **Knowledge** ➢ Describe clinical conditions related to gallbladder ➢ Describe the hepatic portal circulation. ➢ Explain the anatomy of hepatic vein. ➢ Describe the Portal -Caval anastomosis. ➢ Explain the clinical correlation of hepatic portal system	**SGD/ Demo**
Kidney	**Knowledge** ➢ Describe the gross features of kidney and its coverings ➢ Differentiate the anterior and posterior surfaces and relations of kidney. ➢ Describe the blood Supply of Kidney ➢ Describe the Lymph nodes draining the kidney ➢ Explain the Nerve supply of Kidney ➢ Describe the course constrictions and relations of ureter	**SGD/ Demo**

	➢ Discuss the blood supply and venous drainage of ureter. ➢ Give location and description of suprarenal glands ➢ Discuss their gross features and relations ➢ Discuss their blood supply lymph drainage and nerve supply ➢ Give clinical correlations of kidney ureter and suprarenal glands **Skill** ➢ Identify the internal structure of kidney ➢ Identify ureter, urinary bladder and urethra	
Surface Marking	**Skill** ➢ Identify surface marking of stomach, spleen, liver, gall bladder, kidney & appendicular orifice. ➢ Identify the surface anatomy of kidney, ureter & urinary bladder. ➢ Perform the Surface anatomy of the kidney on human bony landmarks	**SGD/ Demo**
Pelvis Bones and joints	**Knowledge** ➢ Define bony pelvis, true and false pelvis ➢ Describe surfaces of sacrum. ➢ Explain articulation. ➢ Differentiate between male and female sacrum. ➢ Enlist various types of joints of pelvis. ➢ Explain type, articulations, ligaments and relations of joints. ➢ Enlist factors providing stability to joint. ➢ Describe blood supply , nerve supply & movements of joint ➢ Differentiate the greater & lesser pelvis. ➢ Describe the superior & inferior circumference and their boundaries. ➢ Describe the anatomical position of pelvis. ➢ Differentiate the shapes of female pelvis regarding childbirth. ➢ Differentiate between male & female pelvis. **Skill** ➢ Identify muscles associated with sacrum.	**SGD/ Demo**
Pelvic diaphragm Vessels and nerve supply	**Knowledge** ➢ Describe the anatomy of the pelvic walls. ➢ Discuss the muscles of pelvic floor and formation of pelvic diaphragm	**SGD/ Demo**

of pelvis	➢ Develop an understanding of blood supply, nerve supply, and lymphatic drainage of muscles. ➢ Describe actions of pelvic diaphragm ➢ Describe Sacral plexus. ➢ Identify coccygeal plexus. ➢ Describe pelvic hypogastric plexus. ➢ Discuss main arteries of pelvis common iliac artery external iliac artery internal iliac artery arteries of true pelvis. ➢ Describe main veins of the pelvis and their tributaries. ➢ Describe different groups of lymph nodes. ➢ Explain the role of lymphatics and common route and spread of malignancies of pelvis. **Skill** ➢ Identify pelvic nerves. ➢ Identify area of drainage of these veins.	
Sigmoid colon & rectum	**Knowledge** ➢ Describe sigmoid colon. ➢ Describe rectum. ➢ Explain relations, blood supply and innervation of these pelvic organs ➢ Discuss their important clinical correlations	**SGD/ Demo**
Urinary bladder	**Knowledge** ➢ Discuss urinary bladder, its peritoneal covering and internal structure ➢ Discuss blood supply venous drainage and lymph drainage of urinary bladder ➢ Describe nerve supply and mechanism of micturition ➢ Discuss clinical correlates of urinary bladder including urinary retention, difficulty with micturition after spinal cord injury, bladder injuries	**SGD/ Demo**
Male genital organs	**Knowledge** ➢ Explain male genital organs, their structure, position, function and important relations ➢ Discuss vas deferens, seminal vesicle, and ejaculatory ducts ➢ Give their blood supply and lymphatic drainage ➢ Discuss prostate, its lobes and its relations ➢ Describe its blood supply and lymphatic drainage ➢ Discuss its clinical correlates including benign	**SGD/ Demo**

	prostatic hyperplasia and CA prostate.	
Ovaries, fallopian tube & uterus	**Knowledge** ➢ Enumerate the clinical correlates of ovaries and uterine tubes. ➢ Explain the details of uterus, cervix and vagina. ➢ Enumerate the parts of uterus, ligaments, relations and support of uterus. ➢ Discuss the role of uterus in labour **Skill** ➢ Identify ovaries and fallopian tubes. ➢ Describe the parts of ovaries and fallopian tubes. ➢ Identify the ligaments of ovaries ➢ Identify the clinical correlates of uterus, cervix and vagina	**SGD/ Demo**
Perineum	**Knowledge** ➢ Describe divisions of the perineum. ➢ Explain superficial and deep perineal pouch and their contents ➢ Explain cutaneous nerves of the perineum. ➢ Define perineal body. **Skill** ➢ Identify borders and relations of the perineum.	**SGD/ Demo**
Anal canal	**Knowledge** ➢ Explain the gross anatomy of Anal Canal ➢ Describe the blood supply, venous and lymphatic drainage of anal canal. ➢ Explain innervations of anal canal. ➢ Discuss clinical conditions of anal canal. ➢ Describe hemorrhoids and their types ➢ Discuss perianal hematoma, fissure, abscess and fistula ➢ Discuss incontinence after trauma and spinal cord injury **Skill** ➢ Identify the relations of the anal canal with the surrounding structures.	**SGD/ Demo**
Ischiorectal fossa	**Knowledge** ➢ Describe the contents of ischiorectal fossa ➢ Describe ischiorectal fossa infection **Skill** ➢ Identify the boundaries and recessess of ischiorectal fossa	**SGD/ Demo**
Testis	**Knowledge**	**SGD/ Demo**

	➢ Describe the coverings of testis. ➢ Recognize the internal features of testis. ➢ Explain the significance of pampiniform plexus. ➢ Justify the location of testis outside the body ➢ Integrate the knowledge of descent of testis to its vessels, lymphatics and nerves. ➢ Recall the different clinical conditions associated with testis.	
Male Urogenital Organ	**Knowledge** ➢ Describe gross anatomy of male external genitalia. ➢ Describe the gross structure of penis ➢ Explain its arterial, venous drainage & nerve supply. ➢ Describe scrotum and its walls ➢ Discuss its blood supply and lymphatic drainage ➢ Describe the nerve supply of anterior and posterior walls of scrotum. ➢ Explain anatomy of male urethra, its arterial, venous drainage & nerve supply. ➢ Discuss injury to different parts of male urethera and extravastion of urine	**SGD/ Demo**
Female Urogenital Organ	**Knowledge** ➢ Enlist the names and anatomical location of female external genitalia. ➢ Explain function, arterial supply, venous drainage and nerve supply of female external genitalia. ➢ Discuss clinical importance of female external genitalia. ➢ Explain course & relations of female urethra. ➢ Describe arterial supply, venous drainage and nerve supply of female urethra. ➢ Discuss clinical importance of female urethra.	**SGD/ Demo**

ASSESSMENT PLAN 2nd YEAR MBBS ANATOMY DEPARTMENT SMDC, LAHORE

Following modes of assessment are planned for 2nd year MBBS class in the subject of Anatomy. This plan has been designed keeping in view the university curriculum and hopefully will facilitate the students in preparing for 1st professional examinations in the subject.

Component Tests:

These will be conducted at the completion of every Component (/Embryology/Histology). The test will comprise of MCQs and SEQs on the pattern of university examinations.

Gross Anatomy Region Tests:

Gross Anatomy Regions are subdivided into substages followed by a final stage. The substages and stage will comprise of MCQs, SEQs, OSPE & Viva on the pattern of university examinations.

Practical OSPE Tests:

In order to prepare the students for practical examinations at least two OSPE tests will be conducted on the pattern of university examinations.

Pre-annual Exam:

This will be undertaken in coordination with other departments, exactly following the format of university professional examinations. It will comprise of MCQs, SEQs, OSPE and Viva voce.

Internal Assessment:

Internal assessment will be calculated out of 20 on the basis of all the tests that will be conducted throughout the year.

STAFF CONTACTS ANATOMY DEPARTMENT

Sr. No.	Name	Email address
1.	Prof. Dr. NausheenRaza	nausheen410@gmail.com
2.	Prof. Dr. TasneemRaza	asnimaamerraza@gmail.com
3	Dr. AmmaraGhafoor	nabeeha.shahid1507@gmail.com
4	Dr. Nadia Ahmad	diaejaz_74@hotmail.com
5	Dr. QirratHameed	qirrat55@gmail.com
6	Dr. SyedaAbeerZaki	abeerzaki@gmail.com
7	Dr. MamoonaShaukat	monausman25@gmail.com

PRESCRIBED TEXT BOOKS & REFERENCES

RECOMMENDED BOOKS (Latest Edition):

1. Medical Histology by Prof. LaiqHussainSiddiqui
2. Cunningham's Clinical Dissector
3. Di-Fiore Atlas of Histology
4. Clinically Oriented Embryology by Keith L Moore
5. Clinically Oriented Anatomy by Keith Moore.
6. Cunningham's Manual of Practical Anatomy by G.J. Romanes, 15th Ed., Vol-I, II.

REFERENCE BOOKS

1. Clinical Anatomy by Snell.
2. Grant's Dissector of Anatomy.
3. Wheater's Functional Histology
4. Basic histology by Junqueira and Carniero
5. Grant's Atlas of Anatomy