SYLLABUS OF

FINAL PROFESSIONAL

M.B.B.S.

(A). SURGERY

(B). MEDICINE

(C). OBSTETRICS

(D). GYNAECOLOGY

(E). PAEDIATRICS

(A) SURGERY

Distribution of Subjects:

Paper I: General Surgery, Surgical Anatomy, Principles of Anaesthesia, Principles of Radiology, Principles of Radiotherapy and Chemotherapy.

Paper II: **Systematic and Operative Surgery:** Musculoskeletal system, GIT, Renal system, Male and female reproductive system, Head and Neck, Thorax, Breast, Nervous system, Cardiovascular System, Orthopaedics and Traumatology.

The course outline is as follows :

Systems and the Diseases:

Head, Face and Neck

1. Developmental abnormalities of face, palate, lips.
2. Principles of management of head injuries and its complications.
3. Oral cavity including tongue.
4. Diseases of salivary glands (Inflammation, Calculus, Tumours)
5. Neck lumps including lymph nodes, thyroid and parathyroid

Breast

1. Diseases of the breast, nipple and areola
2. Benign and malignant tumours.

Chest Wall & Thorax

1. Blunt & penetrating injuries and their complications.
2. Lung abscess and empyema thoracis.
3. Tumors and cysts in the lungs.

Gastro Intestinal Tract

1. Diseases causing oesophageal obstruction.
2. Peptic ulcer disease & its complications.
3. Tumours of stomach.

5. Conditions causing chronic abdomen including malignant lesions of small and large bowel
6. Ano-rectal and peri-anal conditions requiring surgery.

Abdominal, Pelvic and Genital Trauma and Hernia.

1. Principles in management of abdominal pelvic and urogenital trauma.
2. Inguinal/ Inguinoscrotal and femoral hernia.
3. Epigastric hernia/umbilical/ para-umblical hernia.
4. Incisional hernia.

Liver

1. Trauma.
2. Obstructive jaundice.
3. Liver abscess.
4. Hydatid cyst.
5. Malignancy (Hepatoma & secondaries).

Gall Bladder

1. Acute and chronic cholecystitis.
2. Cholelithiasis and its complications.
3. Tumours

Pancreas

1. Acute, relapsing and chronic pancreatitis.
2. Pancreatic masses including cysts
3. Benign and malignant neoplasia.

Spleen

1. Trauma
2. Surgical aspects of spleen

Urinary Tract

1. Common congenital anomalies.
2. Infection & its sequelae.
3. Calculus disease and its sequelae.
4. Bladder lesions.
5. Enlarged prostate.
6. Urogenital trauma.
7. Neoplasms of kidney and urinary tract.

External Genitalia, Male and Female

1. Developmental abnormalities.
2. Common pelvic conditions

Scrotal and testicular lesions

1. Scrotal swelling.
2. Testicular swelling.

Skin & Soft Tissues

1. Common benign and malignant skin lesions.
2. Wounds/ulcers/abscesses/sinuses/fistulae.
3. Soft tissue lumps.

Orthopaedics and Trauma

1. Common congenital malformations of locomotive system.
2. Bone fractures & their complications.
3. Sports injuries and afflictions of tendons and bursae.
4. Bone and joint infections.
5. Arthritis.
6. Bone and cartilage tumours.
7. Spinal trauma.
8. Spinal tumours.
9. Common spinal deformities and other surgically correctable lesions.

Vascular and Nerve Disorders

1. Vascular afflictions and limb ischaemia.
2. Varicosities
3. Deep venous thrombosis.
4. Peripheral nerve injuries

Essential Skills to be acquired

1. Provide First Aid: Resuscitation (ABC) of polytrauma, CPR.
2. Collect samples of blood, urine, stool, sputum, pus swab etc.
3. Insert Naso-gastric tube, have observed chest intubation and paracentesis.
4. Do IV cannulation, have observed CV-line insertion and cut- down of veins.
5. Catheterize male and female patients.
6. Prepare the patient for and know the procedure of doing X-Ray chest, abdomen, KUB, bones, IVU, barium studies, ultrasound and other imaging investigations.
7. Principles of pre-operative preparations, sterilization/disinfection techniques.
8. Principles of wound care, skin suturing and suture removal, incision

tissue lumps, needle biopsies, aspiration of localized fluids, etc.

9. Have observed common surgical procedures, treatment of fracture/ dislocation and methods of general / local anaesthesia.
10. Apply bandage and splint/pop cast to the patient's limbs.
11. Have observed instillation of chemotherapy and principles of radiotherapy.

(I) ORTHOPAEDIC SURGERY & TRAUMATOLOGY

The course outline is as follows :

a. Necessary Applied Basic Sciences With Reference To Orthopaedics:

- Pathophysiology of trauma and shock.
- Mechanical properties of bone & soft tissue.
- Biomechanics of fracture.
- Healing & repair (bone & soft tissues).
- Healing principles of fracture.
- Principles of physiotherapy
- Orthotics – orthopaedic appliances to support and correct deformities
- Prosthesis – artificial substitute for missing body parts.

b. Systems and Diseases

1: Congenital & Development Diseases; Congenital talipes equino varus (CTEV) and talipes valgus; congenital dislocation of hip (CDH); flat foot; Perth's disease; Slipped Capital Femoral Epiphysis.

Specific required skills

- Clinical examination and x-ray interpretation of above mentioned diseases
- Observe the manipulation/application of POP cast for CTEV, pelvic harness, Von Rosen splint, hip spica.

2: Bone dysplasia (defect intrinsic to bone)

- Dwarf- Achondroplasia

3: Bone and joint infections

- Acute osteomyelitis and septic arthritis.
- Chronic osteomyelitis.
- Tuberculous arthritis/Caries spine.
- Osteolysis/bone cyst, sequestrum, periosteal reaction

Specific required skills

- Clinical examination for above mentioned diseases
- Interpretation of related x-ray and laboratory reports
- Observe or assist in joint aspiration, curettage and sequestrectomy, drainage of abscess etc.

4: Metabolic Bone diseases

- Rickets; osteomalacia; osteoporosis; hyperparathyroidism; diabetes.

Specific required skills

- Interpretation of related X-rays
- Interpretation of laboratory reports of serum Ca, PO_4, Alk. phosphatase, parathormone.
- Management of diabetes with relation to injury /surgical procedure and infections.

5: Neuromuscular disorders

- Muscular dystrophies e.g. Duchenne type and Becker's type; spina bifida; cerebral palsy.
- Post-polio paralysis (PPP); neurofibromatosis

Specific required skills

- Clinical examination of sensations, deep tendon jerks, muscle power and tone clonus.
- Management suggesting and explaining of orthosis, walking aids (walking stick, crutches, walkers), wheel chairs.

6: Bone Tumours

a. Benign
Exostosis/multiple hereditary exostosis/enchondroma, fibroma, lipoma, neuroma, osteoid osteoma, giant cell tumour.

B. Malignant
Osteogenic sarcoma, Ewings sarcoma, chondrosarcoma, multiple myeloma, metastatic bone tumors from thyroid, lungs, kidney, breast and prostate.

c. Principles, indications, techniques and orthotics related to amputation.

Specific Required Skills

- Observe biopsy – needle and open.
- Observe amputation/limb salvage surgery –

7: Neck Pain, Low Back Pain and Sciatica

- Deformities of scoliosis, kyphosis.
- Spinal injury, soft tissue injuries (sprains, strains etc.)
- Fractures (stable, unstable), neurological damage

Specific Required Skills

- Examination and basic management.
- Application of cervical collar, cervical traction, lumbosacral corset.
- Observe internal fixation of spinal fracture
- Log rolling, prevention of bed sores, bladder care/catheter care and rehabilitation.

8: Arthritis and Musculoskeletal Painful Disorders

- Rheumatoid arthritis, ankylosing spondylitis, osteoarthritis.
- Gout; frozen shoulder; tennis elbow, plantar fasciitis, trigger finger, de Quervains disease.

Specific Required Skills

- Clinical examination of patients with arthritis (differentiate on x-ray)
- Interpretation of related investigations; x-rays and laboratory.
- Management; prescription writing for arthritis and painful muscle disorders.

9: Soft Tissue Injuries

- Sprains/ruptures of muscles, ligaments, tendons; nerve injuries.
- Arterial injuries clean/contaminated wounds.

10: Fractures

- Basic and advanced trauma life support
- Triage of injured patients in emergency room,
- Principles of fracture classification
- Principals of fracture treatment in children.
- Principals of fracture fixation
- Management of common orthopaedic emergencies.
- Mal-united fractures; non-unions.

Specific Required Skills

- Examination; clinical examination of injured patient; record BP, pulse rate, respiratory rate peripheral pulses and capillary filling; recognition of associated injuries/complications e.g. Vascular, neurological, vascular compartment syndrome etc.
- Investigations; request and interpret urine and blood examination in trauma patient (CBC, ESR, blood urea and sugar etc; interpret x-ray of limbs with fractures and dislocations;
- Catheterize male and female patients.
- Shifting of patient from bed to trolley

- Serving patients with bed pan and urine bottle.
- Prepare patients for surgeries and post operative care.
- Dressing of surgical wounds post operatively.
- Pass nasogastric tube.
- Injections I/V and I/M.
- Interpret and explain the urine, stool and blood findings with relevance to orthopaedic diseases.
- Request and interpret x-rays, ultrasound, CT, MRI scans
- Management; provide first aid to a person with bone injury like common sprains, fractures and dislocations (immobilization of body part, resuscitation of injured patient.
- Apply dressings, splints, plasters and other immobilization techniques in fracture patients in emergency; maintain clear airway of patient; reductions and observation of surgical fixations; internal and external fixation of fractures (plates, nails others); manipulation and application of plaster of paris cast/back slab; use of external fixators in treatment of open fractures; application of traction skin/skeletal.

RECOMMENDED BOOKS:

- **Short Practice Of Surgery** By Bailey And Love's
- **Text Book Of Surgery** By Ijaz Ahsan
- **General Surgery (Lecture Notes Series)** by Harold Ellis, Roy Calne, Chris Watson
- **An Introduction to the Symptoms and Signs of Surgical Disease** by Norman Browse
- **Current Surgical Practice**: by Norman L. Browse, Alan G. Johnson, and Tom. Vol. 6
- **Schwartz's Principles of Surgery** by F. Charles Brunicardi, Dana K. Andersen, Timothy R. Billiar, and David L. Dunn 8th edition. 2004
- **Online Journals and Reading Materials** through HEC Digital Library Facility.

(II) ANAESTHESIOLOGY

The course outline is as follows :

- Pre-operative assessment of patients and pre-medication
- Local anaesthesia
    - Local anaesthetic agents (pharmacology)
    - Regional anaesthesia (spinal and epidural)
- Intravenous anaesthetic agents
- Muscle relaxants
- Inhalational anaesthetic agents
- Anaesthesia and associated diseases.
- Complications of anaesthesia.
- Perioperative management.
- Cardiopulmonary Resuscitation. CPR.
- Recovery from anaesthesia. Pain management and postoperative care.

LOG BOOK

The submission of a complete logbook duly signed by Head of Department should be compulsory to appear in final professional examination.

PROCEDURES

1. Pre-operative assessment of the patient.
2. I/V cannulation and Intra-operative fluid management.
3. Demonstration of induction of general anaesthesia and tracheal intubation.
4. Demonstration of spinal block.
5. Demonstration of epidural block.
6. Demonstration of local blocks in Eye, ENT and General Surgery.
7. Demonstration of CPR.
8. Post-operative care/pain management.
9. Introduction to the ICU.
10. Demonstration of anaesthesia machine and other instruments
11. Demonstration of sterilization procedures in O.T and ICU.
12. Demonstration of vital sign monitors and their application

RECOMMENDED BOOKS:

1. **Textbook of Anaesthesia** by G. Smith and A.R. Aitkenhead
2. **Short Practice of Anaesthesia** by M. Morgan, G. Hall. Latest edition
3. **A Synopsis of Anaesthesia** by J.Alfred Lee
4. **Online Journals and Reading Materials** through HEC Digital Library Facility.

(III) RADIOLOGY

The student will be able to:

- Select/advice the required radiological examination correctly
- Identify gross abnormalities in the films
- List indications and advantages of modern techniques
- Recognize major abdominal viscera and their imaging characters

Required Radiological Examinations and Abnormalities

- **Plain Radiography**

  Chest
  - Normal anatomy and projections
  - Pneumothorax
  - Pneumonia
  - Effusion
  - Cardiomegaly
  - Plumonary oedema
  - Fractures
  - Surgical emphysema
  - Neoplastic Diseases
  - Chronic inflammatory disease

  Skull
  - Normal anatomy and projections
  - Fracture
  - Lytic and sclerotic lesion
  - Calcifications
  - Pituitary fossa
  - Paranasal sinuses

  Abdomen
  - Normal anatomy and projections
  - Renal & urinary tract stones, gall stones and other calcifications

- Free gas under diaphragm, (perforation)
- Enlarged liver and spleen

Spine

- Normal anatomy and projections.
- Disc space reduction
- Vertebral collapse

Barium Meal and with double contrast (where applicable)

- Normal anatomy and various projections
- Gastric outlet obstruction
- Stomach mass/filling defect
- Oesophageal outline/varices/strictures
- Intussusception
- Colonic defects
- Malabsorption pattern
- Stricture
- Any filling defect
- Ulcerative colitis

- **Intravenous Urogram**
  - Hydronephrosis and renal masses

- **Micturating Cystourethrogram**
  - Reflux
- **Cholecystogram**
  - Gall bladder diseases and stones
- **Echocardiogram**
  - Be able to interpret the report

- **CT Scanning**
  - Be able to interpret the report

- **MRI**
  - Basic principle

RECOMMENDED BOOKS:

1. **Aids to Radiological Differential Diagnosis** by Chapman S. and Nakielny R. 4th ed. Elsevier Science Limited; 2003.

2. **Online Journals and Reading Materials** through HEC Digital Library Facility.