D.Y. PATIL EDUCATION SOCIETY
[Deemed to be University], Kolhapur
Re-accredited by NAAC with 'A' Grade

D. Y. PATIL MEDICAL COLLEGE KOLHAPUR

Syllabus For

NATIONAL MEDICAL COMMISSION
Postgraduate Medical Education Board

GUIDELINES FOR COMPETENCY BASED
POSTGRADUATE TRAINING PROGRAMME FOR

MS IN GENERAL SURGERY

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Year of Implementation : 2022-23
Year of Examination : 2025-26

MS-GENERAL SURGERY

Vision

- To become a world class dynamic institution of education research & training to develop globally competitive, professional and socially responsible human resource.

Mission

- To ensure globally relevant quality higher education and skill enhancement for providing required trained manpower to the nation & the world.
- To promote symbiotic relations with industry, academic and research institutions and community to meet the expectations of various stakeholders.
- To engage in interdisciplinary research and innovate for furtherance of knowledge, technology and growth.
- To put in place dynamic technocracy for effective use of emerging trends in curriculum development, and pedogogy, evaluation and system management.
- To provide an environment for holistic evolution of the learners as human, socially responsible and conscious of sustainable ecosystem. Goal
  University to be recognized as one of the top institutions of higher learning in the next decade and achieve global recognition.

Preamble:

The purpose of PG education is to create specialists who would provide high quality health care and advance the cause of science through research &training.

A postgraduate specialist having undergone the required training should be able to recognize the health needs of the community, should be competent to handle effectively medical / surgical problems and should be aware of the recent advances pertaining to his specialty.

The PG student should be competent to provide professional services with empathy and humane approach. The PG student should acquire the basic skills in teaching of medical/para-medical students and is also expected to know the principles of research methodology and self-directed learning for continuous professional development.

The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment.

Programme Outcomes

1. Graduate Attributes: Medical and Scientific Knowledge.

PO 1 :

- Demonstrate knowledge of normal and abnormal human structure, function and development from a molecular, cellular, biologic, clinical, behavioral and social perspective.
- Demonstrate knowledge about established and evolving biomedical and clinical sciences.
- Demonstrate knowledge of national and regional health care policies including the National Health Mission that incorporates National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), frameworks, economics and systems that influence health promotion, health care delivery, disease prevention, effectiveness, responsiveness, quality and patient safety

2.Graduate Attributes: Planning Patient Care and problem solving abilities

PO 2:

- Demonstrate ability to apply this knowledge to the practice of medicine in routine, emergency and disaster situations.
- Demonstrate ability to appraise and assimilate scientific evidence into their own ongoing learning, research, and patient care.
- Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context
- Demonstrate ability to provide evidence-based care that is compassionate, respectful of patients' differences, values, and preferences.

3. Graduate Attributes: Professional excellence & Ethics

PO 3:

- Demonstrate commitment to the highest standards of professional responsibility towards patient, colleagues, society, growth of medical professional and adhere to universally accepted code of ethics.
- Demonstrate personal attributes of compassion, honesty, integrity, accountability, empathy in patient encounters.

4. Graduate Attributes: Communication Skills.

PO 4:

- Demonstrate ability to communicate effectively, respectfully, non-judgemental, empathetic manner with patients, their families and colleagues that will improve patient satisfaction ,health care and encourages participation and shared decision-making.

- Demonstrate the ability to listen clearly, inform, communicate and educate patients &/ caregivers for the promotion of health, diagnosis of disease and the treatment of illness; advocate for disease prevention, wellness and the promotion of healthy lifestyles including a focus on population health

5. Graduate attributes: Leader & Member of the health care team & System

PO 5:

- Demonstrate the ability to work effectively, efficiently & in rational way with his/ her colleagues and other team members, educate & motivate the team members in a manner to maximize the health delivery potential of the team, considering various roles, responsibilities and competencies of the other health professionals.
- Identify the self- potential, functioning ability as a team leader in primary and secondary health care settings, utilize various indicators of the health care system and to promote appropriate, low cost, ethical, fair and qualitative health delivery.

6. Graduate attributes: Life long learner

PO 6:

- Demonstrate ability to acquire new knowledge, skills and reflect upon their experience to enhance personal and professional growth and apply the information in the care of the patient.
- Demonstrate self-motivation and awareness to their own limitations.
- Demonstrate ability to introspect and utilize experiences, to enhance personal and professional growth and learning.

7. Graduate attributes: Research Aptitude

PO7:

- Demonstrate an attitude of inquiry/search/investigation ,scientific and objective effort to uncover facts**.**

8. Graduate attributes: Societal Responsibilities

PO8 :

- Demonstrate accountability in fulfilling their duty for the benefit of the entire society.

9. Graduate attributes: Awareness towards Environment and sustainability

PO9 :

- Demonstrates responsibility to conserve natural resources and protect global ecosystems to support health and wellbeing, now and in the future.

Course Outcome

CO1: To diagnose and appropriately manage common surgical ailments in the given situation.
CO2: To provide adequate preoperative, perioperative, postoperative and follow-up care of surgical patients.
CO3: To provide and coordinate emergency resuscitative measures in acute surgical situations including trauma.
CO4: To discharge effectively medicolegal and ethical responsibilities and participate in the national health programs.
CO5: To learn to obtain inform consent prior to performance of operative procedures.
CO6: To learn the basic steps in techniques of performing a operative procedure.
CO7: To update knowledge regarding recent advances and newer techniques in the management of patients.
CO8: To participate regularly in departmental academic activities by presenting seminars, case discussions, journal club and topic discussion on weekly basis and maintain logbook.
CO9: To know the basic concept of research methodology, plan a research project and know how to consult library.
C010: To demonstrate and practice procedural skills in simulated environment.
CO 11: To show integrity accountability, respect, compassion and dedication in patient-care and demonstrate a commitment to excellence and continuous professional development.
CO12: To demonstrate sensitivity and responsiveness to patients culture, age gender and disabilities and show commitment to ethical principles related to providing patient care and confidentiality of patient information.

SUBJECT SPECIFIC LEARNING OBJECTIVES

Clinical Objectives
At the end of post graduate training, the PG student should be able to:-

1. Diagnose and appropriately manage common surgical ailments in a given situation.
2. Provided equate preoperative, post-operative and follow-up care of surgical patients.
3. Identify situations calling for urgent or early surgical intervention and refer at the optimum time to the appropriate centers.
4. Counsel and guide patients and relatives regarding need, implications and problems of surgery in the individual patient.
5. Provide and coordinate emergency resuscitative measures in acute surgical situations including trauma.
6. Organize and conduct relief measures in situations of mass disaster including triage.

7. Effectively participate in the National Health Programs especially in the Family Welfare Programs.
8. Discharge effectively medico-legal and ethical responsibilities and practice his specialty ethically.
9. Must learn to minimize medical errors.
10. Must update knowledge in recent advances and newer techniques in the management of the patients.
11. Must learn to obtain in for med consent prior to performance of operative procedure.
12. Perform surgical audition regular basis and maintain records (manual and/ or electronic)for life.
13. participate regularly in departmental academic activities by presenting Seminar, Case discussion, Journal Club and Topic discussion on weekly basis and maintain logbook.
14. Demonstrate sufficient understanding of basic sciences related to his specialty.
15. Plan and advise measures for the prevention and rehabilitation of patients belonging to his specialty.

Research:

The student should:

1. Know the basic concepts of research methodology, plan are search project and know how to consult library.
2. Should have basic knowledge of statistics.

Teaching:

The student should learn the basic methodology of teaching and develop competence in teaching medical/paramedical students.

Professionalism:

1. The student will show integrity, accountability, respect, compassion and dedicated patient care. The student will demonstrate a commitment to excellence and continuous professional development.
2. The student should demonstrate a commitment to ethical principles relating to providing patient care, confidentiality of patient information and informed consent.
3. The student should show sensitivity and responsiveness to patients' culture, age, gender and disabilities.

SUBJECT SPECIFIC COMPETENCIES

By the end of the course, the student should have acquired knowledge (cognitive domain), professionalism (affective domain) and skills (psychomotor domain) as given below:

A. Cognitive domain

- Demonstrate knowledge of applied aspects of basic sciences like applied anatomy, physiology, biochemistry, pathology, microbiology and pharmacology.
- Demonstrate knowledge of the bedside procedures and latest diagnostics and therapeutics available.
- Describe aetoiology, patho physiology, principles of diagnosis and management of common surgical problems including emergencies, in adults and children.
- Demonstrate the theoretical knowledge of general principles of surgery.
- Demonstrate the theoretical knowledge of systemic surgery including disaster management and recent advances.
- Demonstrate the theoretical knowledge to choose, and interpret appropriate diagnostic and therapeutic imaging including ultrasound, Mammogram, CT scan, MRI.
- Demonstrate the knowledge of ethics, medico-legal aspects, communication skills and leadership skills. The PG student should be able to provide professional services with empathy and humane approach.

B. Affective domain

- Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
- Always adopt ethical principles and maintain proper etiquette in dealings
  With patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
- Develop communication skills to word reports, obtain a proper relevant history and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.
- Obtain informed consent for any examination/procedure and explain to the patient and attendants the disease and its prognosis with a humane approach.
- Provide appropriate care that is ethical, compassionate, responsive and cost effective and in conformation with statutory rules.

C. Psychomotor domain

- Performa humane and thorough clinical examination including internal examinations and examinations of all organs/systems in adults and children
- Write a complete case record with all necessary details.
- Arrive at a logical working diagnosis/differential diagnosis after clinical examination.
- Order appropriate investigations keeping in mind the irrelevance (need based).
- Choose, perform and interpret appropriate imaging in trauma-ultrasound FAST(Focused Abdominal Sonography in Trauma).
- Perform minor operative procedures and common general surgical operations independently and the major procedures under guidance.
- Provide basic and advanced life saving support services in emergency situations
- Provide required immediate treatment and comprehensive treatment taking the help of specialist as required.
- Perform minimally invasive surgery in appropriate clinical settings. Must have under gone basic training in operative laparoscopy related to general and GI Surgery.
- Undertake complete patient monitoring including the preoperative and postoperative care of the patient.
- Write a proper discharge summary with all relevant information.

Course Contents:

No limit can be fixed and no fixed number of topics can be prescribed as course contents. She/he is expected to know the subject in depth, however, emphasis should be on the diseases/health problems most prevalent in that area. Knowledge of recent advances and basic sciences as applicable to his/her specialty should get high priority. Competence in surgical skills commensurate with the specialty (actual hands – on training) must been sured.

1.General topics:

A student should have fair knowledge of basic sciences (Anatomy, Physiology, Biochemistry, Microbiology, Pathology and Pharmacology) as applied to his specialty. Further, the student should acquire in-depth knowledge of his subject including recent advances and should be fully conversant with the bedside procedures (diagnostic and therapeutic) and having knowledge of latest diagnostics and therapeutics available.

1. History of medicine with special reference to ancient Indian texts
2. Health economics- basic terms, health insurance
3. Medical sociology, doctor-patient relationship, family adjustments in disease, organizational behavior, conflict resolution.

4. Computers-record keeping, computer aided learning, virtual reality, robotics
5. Hazards in hospital and protection:

   AIDS, hepatitis B, tuberculosis, radiation, psychological
6. Environment protection-bio-medical waste management
7. Surgical audit, evidence based surgical practice, quality assurance
8. Concept of essential drugs and rational use of drugs
9. Procurement of stores and material & personal management
10. Research methodology-library consultation, formulating research, selection o topic, writing thesis protocol, preparation of consent form from patients
11. Bio-medical statistics, clinical trials
12. Medical ethics
13. Consumer protection
14. Newer antibiotics
15. Problem of resistance.
16. Sepsis-SIRS
17. Nosocomial infection
18. Advances in imaging technologies
19. Disaster management, mass casualties, Triage
20. O.T. design, technologies, equipment
21. Critical care in surgical practice
22. Response to trauma
23. Wound healing
24. Fluid and electrolyte balance
25. Nutrition
26. Blood transfusion
27. Brain death
28. Cadaveric organ retrieval

2.Systemic Surgery

The student must acquire knowledge in the following important topics are but teaching should not be limited to these topics. A standard text-book may be followed, which will also identify the level of learning expected of the trainees.

- Wound healing including recent advances
- Asepsis, antisepsis, sterilization and universal precaution
- Surgical knots, sutures, drains, bandages and splints
- Surgical infections, causes of infections, prevention
- Common aerobic and anaerobic organisms and newer organisms causing infection including *Helicobacter Pylori*
- Tetanus, gas gangrene treatment & prevention
- Chronic specific infections TB, Filariasis
- Boils, cellulites, abscess, narcotizing fasciitis and synergistic infection
- Antibiotic therapy rationale including antibiotic prophylaxis, misuse, abuse
- Hospital acquired nosocomial infection causes and prevention including MRSA etc.
- HIV, AIDS and Hepatitis B&C, Universal precautions when dealing with patients suffering from these diseases.
- Fluid and electrolyte balance including acid–based is turbance, consequences,

  Interpretation of blood gas analysis data and management
- Rhabdomyolysis and prevention of renal failure
- Shock (septicaemic, hypovolaemic, Neurogenic, anaphylactic), etiology, pathophysiology and management
- Bloodandbloodcomponents,transfusionindication,contraindication,mismatchandpreventi onandmanagementofcomplications of massive blood transfusion
- Common preoperative preparation (detailed preoperative workup risk assessment according to the disease and general condition of the patient as per ASA grade)and detailed postoperative complications following major and minor surgical procedures
- Surgical aspects of diabetes mellitus particularly management of diabetic foot and gangrene, preoperative control of diabetes, consequences of hypo- and hyper-glycaemia in a postoperative setting
- Consequences and management of bites and stings including snake, dog, human bites
- Mechanisms and management of missile, blast and gun shot injuries.
- Organ transplantation: Basic principles including cadaver donation, related Human Organ transplant Acts, ethical and medicolegal aspects.

- Nutritional support to surgical patients
- Common skin and subcutaneous condition
- Sinus and fistulae, pressuresores
- Acute arterialocclusion, diagnosis and initiate management
- Types of gangrene, Burger's disease and atherosclerosis
- Investigations in case of arterial obstruction, amputation, vascular injuries: basic principles and management
- Venous disorders: Varicose veins
- Diagnosis, principles of therapy, prevention of DVT: basic principles and management
- Lymphatic:Diagnosis and principles of management of lymphangitis and lymphedema
- Surgical management of Filariasis
- Burns: causes, prevention and management
- Wounds of scalp and its management
- Recognition, diagnosis and monitoring of patients with head injury, Glasgowcoma scale
- Undergo advanced trauma and cardiac support course(certified) before appearing in final examination
- Recognition of acute cerebral compression, indication for referrals.
- Cleft lip and palate
- Leukoplakia, retention cysts, ulcers of tongue
- Oral malignancies
- Salivary gland neoplasms
- Branchial cyst, cystic hygroma
- Cervical lymphadenitis non specific and tuberculous, metastatic lymphnodes and lymphomas.
- Diagnosis and principles of management of goitre
- Thyroglossalcyst and fistula
- Thyrotoxicosis
- Thyroid neoplasms
- Management of solitary thyroidnodule.
- Thoracicoutlet syndrome
- Management of nipple discharge

- Breast abscess
- Clinical breast examination, breast self examination
- Screening and investigation of breastlump
- Concept of Single Stop Breast Clinic
- Cancer breast diagnosis, staging and multi modality management (common neo adjuvant and adjuvant and palliative chemotherapy protocols and indications of radiation and hormoneal therapy, pathology and interpretation of Tumour Markers, breast cancer support groups and counseling)
- Recognition and treatment of pneumothorax, haemothorax
- Pulmonary embolism: Index of suspicion, prevention/recognition and treatment
- Flail chest, stove in chest
- Postoperative pulmonary complication
- Empyema thoracis
- Recognition of oesophgeal atresisa and principles of management
- Neoplasms of the lung including its prevention by tobacco control
- Cancer oesophagus :principles of management including importance of early detection and timely referral to specialist
- Achalasia cardia
- Gastro-esophageal reflux disease(GERD)
- Congenital hyper trophic pylorics tenosis
- Aetiopathogenesis, diagnosis and management of peptic ulcer including role of H. Pylori and its diagnosis and eradication
- Cancer stomach
- Signs and tests of liver dysfunction
- Amoebic liver abscess and its non-operative management
- Hydatidcy stand its medical and surgical management including laparoscopic management
- Portal hypertension, index of suspicion, symptoms and signs of liver failure and
- **Timely referral to a specialist center**
- Obstructive jaundice with emphasis on differentiating medical vssurgical Jaundice, algorithm of investigation, diagnosis and surgical treatment options

- Neoplasms of liver
- Rupture spleen
- Indications for splenectomy
- Clinical features, diagnosis, complications and principles of management of cholelithiasis and cholecystitis including laparoscopic cholecystectomy
- Management of bileductstones including endoscopic, open and laparoscopic management
- Carcinoma gallbladder, incidental cancer gallbladder ,index of suspicion and its staging and principles of management
- Choledochal cyst
- Acute pancreatitis both due to gall stones and alcohol
- Chronic pancreatitis
- Carcinoma pancreas
- Peritonitis: causes, recognition, diagnosis, complications and principles of management with knowledge of typhoid perforation, tuberculous peritonitis, postoperative peritonitis
- Abdominal pain types and causes with emphasis on diagnosing early intra-abdominal acute pathology requiring surgical intervention
- Intestinal amoebiasis and other worms manifestation (Ascariasis) and their surgical complications (Intestinal Obstruction, perforation, gastrointestinal bleeding, involvement of biliary tract)
- Abdominal tuberculosis both peritoneal and intestinal
- Intestinal obstruction
- **Appendix:** Diagnosis and management of acute appendicitis
- Appendicular lumpandabscess

Colon

- Congenital disorders, Congenital megacolon
- Colitis infective/non infective
- Inflammatory bowel diseases
- Premalignant conditions of largebowel
- Ulcerative colitis
- Carcinomacolon
- Principles of management of types of colostomy

Rectum and AnalCanal:

- Congenital disorders, Anorectalanamolies
- Prolapse of rectum
- Carcinoma rectum
- Anal Canal: surgical anatomy, features and management of fissures, fistula-in–ano.
- Perianal and ischiorectal abscess
- Haemorrhoids – Non-operative outpatient procedures for the control of bleeding (Banding, cryotherapy, injection)operative options-open and closed haemorrhoidectomy and stapled haemorrhoidectomy
- Anal carcinoma
- Clinical features, diagnosis, complication and principles of management of inguinal hernia including laparoscopic repair
- Umbilical, femoral hernia and epigastric hernia
- Open and Laparoscopic repair of incisional/primary ventral hernia
- Urinary symptoms and investigations of urinary tract
- Diagnosis and principles of management of urolithiasis
- Lower Urinary tract symptoms or prostatism
- Benign prostatic hyperplasia; diagnosis and management
- Genital tuberculosis in male
- Phimosis and paraphimosis
- Carcinoma penis
- Diagnosis and principles of treatment of undescendecd testis
- Torsion testis
- Hydrocele, haematocele and pyocele Varicocele: Diagnosis (Medical Board for fitness)
- Varicocele: Diagnosis (Medical Board for fitness)
- Acute and chronic epididymo-orchitis
- Testicular tumours
- Principles of management of rethral injuries
- Management of soft tissues arcoma
- Prosthetic materials used in surgical practice

- Telemedicine, teleproctoring and e-learning
- Communication skills
- A student should be expert in good history taking, physical examination, providing basic life support and advanced cardiac life support, common procedures like FNAC, Biopsy ,aspiration from serous cavities, lumber puncture etc. The student should be able to choose the required investigations.

- **Clinical cases and Symptoms- based approach to the patient with:**

- Ulcers in oral cavity
- Solitary nodule of the thyroid
- Lymphnode in the neck
- Suspected breast lump
- Benign breast disease
- Acute abdominal pain
- Blunt Trauma Abdomen
- Gallstone disease
- Dysphagia
- Chronic abdominal pain
- Epigastric mass
- Right hypochrondium mass
- Right iliac fossa mass
- Renal mass
- Inguino-scrotal swelling
- Scrotal swelling
- Gastric outlet obstruction
- Uppergastro intestinal bleeding
- Lower gastro intestinal bleeding
- Anorectal symptoms
- Acute intestinal obstruction

- Obstructive jaundice
- Acute retention of Urine
- Bladder out let obstruction
- Haematuria
- Peripheral vascular disease
- Varicose veins
- New born with developmental anomalies
- Hydronephrosis, Pyonephrosis, perinephricabscess
- Renal tuberculosis
- Renal tumors
- Carcinoma prostate
- Genital tuberculosis in male

At the end of the course, postgraduate students should be able to perform in dependently (including perioperative management) the following:

- Start IV lines and monitor in fusions
- Start and monitor blood transfusion
- Venous cut-down
- Start and manage a C.V.P.line
- Conduct CPR (Cardio pulmonary resuscitation)
- Basic/advance life support
- Endotrachealintubation
- Insert nasogastric tube
- Procto scopy
- Urethral catheterisation
- Surgical management of wounds
- Biopsies including image guided
- Manage pneumo thorax/ pleural space collections
- Infiltration, surface and digital Nerve blocks
- Incise and drain superficial abscesses

- Control external hemorrhage
- Vasectomy(Preferably non-scalpel)
- Circumcision
- Surgery for hydrocele
- Surgery for hernia
- Surgery and Injection/banding of piles
- Management of all types of shock
- Assessment and management of burns
- Hemithyroidectomy
- Excision of thyroglossalcyst
- Excision Biopsy of Cervical Lymphnode
- Excision of benign breast lump

- Modified Radical mastectomy
- Axillary Lymphnode Biopsy
- Excision of gynaecomastia
- Excision of skin and subcutaneous swellings
- Split thickness skin graft
- Management of hernias
- Laparoscopic and open cholecystectomy
- Management of Liver abscess
- appendectomy
- Management of intestinal obstruction, small bowel resection, perforation and anastomosis
- Colostomy

- **The student must have observed or assisted (the list is illustrative)in the following:**
- Hartmann's procedure for cancer rectum
- Spleenectomy (emergency)
- Stomach perforation
- Varicose Veinsurgery
- Craniotomy (HeadInjury)
- Superficial parotidectomy
- Submandibulargl and excision
- Soft tissue tumours including sarcoma
- Pancreaticoduodenal resection
- Hydatid cystliver
- Pancreatic surgery
- Retroperitoneal operations

TEACHING AND LEARNING METHODS

Teaching methodology

Didactic lectures are of least importance; small group discussion such as seminars, journal clubs, symposia, reviews and guest lectures should get priority for theoretical knowledge. Bedside teaching, grand rounds, structured interactive group discussions and clinical demonstrations should be the hallmark of clinical/practical learning with appropriate emphasis on e-learning. Student should have hand-on training in performing various procedures and ability to interpret various tests/investigations. Exposure to newer specialized diagnostic/therapeutic procedures concerning her/his subject should be given. Self-learning tools like assignments and case-based learning may be promoted.

1. **Clinical postings**

A major portion of posting should be in General Surgery. It should include in-patients, out-patients, ICU, trauma, emergency room and speciality clinics.

Rotation of posting

- Inter-unit rotation in the department should be done for a period of up to one year.
- Rotation in appropriate related subspecialties for a total period not exceeding 06 months.

2. **Clinical meetings:**

There should be intra-and inter-departmental meetings for discussing the uncommon

/interesting cases involving multiple departments.

3. **Log book**: Each student must be asked to present a specified number of cases for clinical discussion, perform procedures/tests/operations/presentseminars/review articles from various journals in inter-unit/interdepartmental teaching sessions. They should be entered in a Log Book. The Log books shall be checked and assessed periodically by the faculty members imparting the training.
4. **Thesis writing and research:**

   Thesis writing is compulsory.

5. The postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.
6. **A postgraduate student of MS General Surgery postgraduate degree course would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination**.

7. The student should know the basic concepts of research methodology, plan a research project, be able to retrieve information from the library. The student should have a basic knowledge of statistics.
8. Department should encourage e-learning activities.
   During the training programme, patient safety is of paramount importance; therefore, skills are to be learnt initially on the models, later to be performed under supervision followed by performing independently; for this purpose, provision of surgical skills laboratories in the medical colleges is mandatory.

ASSESSMENT

Assessment should becom prehensive & objective.It should address the stated competencies of the course. The assessment needs to be spread over the duration of the course.

FORMATIVE ASSESSMENT, i.e., assessment during the training would include: Formative assessment should be continual and should assess medical knowledge, patient care, procedural & academic skills, interpersonal skills, professionalism, self directed learning and ability to practice in the system.

General Principles

Internal Assessment should be frequent, coverall domain so flearning and used to provide feedback to improve learning; it should also cover professionalism and communication skills. The Internal Assessment should be conducted in theory and clinical examination.

Quarterly assessment during the MS training should be based on following educational activities:

1. Journal based/recent advances learning
2. Patient based/Laboratory or Skill based learning
3. Self directed learning and teaching
4. Departmental and interdepartmental learning activity
5. External and Out reach Activities/CMEs
6. At the end of completion of 1st & 2nd year there will a theory exam & prelim exam will be taken one month before the university examination.

The student to be assessed periodically as per categories listed in post graduate student appraisal form (AnnexureI).

SUMMATIVE ASSESSMENT, i.e., assessment at the end of training

The summative examination would be carried out as per the Rules given in

POSTGRADUATE MEDICALEDUCATION REGULATIONS,2000.

1. Thesis

Every postgraduate student shall carry outwork on an assigned research project under the guidance of a recognized Post Graduate Teacher, the result of which shall be written up and submitted in the form of a Thesis. Work for writing the Thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the candidate to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature.

Thesis shall be submitted atleast six months before the Theory and Clinical/Practical examination. The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A candidate shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

2. Theory

The examinations shall be organised on the basis of 'Grading'or 'Marking system' to evaluate and to certify candidate's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The xamination for MS shall be held at the end of 3rd academic year. An academic term shall mean six month's training period.

Theory shall consist of four papers of 3hours each.

PaperI:	Basic Sciences	10 questions of 10 Marks each
PaperII:	Principles and Practice of Surgery	10 questions of 10 Marks each
PaperIII:	Principles and practice of Operative Surgery	10 questions of 10 Marks each
PaperIV:	Recent Advances in Surgery	10 questions of 10 Marks each

Theory Examination :- Each paper 100 Marks – 03 Hours Duration.

The examination will be in three parts:

1. Clinical/ Practical and viva voce Examination

Clinical examination shall be conducted to test the knowledge, skills, attitude and competence of the post graduate students for undertaking independent work as a specialist/Teacher, for which post graduate students shall examine a minimum one long case and two short cases.

The Oral examination shall be thorough and shall aim at assessing the post graduate student's knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the specialty, which form a part of the examination.

Assessment may include Objective structured clinical examination.(OSCE)
Oral/Viva-voce examination needs to assess knowledge on X-rays, instrumentation, operative procedures. Due weightage should be given to Log Book Records and day-to-day observation during the training.

PRELIM.& FINAL PRACTICAL EXAMINATION

	Description	Marks	Preparation time	Assessment time
Long case	1 long case	120	45 min each	20 min
Short cases (Three)	3 short cases X 60 each	180	15 min each	10 min
Viva(Four Tables)	Radiology	25		5 min
	Surgical Pathology	25		5 min
	Instruments & Operation Techniques	25		5 min
	Dissertation/Pedagogy	25		5 min
	Total Practical	**400**		

Recommended Reading:

Books (latest edition)

1. Text Book of Surgery, by Christopher Davis
2. ASI Text Book of Surgery
3. Surgery of Colon, Rectum and Anal canal, by Goligher JC
4. Schwartz Text Book of Surgery
5. Textbook on Laparoscopic Surgery
6. Trauma(Mattox)
7. Recent Advances in Surgery

8. Year Book of Surgery
9. Surgical Clinics of North America
10. Short practice of Surgery by Bailey and Love
11. Amanual of clinical Surgery, by SDas
12. Hamilton Bailey's demonstration of clinical signs
13. Pye's Surgical Handicraft

Journals

03-05 international Journals and 02national (allindexed) journals

Annexure I

Postgraduate Students Appraisal Form
Pre/Para/Clinical Disciplines

Name of the Department/Unit :

Name of the PG student :

Period of Training : FROM……TO……

Sr. No.	PARTICULARS	Not Satisfactory	Satisfactory	More Than Satisfactory	Remarks
		1 2 3	5 6	7 8 9	
1.	Journal based/recent Advances learning				
2.	Patient based /Laboratory or Skill based learning				
3.	Self directed learning And teaching				
4.	Departmental and inter departmental learning activity				
5.	External and Outreach Activities/CMEs				
6.	Thesis/Research work				
7.	Log Book Maintenance				

Publications **Yes/No**

Remarks* _____

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***REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.**

SIGNATURE OF ASSESSEE **SIGNATURE OF CONSULTANT** **SIGNATURE OF HOD**

D.Y. PATIL EDUCATION SOCIETY

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