



**Dr. D. Y. PATIL VIDYAPEETH, PUNE**  
(Deemed to be University)

**Syllabus for  
PG Surgical Specialties**

**2014 - 15**  
**(Amended / Revised upto July 2019)**



**Dr. D.Y. PATIL VIDYAPEETH, PUNE**  
(Deemed to be University)

(Re-accredited by NAAC with a CGPA of 3.62 on a four point scale at 'A' Grade)  
(An ISO 9001 : 2015 Certified University)

**Dr. A. N. Suryakar**  
Registrar

Ref. No. : DPU/875-vii/2019  
Date : 11/09/2019

#### NOTIFICATION

Whereas in pursuance of the following decisions taken by the Board of Management, it is hereby notified to all concerned that the "Syllabus for PG Medical and Surgical Specialties – 2014-15" is revised upto July 2019 and hereby published.

- Changes in syllabus for UG and PG in General Medicine, Pulmonary Medicine and General Surgery vide Resolution No. BM-07-(iii)-4 dated 28<sup>th</sup> January, 2014.
- Updation in UG and PG syllabus of General Medicine, Obstetrics & Gynecology, Orthopedics, Anaesthesiology, ENT and Ophthalmology vide Resolution No. BM-04(i)-15, dated 31<sup>st</sup> March, 2015.
- Modifications in pattern of PG practical examinations for MD (General Medicine), MD (Pediatrics), MS (General Surgery), and MS (OBGY) vide Resolution No. BM-26(iv)-15, dated 29<sup>th</sup> December, 2015.
- Updation in PG syllabus in Radio-Diagnosis subject vide Resolution No. BM-26(vii)-15, dated 29<sup>th</sup> December, 2015.
- Introduction of Bioethical aspects in various chapters of all subjects vide Resolution No. BM-26(xi)-15, dated 29<sup>th</sup> December, 2015
- Partial Modifications in Pattern of PG Practical Examinations for MD (General Medicine) and MS (General Surgery) vide Resolution No. BM-17(vii)-16, dated 22<sup>nd</sup> September, 2016.
- Modifications in the syllabus of MD (Emergency Medicine) vide Resolution No. BM-35(iv)-18, dated 12<sup>th</sup> October, 2018.
- Changes in teaching and assessment of MS (Ophthalmology), vide Resolution No. BM-35(v)-18, dated 12<sup>th</sup> October, 2018.
- Changes in the practical examination pattern of M.S. (Orthopedics) vide Resolution No. BM-35(vi)-18, dated 12<sup>th</sup> October, 2018.
- Change in practical examination pattern of MD (Dermatology) vide Resolution No. BM-35(vii)-18, dated 12<sup>th</sup> October, 2018.
- Graduate Attributes, Programme Outcomes (POs), Course Outcomes (Cos) and gap analysis for all courses of UG and PG Programmes for Para-Clinical and Surgical Subjects vide Resolution No. BM-10(vii)-19 dated, 12<sup>th</sup> April, 2019.
- Interdisciplinary subjects (for Surgical Subjects) of M.B.B.S, M.D./M.S. and Super-specialty (D.M./M.Ch.) Programs under the Faculty of Medicine vide Resolution No. BM-10(viii) dated 12<sup>th</sup> April, 2019.
- Changes in syllabus of MD (General Medicine) and MD (Psychiatry) vide Resolution No. BM-27(iv)-19 dated 30<sup>th</sup> July, 2019.
- Modifications in MD (Respiratory Medicine) Practical examination pattern vide Resolution No. BM-27(vii)-19 dated 30<sup>th</sup> July, 2019.



Sant Tukaram Nagar, Pimpri, Pune - 411018, Maharashtra (India)  
Tel. : +91-20-27805000, 27805001 • Fax : +91-20-27420010 • Email : info@dpu.edu.in



- Graduate Attributes, Programme Outcomes (POs), Course Outcomes (Cos) outcome analysis of Pos and Cos and mapping with objectives for all courses of UG and PG Programmes of Pre-Clinical and **Medicine Subjects** under the Faculty of Medicine vide **Resolution No. BM-27(x)-19 dated 30<sup>th</sup> July, 2019.**
- Interdisciplinary subjects (**for Medicine Subjects**) of M.B.B.S, M.D./M.S. and Super-specialty (D.M./M.Ch.) Programs under the Faculty of Medicine vide **Resolution No. BM-27(xi) dated 30<sup>th</sup> July, 2019.**

The **Syllabus for PG Medical and Surgical Specialties – 2014-15** is Revised upto July 2019 will be useful to all the concerned. This will come into force with immediate effect.



(Dr. A. N. Suryakar)  
Registrar

**Copy to:**

1. PS to Chancellor for kind information of Hon'ble Chancellor, Dr. D. Y. Patil Vidyapeeth, Pune.
2. PS to Vice Chancellor for kind information of Hon'ble Vice Chancellor, Dr. D. Y. Patil Vidyapeeth, Pune.
3. The Dean, Dr. D. Y. Patil Medical College Hospital & Research Centre, Pimpri, Pune
4. The Controller of Examinations, Dr. D. Y. Patil Vidyapeeth, Pune.
5. Director (IQAC), Dr. D. Y. Patil Vidyapeeth, Pune.
6. Web Master for uploading on Website.

**MAPPING OF PROGRAMME OUTCOMES [POs] AND COURSE  
OUTCOMES [COs] OF PG PROGRAMMES**

**MS (SURGERY) PROGRAMME OUTCOMES**

| <b>Sr.<br/>No</b> | <b>By the end of the programme, the Medical Postgraduate Will<br/>have</b> |
|-------------------|----------------------------------------------------------------------------|
| PO 1              | Knowledge and Skills                                                       |
| PO 2              | Planning and problem solving abilities                                     |
| PO 3              | Communication                                                              |
| PO 4              | Research Aptitude                                                          |
| PO 5              | Professionalism and Ethics                                                 |
| PO 6              | Leadership                                                                 |
| PO 7              | Societal Responsibilities                                                  |
| PO 8              | Environment and Sustainability                                             |
| PO 9              | Lifelong Learner                                                           |

**SURGERY COURSE OUTCOME – PG**  
**SUBJECT CODE –PGS01**

| <b>Sr.No</b> | <b>By the end the Course, the student will be able to</b>                                                                                                                                                                      |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1            | Recognize the importance to the concerned surgery in the context of the health needs of the community and the national priorities in the health section.                                                                       |
| 2            | Practice the surgery concerned ethically and in step with the principles of primary health care.                                                                                                                               |
| 3            | Demonstrate sufficient understanding of the basic sciences relevant to the surgery specialty.                                                                                                                                  |
| 4            | Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and primitive measure/strategies. |
| 5            | Diagnose and manage majority of the conditions in the surgery concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.                                                          |
| 6            | Plan and advise measures for the prevention and rehabilitation of patients suffering from disease and disability related to the surgery specialty.                                                                             |
| 7            | Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.                                                                                     |
| 8            | Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behavior in accordance with the societal norms and expectations.                                                         |
| 9            | Play the assigned role in the implementation of national health programme, effectively and responsibly.                                                                                                                        |
| 10           | Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation                                                                         |
| 11           | Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources                                                                                                 |
| 12           | Demonstrate competence in basic concepts of research methodology and epidemiology and be able to critically analyze relevant published research literature.                                                                    |
| 13           | Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.                                                       |
| 14           | Function as an effective leader of a health team engaged in health care, research or training.                                                                                                                                 |

**COURSE OUTCOMES AND MAPPING  
WITH PROGRAMME OUTCOMES PG**

| <b>Course Code</b> | <b>Course Title</b>  |
|--------------------|----------------------|
| PG501              | MS (General Surgery) |

| <b>Sr.No</b> | <b>By the end the Course, the student will be able to</b>                                                                                                                                                                      | <b>Mapped Programme Outcomes</b>      |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| PG501.1      | Recognize the importance to the concerned surgery in the context of the health needs of the community and the national priorities in the health section.                                                                       | PO1,PO2,PO3, PO5,PO6,PO7, PO8,PO9,    |
| PG501.2      | Practice the surgery concerned ethically and in step with the principles of primary health care.                                                                                                                               | PO1,PO2,PO5, PO7,PO9,                 |
| PG501.3      | Demonstrate sufficient understanding of the basic sciences relevant to the surgery specialty.                                                                                                                                  | PO1,PO2,PO3, PO5,PO6,PO7, PO9,        |
| PG501.4      | Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and primitive measure/strategies. | PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8,PO9 |
| PG501.5      | Diagnose and manage majority of the conditions in the surgery concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.                                                          | PO1,PO2,PO4, PO5,PO6,PO9              |
| PG501.6      | Plan and advise measures for the prevention and rehabilitation of patients suffering from disease and disability related to the surgery specialty.                                                                             | PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8,PO9 |
| PG501.7      | Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.                                                                                     | PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO9     |
| PG501.8      | Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal                                                                                                                          | PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8,PO9 |

| <b>Sr.No</b> | <b>By the end the Course, the student will be able to</b>                                                                                                                | <b>Mapped Programme Outcomes</b>      |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
|              | behavior in accordance with the societal norms and expectations.                                                                                                         |                                       |
| PG501.9      | Play the assigned role in the implementation of national health programme, effectively and responsibly.                                                                  | PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8,PO9 |
| PG501.10     | Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation                   | PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8,PO9 |
| PG501.11     | Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources                                           | PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8,PO9 |
| PG501.12     | Demonstrate competence in basic concepts of research methodology and epidemiology and be able to critically analyze relevant published research literature.              | PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8,PO9 |
| PG501.13     | Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers. | PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8,PO9 |
| PG501.14     | Function as an effective leader of a health team engaged in health care, research or training.                                                                           | PO1,PO2,PO3, PO4,PO5,PO6, PO7,PO8,PO9 |



**GENERAL  
SURGERY**

## **GENERAL SURGERY**

### **1. INSTITUTIONAL OBJECTIVES (GOALS)**

The aim of the course is that at the end of three years (6 Terms) training the candidates who are conferred the degree of MS General Surgery, shall be able to:-

- 1.1 Provide Standardized health care to patients needing surgical care.
- 1.2 Be able to impart knowledge (Teach) and train UG and PG Medical Students and young doctors in General Surgery at Medical Colleges, Institutions & Hospitals.
- 1.3 Be able to carry out and guide research in the discipline of General Surgery.
- 1.4 Be able to develop management capabilities in the area of personnel & Budgets so as to be able to deliver efficient and cost-effective care. They should also have acquired the basic knowledge in the area of organization of health teams to deal with natural and / or man-made calamities.
- 1.5 They should be capable of independently developing further in their area of interest and / or pursue further specialization in the various branches of Surgery.

### **1.2. DEPARTMENTAL OBJECTIVES -**

The aim of the course is that at the end of three years (6 Terms) training the candidates who are conferred the degree of MS General Surgery, shall be able to:

- 1.2.1 Practice the art and science of General Surgery in that they should be able to provide comprehensive and the state of art preoperative, operative and postoperative care to the patient.
- 1.2.2 They should have acquired skills in teaching the basic principles of general surgery to his junior colleagues, UG medical student and the paramedical staff.
- 1.2.3 He/she should be able to carry out research and then be able to interpret the findings and communicate these results to his/her fraternity.

- 1.2.4 He/she should have developed the art of self-learning so as to be able to keep abreast of the changing knowledge in General Surgery and be able to participate in CME programme.
- 1.2.5 He/she should be able to organize and manage the administrative responsibilities of routine day-to-day activities of a surgical unit and also of those involved in dealing with natural / man made calamities.
- 1.2.6 He/she should be able to recognize and manage emergencies in general surgery including surgical intervention.
- 1.2.7 He/she should have developed the knowledge, skill and attitude to pursue further the area of interest and /or become specialized in the allied branches of Surgery.
- 1.2.8 Should have developed an awareness of the importance of surgical audit so as to be cost effective in patient management.
- 1.2.9 He/she should be aware of ones own professional limitations and thus be able to refer / consult with the appropriate senior/more experienced colleague or be able to refer to an appropriate center at the optimal time when required.
- 1.2.10 He/she should be able to keep proper and accurate medial records of the routine cases as well of the medico legal ones.
- 1.2.11 He/she should be aware of the ethical conduct of the practice of the art and science of surgery especially in the ambit of Doctor- patient relationship.
- 1.2.12 He/she should have developed proper communication skills so that he /she would have a proper attitude when dealing with the patient or the relatives.

### 1.3. INTEGRATION OF TEACHING -

These are to be developed at the department level wherein each topic covered in the syllabus will be individually considered in order that appropriate time is allotted (for both theory and practical trainings) so that development of the three domains of learning, namely cognitive, psychomotor and affective are developed to the levels envisaged in the SIO's. This will lead to the developed of a curriculum, which can then be subjected to a horizontal and vertical integration of teaching methods with the allied disciplines namely anatomy, physiology, pathology, microbiology, forensic medicine, pharmacology, internal medicine, paediatric, obgy, ophthalmology and ent. This can be coordinated by the council of the board of studies.

## 2. TRAINING SCHEDULE

2.1 There will be a three year residency, each year being of two terms of six months each :

**The students will be designate as:-**

- In the first year as Junior Resident (JR-I)
- In the second year as Senior Resident (JR-II)
- In the third year as Chief Resident (JR-III)

**They will be posted as follows:-**

**Fist Year:** Posted to Department of Surgery

**Second year:** Rotation to the allied disciplines of Surgery: ICU, Urology, Neurosurgery, Plastic Surgery, Pediatric Surgery, Cardio and Vascular Surgery.

**Third year:** Department of Surgery

2.2 Granting of terms: for this the student must have an attendance of at least 80%

2.3 Leaves : A max of 7 days of leave is allowed per term.

### **3. METHOD OF TRAINING -**

During their tenure of residency they will be involved in conducting the out patient department, managing the in patients, performing emergency call duties and learning the operative skills in operation theatre. They will attend the post graduate training programme as follows:

- 3.1 Clinical case presentation - Two per week
- 3.2 Seminars - one a month
- 3.3 Journal Club - one a month
- 3.4 Recent Advances - one a month
- 3.5 PBL - once a month
- 3.6 They should attend conferences, updates and workshops whenever possible and also participate by presenting papers, posters presentations etc.

### **4. DETAILS OF SYLLABUS -**

#### **4.1 Applied Anatomy and Physiology (Surgical Anatomy and applied physiology of all systems in the syllabus)**

- 4.1.1 Metabolism and nutrition in Surgical Patient.
- 4.1.2 Surgical bleeding and Hemostasis
- 4.1.3 Disorders of Coagulation and DIC
- 4.1.4 Blood transfusion and component therapy
- 4.1.5 Metabolic response to trauma including surgery.
- 4.1.6 Fluid and electrolyte management
- 4.1.7 Shock and resuscitation
- 4.1.8 Physiological monitoring of the surgical patient
- 4.1.9 Molecular biology, DNA, RNA, PCR

## **4.2 Surgical Pathology, applied Biochemistry and Pharmacology.**

(Surgical Pathology of all system in the syllabus)

- a) Surgically important micro-organisms
- b) Body response to infection
- c) Principles of asepsis and antisepsis
- d) Aseptic techniques
- e) Sterilization / Hospital infections and its control
- f) Basic principles in the designing of operating theatre
- g) Antibiotic prophylaxis / choice of antibiotic
- h) Surgical aspects of AIDS
- I) Surgical aspects of diabetes mellitus

### **4.2.8 Principles of neoplastic disease**

- a) Tumor biology
- b) Tumor markers
- c) Immunobiology and immunotherapy
- d) Carcinogenesis
- e) Genetics in cancer
- f) Epidemiology of common cancers
- g) Cancer registry
- h) Cancer screening
- i) Early detection of malignancy
- j) Nuclear isotopes in surgery
- k) Principles of cancer treatment
  - i) Surgery                      Radiotherapy,                      chemotherapy,  
                                         Immunotherapy and Hormone-therapy
- l) Terminal care of cancer patients.

### **4.3 Imaging modalities in Surgery**

- 4.3.1 Conventional X-rays and Angiography
- 4.3.2 CT/MRI/MRCP
- 4.3.3 Ultrasound / Doppler
- 4.3.4 Image guided interventional procedures

### **4.4 Anaesthesia**

- 4.4.1 Principles of general anaesthesia care & monitoring of anaesthesia
- 4.4.2 Local and regional anaesthesia
- 4.4.3 Complications, prevention of nerve injuries
- 4.4.4 Explosions hazards in laparoscopic and endoscopic surgery
- 4.4.5 Pain relief and palliation surgery

### **4.5 Basic Surgery Tests**

- 4.5.1 Basic OT etiquette
- 4.5.2 Skin preparation and draping
- 4.5.3 Skin incisions and closure
- 4.5.4 Suture materials
- 4.5.5 Dressings
- 4.5.6 Diathermy
- 4.5.7 Lasers in surgery
- 4.5.8 Harmonic Scalpel
- 4.5.9 Lymph node biopsy
- 4.5.10 Excision of cysts and lesion of skin
- 4.5.11 Techniques of biopsy and FNAC
- 4.5.12 Incision and drainage of abscess
- 4.5.13 Use of drains in surgery
- 4.5.14 Surgical Wound & classification of wounds healing: management of wound dehiscence.
- 4.5.15 Principles of minimally invasive surgery

#### **4.6 Preoperative management**

Evaluation of patient for Anaesthesia and Surgery pre medication & sedation -

- 4.6.1 Assessment of fitness for anaesthesia / Surgery
- 4.6.2 Cardiac, respiratory and renal evaluation
- 4.6.3 Evaluation of associated medical condition such as
- 4.6.4 Hypertension, diabetes, coronary disease, pre-respiratory disease, renal disease.
- 4.6.5 Evaluation of the immunocompromised patient/patient on immunosuppressive drugs.
- 4.6.6 Evaluation of patient on steroids. Diabetic, Jaundiced patient.
- 4.6.7 Evaluation of risk of bleeding / anti-coagulated patient
- 4.6.8 Deep vein thrombosis prophylaxis
- 4.6.9 Antibiotic prophylaxis
- 4.6.10 Gastrointestinal prophylaxis (stress induced)
- 4.6.11 Steroid prophylaxis
- 4.6.12 Venous access – central lines, CVP, PWP monitoring
- 4.6.13 Post-operative fluid, electrolyte management and nutritional support
- 4.6.14 Post-operative pain, control
- 4.6.15 Post-operative respiratory management
- 4.6.16 Post-operative monitoring of vital function

#### **4.7 Trauma and the critically ill patients**

- 4.7.1 Principles of Pre-hospital care
- 4.7.2 Hemorrhage of shock
- 4.7.3 Assessment of severity of injuries (Scoring systems)
- 4.7.4 Management of acute injury
- 4.7.5 Recognition and management of specific injuries such as;
  - a) Blunt and penetration wounds, gun shot and blast injuries
  - b) Fractures, head injuries, chest injuries (pneumothorax, flail chest)
- 4.7.6 Management of the unconscious patient
- 4.7.7 Airway management in injured / unconscious patient

- 4.7.8 Cardiac arrest
- 4.7.9 Immune response to trauma & infection

#### **4.8 Critical Care**

- 4.8.1 Management of pulmonary embolism
- 4.8.2 Resuscitation; respiratory and hemodynamic support
- 4.8.3 Physiological monitoring of vital functions
- 4.8.4 Multiple system dysfunction
- 4.8.5 Multi organ failure
- 4.8.6 Respiratory failure “Shock Lung” syndrome
- 4.8.7 Acute renal failure

#### **4.9 Lymph nodes and spleen**

- 4.9.1 Diseases of lymph nodes especially Tuberculosis
- 4.9.2 Primary and secondary lymph nodes malignancies
- 4.9.3 Hemolytic disease of surgical importance
- 4.9.4 Lymph edema
- 4.9.5 Splenomegaly – causes
- 4.9.6 Indications – for Splenectomy
- 4.9.7 overwhelming post-splenectomy sepsis
- 4.9.8 Complication of Splenectomy

#### **4.10 Tuberculosis**

- 4.10.1 Diagnosis and management of tuberculosis of all the system in the syllabus.

#### **4.11 The Alimentary System**

- 4.11.1 Management of the acute abdomen / abdominal pain
- 4.11.2 Intra-abdominal abscesses
- 4.11.3 Stomas
- 4.11.4 Endoscopy in diagnosis and treatment

## **4.12 Role of Minimal Access Surgery**

### **4.12.1 Oesophagus**

- a) Motility disorders
  - i) Achlasia
  - ii) Diffuse esophageal spasm
- b) Diverticulae;
  - i) Pharyngo oesophageal
  - ii) Mid oesophageal
  - iii) Epiphrenic
- c) Dysphagia
- d) Gastro-esophageal reflux – disease (GERD)
- e) Diaphragmatic hernia
- f) Oesophageal perforation / injuries from caustics, acid
- g) Tumors

### **4.12.2 Stomach and duodenum**

- a) Peptic ulcer;
  - i) Medical and surgical treatment
  - ii) Complications
- b) Gastric outlet obstruction
- c) Stress ulcers
- d) Upper GI tract hemorrhage including obscure GI hemorrhage
- e) Gastric tumors
- f) Gastric surgery for – obesity

### **4.12.3 Small Intestine and Appendix**

- a) Intestinal obstruction
- b) Meckel's diverticulum
- c) Tuberculosis intestine
- d) Crohns diseases
- e) Intestinal fistulae
- f) Short bowel syndrome
- g) Neoplasms
- h) Acute appendicitis

- i) Appendicular abscess
- j) Neoplasms of appendix

#### **4.12.4 Colon rectum and anus**

- a) Inflammatory bowel disease
  - i) Crohns
  - ii) Ulcerative colitis
  - iii) Tuberculosis
  - iv) Amoebiasis
- b) Colonic ischemia
- c) Obstructive
  - i) Volvulus
  - ii) Intussusception
  - iii) Malignant strictures
- d) Rectal prolapse
- e) Polyps and cancer
- f) Lower Gastrointestinal hemorrhage
- g) Anal and perianal disorder;
  - i) Fistula in ano
  - ii) Fissure in ano
  - iii) Hemorrhoids
  - iv) Pilonidal sinus

#### **4.12.5 Peritoneum**

- a) Inflammatory and malignant disorders
- b) Peritonitis

#### **4.12.6 Pancreas**

- a) Acute and chronic pancreatitis
- b) Benign tumours and cyst of the pancreas
- c) Cancer
- d) Neuro-endocrine tumors ; MEN : APUD
- e) Obstructive Jaundice

#### **4.12.7 Biliary System**

- a) Calculus disease
- b) Choledochal cysts and Carolis disease
- c) Bile duct strictures
- d) Neoplasm of Gall Bladder and Bile duct
- e) Obstructive Jaundice

#### **4.12.8 Liver**

- a) Segmental anatomy & Principles of segmental resection, liver abscess: Portal hypertension & its management
- b) Benign non-cystic liver lesions
- c) Liver cysts
- e) Liver metastasis
- f) Portal hypertension
- g) Evaluation and management of liver trauma
- h) Principles of liver transplantation

#### **4.13 Hernia and abdominal Wall defects**

##### **4.13.1 Groin hernias**

##### **4.13.2 Abdominal wall hernias**

#### **4.14 Abdominal trauma**

##### **4.14.1 Diagnostic evaluation**

##### **4.14.2 Initial management**

##### **4.14.3 Intra-operative management of internal injuries**

##### **4.14.4 Complications**

#### **4.15 Endocrine**

##### **4.15.1 Parathyroid**

- a) Localisation techniques
- b) Hyperparathyroidism
- c) Surgery – indications, techniques and complications

#### **4.15.2 Thyroid**

- a) Thyroid function tests
- b) Hyper and hypo-thyroidism : Thyroid goiter
- c) Solitary thyroid nodule – evaluation : thyroid cancer
- d) Surgery, techniques and complications

#### **4.15.3 Adrenal**

- a) Adrenal imaging
- b) Hyperldosteronism : Cushing's disease
- c) Carcinoid tumour – paraganglioma / pheochromocytoma / Conns syndrome
- d) Multiple endocrine neoplasia (Type 1 & 2)

#### **4.16 Head and neck**

- 4.16.1 Lymphnodes of the neck and drainage areas.
- 4.16.2 Metastatic cervical nodes and from occult primary
- 4.16.3 Pre-malignant lesions of oral cavity
- 4.16.4 Tumours of oral cavity, tongue oropharynx and larynx
- 4.16.5 Disorders of Paranasal sinuses (*topic of Otorhinolaryngology, not to be included in general surgery*)
- 4.16.6 Salivary glands
- 4.16.7 Differential diagnosis of neck swellings

#### **4.17 Breast**

- 4.17.1 Acute breast infections – abscess
- 4.17.2 Nipple discharge
- 4.17.3 Mastalgia
- 4.17.4 Benign breast disease
- 4.17.5 Non-palpable breast lesion
- 4.17.6 Breast cancer – Early detection diagnosis and its management

#### **4.18 Skin**

4.18.1 Skin Malignancies

4.18.2 Melanoma

#### **4.19 Soft tissue sarcoma**

4.19.1 Localisation, staging and treatment

4.19.2 Retroperitoneal sarcomas – evaluation and treatment

#### **4.20 Vascular Surgery**

4.20.1 Investigation of Vascular disease

4.20.2 Arterial occlusive disease

4.20.3 Limb ischemia / Atherosclerosis, thrombo angitis obliterans

4.20.4 Chronic leg ulceration

4.20.5 Venous disorders of lower limb

4.20.6 Deep vein thrombosis and thromboembolism

4.20.7 Vascular prosthesis

4.20.8 Angiography and endovascular stenting

4.20.9 By-pass surgery

4.20.10 Evaluation and management of vascular trauma

#### **4.21 Lungs, Heart and Great Vessels**

4.21.1 Pulmonary Tuberculosis

4.21.2 Pulmonary function tests

4.21.3 Pulmonary neoplasms

**4.21.4 Trauma Pneumothorax**

a) Hemothorax

b) Flail chest

c) Injury to oesophagus and trachea bronchial tree

d) Pulmonary contusion

4.21.5 Empyema thoracis

4.21.6 Bronchoscopy, thoracoscopy, Mediastinoscopy

4.21.7 Principles of cardio-pulmonary bypass

#### **4.22 Organ transplantation**

- 4.22.1 Immunology of transplantation
- 4.22.2 Brain death & legal aspect of organ transplantation act
- 4.22.3 Immuno-suppression and rejection
- 4.22.4 Infection in the immune-compromised patient

#### **4.23 Genito-urinary system**

- 4.23.1 Urinary tract infection
- 4.23.2 Hematuria
- 4.23.3 Retention of urine
- 4.23.4 Urinary calculi
- 4.23.5 Torsion testis
- 4.23.6 Testicular swellings and tumors
- 4.23.7 Disorders of prostate (Benign hypertrophy and carcinoma)
- 4.23.8 Tuberculosis of genitor-urinary tract
- 4.23.9 Malignancies of genitourinary tract
- 4.23.10 Pelvic inflammatory diseases

#### **4.24 Central Nervous System**

- 4.24.1 Head Injury
- 4.24.2 Extradural hematoma & its management
- 4.24.3 Sub-dural hamatoma & its management
- 4.24.4 Spinal cord injuries
- 4.24.5 Space cord injuries
- 4.24.6 Space occupying intracranial lesions principles of diagnosis and management

#### **4.25 Pediatric Surgery**

4.25.1 Gastrointestinal tract abnormalities

4.25.2 Correctable life threatening, congenital abnormalities

- a) Imperforate anus
- b) Tracheo oesophageal fistula
- c) Hypertrophic pyloric stenosis
- d) Eventration of diaphragm
- e) Abdominal wall defects

#### **4.26 Orthopaedics Surgery**

4.26.1 *Amputations – Principles and indications and procedure of amputation*

4.26.2 *Diagnosis and treatment of common fractures and dislocations of joints*

4.26.3 *Common disorders of joints*

4.26.4 *Principles of joint replacement*

4.26.5 *Non-union, mal-union and osteomyelitis*

4.26.6 *Peripheral nerve lesions*

4.26.7 *Nerve regeneration and principles of nerve repair*

4.26.8 *Hand infections*

4.26.9 *Malignancies of bone and soft tissue*

#### **4.27 Plastic and Reconstructive surgery**

4.27.1 Types of skin grafts, flaps, tissue expanders

4.27.2 Reconstructive surgery for head and neck, breast, bedsores and abdominal wall defects

#### **4.28 Surgical Audit**

4.28.1 Surgical research, computing and statistics

4.28.2 Surgical practice & Medical legal aspects

### **5. TITLE OF THE THEORY PAPERS WITH CONTENTS -**

**Theory Exam:** This will consist of four papers each of 100 marks. Total theory marks 400. The breakdown of the paper will be as follow:

#### **THEORY EXAMINATION (400)**

| <b>Paper I</b> | <b>Paper II</b> | <b>Paper III</b> | <b>Paper IV</b> |
|----------------|-----------------|------------------|-----------------|
|----------------|-----------------|------------------|-----------------|

Each Paper will contain 2 LAQs (25 marks each) and 5 short Notes (10 marks each)

#### **SYLLABUS –**

Paper I - Basic Sciences, General Surgery

Paper II - Gastrointestinal Tract + Hepatobiliary

Paper III - Genitourinary Tract, Breast, Head, Face, Neck

Paper IV - Recent Advances and Allied :Paediatric Surgery

Cardiovascular Thoracic System/Neurosurgery/Plastic Surgery  
/Anaesthesia/Radiology.

## 6. PRACTICAL:

### 6.1 PRACTICAL EXAMINATION (400)

| Clinical (300 marks)                                                                 | Viva (100 marks)                                                                                                                                          |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>1 Long Case (120 Marks)</li></ul>              | <b>Table I</b> (25 marks) <ul style="list-style-type: none"><li>Anatomy (Hard parts and Soft parts, Surface Anatomy)</li></ul> <b>Table II</b> (25 marks) |
| <ul style="list-style-type: none"><li>2 Short Cases (60 marks each)</li></ul>        | <ul style="list-style-type: none"><li>Surgical Pathology</li></ul>                                                                                        |
| <ul style="list-style-type: none"><li>2 ward round cases (30marks each=60)</li></ul> | <b>Table III</b> (25 marks) <ul style="list-style-type: none"><li>Operative Surgery (Instruments Tubes/Cath Drugs)</li></ul> <b>Table IV</b> (25 marks)   |
|                                                                                      | <ul style="list-style-type: none"><li>Radiology</li></ul>                                                                                                 |

## 7. THESIS / DISSERTATION

- 7.1 The dissertation is compulsory for candidates registered for MS and should include candidates own work under a supervisor qualified for the purpose and recognized as a postgraduate teacher by the University.
- 7.2 The subject of the Dissertation along with a synopsis (about 200 words) should be submitted to the University within four months of registration as postgraduate student. A penalty of Rs. 500/- will be levied for submission after due date.
- 7.3 The topic of the dissertation should not be one that has been accepted by the University in the past three year.
- 7.4 If the progress of a candidates' work including dissertation work is not satisfactory, the University on recommendation of the HOD, Head of the Instauration, and Dean of the faculty of Medicine may not grant the particular term and period of training will be extended by the number of terms not granted.
- 7.5 The dissertation should be submitted to the University eight months before the date of the written, oral, clinical, practical examination. Approval of the dissertation is a precondition for permission to appear in the rest of the examination.

7.6 The dissertation should be submitted in the Vancouver format and under the following suggested headings:-

7.6.1 **Title:-** should be brief, clear and focus on the relevance of the topic.

7.6.2 **Introduction:** should state the purpose of the study, mention lacunae in current knowledge and enunciate the hypothesis, if any.

7.6.3 **Review of Literature:** should be relevant, complete and current to date.

**7.6.4 Materials and Methods:**

- a) The type of study (Prospective, retrospective, controlled double blind)
- b) Details of material & experimental design
- c) Procedures used for Data collection & statistical methods employed.
- d) Statements of limitations
- e) Ethical issues involved

**7.6.5 Observations :** these should be

- a) Biologically organized in readily identifiable sections.
- b) Have correct analysis of Data
- c) Be presented in suitable charts, tables, graphs and figures etc.
- d) Be statistically interpreted

**7.6.6 Discussion:** Observation of the study be discussed and compared with the observations of the other worker's studies. It should mention unanswered questions and list new questions raised.

**7.6.7 Summary and Conclusions**

**7.6.8 Bibliography:** correctly arranged in the Vancouver style

**7.6.9 Appendix :** all perform'a's questionnaires etc should be appended.

## **8. LOGBOOK :**

- 8.1 All students will maintain a logbook of all the learning/Teaching activities. These should be countersigned by the consultant/PG teacher/UNIT I/c on a monthly schedule.
- 8.2 At the end of each term a summary of the work load is to be prepared in the log book and this is to be countersigned by the HOD.
- 8.3 These will be submitted at the time of the final exam.