**SYLLABUS FOR FIRST PROFESSIONAL M.B.B.S. IN ANATOMY**

**In accordance with**

**COMPETENCY BASED UNDERGRADUATE CURRICULUM FOR THE INDIAN MEDICAL GRADUATE 2018**

**Teaching Schedule**

**Lecture Classes- 170 HOURS** (each class of 1 hour duration)

**Dissection/Demonstration Classes- 420 HOURS** (210 classes each of 2 hours duration)

**Histology Classes- 54 HOURS**

**Revision Classes- 22 HOURS**

**Total- 644 HOURS**

**Small Group Discussion**

**DOAP Sessions (Demonstration-Observation-Assistance-Performance)**

**Skill Assessment- Written/Practical/Viva**

1. **INTRODUCTION**

Lecture classes- 2 (DOAP session and skill assessment session)

1. Anatomy- Nomenclature, terminology, significance, subdivisions (1)
2. Skin and subcutaneous tissue (1)

(Integration with Dermatology, Venereology , Leprosy and General Surgery)

1. **GENERAL ANATOMY**

Lecture classes- 22

1. Introduction, cellular organelles, cell membrane (4)
2. Connective tissue (3)
3. Sclerous tissue with ossification (3)

(Integration with Orthopaedics)

1. Joints (2)

(Integration with Orthopaedics)

1. Muscle tissue with ultrastructures (2)

(Integration with Orthopaedics)

1. Nerve tissue including introduction to ANS (5)

(Integration with Orthopaedics,General Surgery,Physiology)

1. Blood vascular and lymphatic system (3)

(Integration with Physiology, Pathology, Medicine and General Surgery)

Histology classes- 12

1. Introduction, different types of microscopes, specifically compound light microscope.
2. Tissue preparation and H&E Staining procedure- Outline
3. Epithelial tissue- types, glandular tissue
4. Cartilage- types
5. Bones- types, with Haversian System
6. Muscle- types

General Anatomy - Lecture classes, Histology classes, DOAP sessions, Assessment sessions

1. **GENERAL EMBRYOLOGY**

Lecture classes- 16

Integration with Obstetrics and Gynaecology

1. Germ cells and their maturation (2)
2. Reproductive organs- changes at puberty and in pregnancy, menstrual cycle, contraception (3)
3. Fertilisation, Implantation, Trophoblast, Yolk Sac, Gastrulation, Extra embryonic coelome

Notochord, Neuro enteric canal, Intra embryonic mesoderm (3)

1. Decidua, Chorion, Yolk Sac, Connecting stalk (1)
2. Placenta, Umbilical Cord, amniotic cavity and foetal circulation (3)
3. Derivatives of Ectoderm, Endoderm, Mesoderm (1)
4. Multiple and ectopic gestation, H. mole, placental abnormalities (2)
5. Teratology (1)

Areas for integrated teaching- Birth control methods- Anatomical basis

Congenital anomalies- Anatomical basis

Departments to be involved- Gynaecology and Obstetrics, Surgery, Paediatrics, Medicine, Neurology, Physiology

1. **MEDICAL GENETICS**

Lecture classes- 5

DNA, RNA, Protein synthesis, Chromosomes, cell division, Karyotyping, chromosomal abnormalities, common genetic diseases.

Integrated teaching with Gynaecology and Obstetrics, Surgery, Paediatrics, Medicine, Neurology, Physiology

Assessment Methods- DOAP/Written/Viva

1. **SUPERIOR EXTREMITY**

Lecture classes- 17

1. Limb buds and dermatomes (1)
2. Venous drainage and axillary lymph. Nodes (2)
3. Mammary gland with Applied Anatomy (2)
4. Brachial Plexus with Applied Anatomy (4)
5. Shoulder joint with girdle movement (2)
6. Elbow, Radio Ulnar joint and wrist joint (3)
7. Small joints of hand, 1st carpometacarpal joint (2)
8. Fascial spaces of hand with carpal tunnel (1)

Integration with Surgery, Orthopaedics, Radiodiagnosis

Dissection/Demonstration (Osteology) classes- 30 [August-September]

1. Bones of upper limb (7)

(Integration with FMT and Radio diagnosis)

1. Clavipectoral fascia and mammary gland (2)
2. Axilla (3)
3. Cubital fosa (1)
4. Front of arm (1)
5. Front of forearm with palm (3)
6. Back of arm, scapular region (3)
7. Back of forearm with dorsum of hand (3)
8. Shoulder joint (1)
9. Elbow , radioulnar and wrist joints (2)
10. Small joints of hand (1)
11. Radiology and surface markings (2)

(Integration with FMT and Radio diagnosis)

1. Part completion (Assessment method) (1)
2. **INFERIOR EXTRMITY**

Lecture classes-11

1. Venous and lymphatic drainage with applied importance (2)
2. Femoral triangle, femoral sheath, with hernia (1)
3. Hip joint with Applied Anatomy (2)
4. Knee joint with Applied Anatomy (2)
5. Ankle joint, joints of foot and mechanisms of the foot (4)

Integrated with Surgery, Orthopaedics, Radiodiagnosis and FMT

Dissection/Demonstration classes- 28 [September-October]

1. Bones of lower limb, skeleton of foot (8)
2. Femoral triangle, adductor region, quadriceps (4)
3. Anterolateral compartment of leg with dorsum of foot (3)
4. Gluteal region (2)
5. Popliteal Fossa (2)
6. Back of thigh (1)
7. Back of leg (1)
8. Sole (prosection) (1)
9. Hip joint (1), Knee joint (1), Joints of foot and ankle joint (1)
10. Surface marking and Radiology (2)
11. Assessment (Part completion) (1)

1. **ABDOMEN**

Lecture classes- 30 (18+12 embryology)

1. Ingunial canal, Ingunial Hernia, Umbilicus with Clinical Anatomy (2)
2. Peritoneum including recess (with development) (2)
3. Structure of Liver and Biliary apparatus (intra and extra hepatic) (3)
4. Portal vein and Porta Caval anastomosis (1)
5. Pelvic diaphragm, perineum (3)
6. Spleen- structure and splenic circulation (1)
7. Structure and blood supply of Kidney (3)
8. Nerve supply of bladder, mechanism of micturition (1)
9. Internal iliac artery and its branches (1)
10. Lymphatics of abdomen and pelvis (1)
11. Development of GI tract, liver, pancreas with anomalies (5)
12. Development of genitor urinary system (7)

Integrated with General Surgery, Obstetrics and Gynaecology, Radiodignosis

Dissection/Demonstration classes- 58 [November-January]

Integrated with Surgery, Obstetrics and Gynaecology, Radiodiagnosis

1. Vertebral column, bony pelvis- Applied Anatomy (9)
2. Ingunial region, male external genitalia (4)
3. Rectus sheath, anterolateral abdominal wall (2)
4. Peritoneum with visceral disposition (2)
5. Abdominal aorta- ventral branches, celiac trunk (2)
6. Posterior abdominal wall with Lumbar Plexus (2)
7. Dissection of pelvic wall with internal iliac arteries (2) Total= [23 classes]
8. Stomach (2)
9. Liver with biliary apparatus (3)
10. Duodenum, pancreas, spleen (2)
11. Small gut with The mesentery (2)
12. Large gut (upto iliac colon) (2)
13. Sigmoid colon, rectum and anal canal (2)
14. Kidney, ureter, suprarenal gland (3)
15. Urinary bladder, prostate, male urethra, seminal vesical, vas (4)
16. Perineum (prosected) (2)
17. Broad ligament , fallopian tube, ovary (3)
18. Uterus, vagina, female external genitalia, placenta (3)
19. Sectional anatomy at TPP level, at L3 level male and female pelvis, coronal and sagittal section (4)
20. Surface marking (1)
21. Radiology (1)
22. Part completion (1) Total = 35 classes

Histology classes

Integrated with Surgery, Obstetrics and Gynaecology

1. General plan of GI tract and oesophagus
2. Stomach
3. Small gut and duodenum
4. Large gut and Vermiform . Appendix
5. Liver
6. Salivary glands and tongue
7. Pancreas and Thyroid
8. Suprarenal glands
9. Testis and ovary
10. Kidney
11. Ureter and urinary bladder
12. Lymp Nodes and palatine tonsil
13. Spleen
14. Uterus and fallopian tube
15. Vas deferens and prostate
16. Thymus
17. Placenta and umbilical cord
18. **THORAX**

Lecture classes- 17 (including development)

1. Thorax- Mechanism of respiration (2)
2. Oesophagus, thoracic duet (1)
3. Blood supply of the heart (2)
4. Conducting system of heart (1)
5. Microanatomy of lungs and bronchial tree (3)
6. Development of CVS and diaphragm (8)

Integrated with Physiology, General Medicine and General Surgery

Histology class (1)- Trachea and lungs

Dissection and Demonstration classes- 23 [February]

1. Ribs and sternum (3)
2. Anterior chest wall, intercostals spaces and removal of lungs (2)
3. Mediastinum (subdivision and contents, roots of lungs , arch of aorta, vagus and phrenic nerves, ligamentum arteriosum, oesophagus, thoracic duct) (2)
4. Pericardium with heart in situ (Transverse and oblique sinuses) (5)
5. Posterior thoracic wall (Azygos venous system with arch of azygos vein, splanchnic nerves) (2)
6. Lunga, pleura, trachea and bronchial tree (4)
7. The diaphragm (1)
8. Cross section study at T3/T4 and T6/T7 levels (1)
9. Radiology and surface markings (2)
10. Assessment (part completion) (1)
11. **HEAD & NECK**

Lecture classes- 30 (including development)

1. Deep cervical fascia, carotid sheath, applied importance (2)
2. 3rd, 4th, 6th cranial nerves (2)
3. 5th cranial nerve (3)
4. 7th cranial nerve (2)
5. 10th, 11th, 12th cranial nerves (2)
6. Middle ear cavity (2)
7. Orbit (mainly extra ocular muscles) (2)
8. Cranio-vertebral joints (1)
9. Intervertebral joints (1)
10. Cervical lymph nodes (1)
11. Pituitary gland with its development (2)
12. T.M. joint and infratemporal fossa (2)
13. Dural venous sinuses (2)
14. Branchial apparatus, development of face, palate, mouth, nose, tongue (6)

Histology- 1. Thyroid 2. Palatine tonsil

Integrated with General Surgery, Opthalmology and ENT, Radiodiagnosis

Demonstration and Dissection classes- 45 [April to June]

1. Skull- individual bones, various norma, mandible, hyoid (11)
2. Scalp, face, lacrimal apparatus, parotid region (4)
3. Dural venous sinuses, Meninges (2)
4. Posterior triangle (2)
5. Anterior angle (3)
6. Suboccipital triangle (prosected) (1)
7. Submandibular region (2)
8. Cranial fossa and orbit (2)
9. Prevertebral region (1)
10. Thyroid and parathyroid (1)
11. Sagittal section of H&N, nose and nasal septum, tongue and oral cavity, pharynx, tonsil, palate, larynx (8)
12. Kidney from back (2)
13. Radiology and surface markings (2)
14. Assessment (Part completion) (1)

1. **CNS & EYEBALL**

Lecture classes- 20 (including development)

1. Introduction, CNS development, general neural arrangement (2)
2. Spinal cord with internal organisation (3)
3. Cerebellum (2)
4. CSF, subarachnoid cisterns (2)
5. Organisation of cerebral cortex (1)
6. White fibres of brain (2)
7. Limbic system with olfactory pathways (2)
8. Blood supply of brain (3)
9. Visual and auditory pathways (3)

Histology- Cerebellum and spinal cord

Integrated with Physiology, Medicine, Opthalmology, General Surgery, ENT

Dissection and Demonstration classes- 26 [March- April]

1. Spinal cord- gross anatomy with blood supply (3)
2. Brain stem- gross anatomy with exit of cranial nerves (3)
3. Cerebellum with 4th ventricle (2)
4. Cerebrum- gross anatomy with sulci and gyri, subarachnoid cisterns and blood supply (3)
5. 3rd ventricle, basal ganglia, thalamus and diencephalon (3)
6. Transverse section with internal capsule (2)
7. Sagittal section (2)
8. Lateral ventricle (2)
9. Fornix with rhinencephalon (1)
10. Eyeball (4)
11. Assessment (part completion) (1)