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NARAYAN MEDICAL COLLEGE & HOSPITAL

GUIDELINES FOR COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMME FOR

MS IN

GENERAL SURGERY

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 post graduate 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. This document was prepared by various subject-content specialists. The Reconciliation Board of the Academic Committee has attempted to render uniformity without compromise to purpose and content of the document. Compromise in purity of syntax has been made in order to preserve the purpose and content. This has necessitated retention of "domains of learning" under the heading "competencies".

SUBJECT SPECIFIC LEARNING OBJECTIVES

A. CLINICAL OBJECTIVES

AT THE END OF POSTGRADUATE TRAINING, THE PG STUDENT SHOULD BE ABLE TO: -

1. Diagnose and appropriately manage common surgical ailments in a given situation.
2. Provide adequate 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.2
7. Effectively participate in the National Health Programs especially in the Family Welfare Programs.
8. Discharge effectively medico-legal and ethical responsibilities and practice hisspecialty 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 informed consent prior to performance of operative procedure.
12. Perform surgical audit on a regular basis and maintain records (manual and/orelectronic) 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.

B. RESEARCH:

The student should:

1. Know the basic concepts of research methodology, plan a research project and knowhow to consult library.
2. Should have basic knowledge of statistics.

C. TEACHING:

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

D. PROFESSIONALISM:

1. The student will show integrity, accountability, respect, compassion and dedicated patient. 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, pathophysiology, 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

- Perform a 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 their relevance (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 undergone 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.

SYLLABUS

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 be ensured.

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 of 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

SYSTEMIC SURGERY

The student must acquire knowledge in the following important topics are butteaching 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 fascitis 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 – base disturbance, consequences, interpretation of blood gas analysis data and management
- Rhabdomyolysis and prevention of renal failure
- Shock (septicaemic, hypovolaemic, Neurogenic, anaphylactic), etiology, pathophysiology and management
- Blood and blood components, transfusion indication, contraindication, mismatch and prevention and management of complications 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 hyperglycaemia in a postoperative setting
- Consequences and management of bites and stings including snake, dog, human bites
- Mechanisms and management of missile, blast and gunshot 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, pressure sores
- Acute arterial occlusion, 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 nonspecific and tuberculous, metastatic lymph nodes and lymphomas.
- Diagnosis and principles of management of goitre
- Thyroglossal cyst and fistula
- Thyrotoxicosis
- Thyroid neoplasms
- Management of solitary thyroid nodule
- Thoracic outlet syndrome
- Management of nipple discharge
- Breast abscess
- Clinical breast examination, breast self examination
- Screening and investigation of breast lump
- Concept of Single Stop Breast Clinic
- Cancer breast diagnosis, staging and multimodality management (common neoadjuvant and adjuvant and palliative chemotherapy protocols and indicationsof radiation and hormonal 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 oesophgealatresisa and principles of management
- Neoplasms of the lung including its prevention by tobacco control
- Cancer oesophagus: principles of management including importance of earlydetection and timely referral to specialist
- Achalasia cardia
- Gastro-esophageal reflux disease (GERD)
- Congenital hypertrophic pyloric stenosis
- 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
- Hydatid cyst and 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 vs surgical 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 ofcholelithiasis and cholecystitis including laparoscopic cholecystectomy
- Management of bile duct stones including endoscopic, open and laparoscopic
- management
- Carcinoma gall bladder, incidental cancer gallbladder, index of suspicion and itsstaging and principles of management
- Choledochal cyst
- Acute pancreatitis both due to gallstones 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 intraabdominal 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 lump and abscess

COLON

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

RECTUM AND ANAL CANAL:

- Congenital disorders, Anorectal anamolies
- 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)
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- Acute and chronic epididymo-orchitis
- Testicular tumours
- Principles of management of urethral injuries
- Management of soft tissue sarcoma
- 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

1. Ulcers in oral cavity
2. Solitary nodule of the thyroid
3. Lymph node in the neck
4. Suspected breast lump
5. Benign breast disease
6. Acute abdominal pain
7. Blunt Trauma Abdomen
8. Gall stone disease
9. Dysphagia
10. Chronic abdominal pain
11. Epigastric mass
12. Right hypochrondium mass
13. Right iliac fossa mass
14. Renal mass
15. Inguino-scrotal swelling
16. Scrotal swelling
17. Gastric outlet obstruction
18. Upper gastrointestinal bleeding
19. Lower gastrointestinal bleeding
20. Anorectal symptoms
21. Acute intestinal obstruction
22. Obstructive jaundice
23. Acute retention of Urine
24. Bladder outlet obstruction
25. Haematuria
26. Peripheral vascular disease
27. Varicose veins
28. New born with developmental anomalies
29. Hydronephrosis ,Pyonephrosis, perinephric Abscess
30. Renal tuberculosis
31. Renal tumors
32. Carcinoma prostate
33. Genital tuberculosis in male

AT THE END OF THE COURSE, POST GRADUATE STUDENTS SHOULD BE ABLE TO PERFORMINDEPENDENTLY (INCLUDING PERIOPERATIVE MANAGEMENT) THE FOLLOWING:

- Start IV lines and monitor infusions
- Start and monitor blood transfusion
- Venous cut-down
- Start and manage a C.V.P. line
- Conduct CPR (Cardiopulmonary resuscitation)
- Basic/ advance life support
- Endotracheal intubation
- Insert nasogastric tube
- Proctoscopy
- Urethral catheterisation
- Surgical management of wounds
- Biopsies including image guided
- Manage pneumothorax / 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 thyroglossal cyst
- 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 Vein surgery
- Craniotomy (Head Injury)
- Superficial parotidectomy
- Submandibular gland excision
- Soft tissue tumours including sarcoma
- Pancreaticoduodenal resection
- Hydatid cyst liver
- 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 lecturers 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 inpatients, out-patients, ICU, trauma, emergency room and speciality clinics.

2. 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 06months.

3. CLINICAL MEETINGS:

There should be intra- and inter- departmental meetings for discussing the uncommon/interesting cases involving multiple departments.

4. LOG BOOK:

Each student must be asked to present a specified number of cases for clinical discussion, perform procedures/tests/operations/present seminars/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.

5. Thesis writing and research:

Thesis writing is compulsory.

6. The postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.

7. A postgraduate student of a postgraduate degree course in broad specialties /superspecialities 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 hispostgraduate studies so as to make him eligible to appear at the postgraduate degree examination.

8. 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.

9. 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 be comprehensive & 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, cover all domains of learning 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 Outreach Activities / CMEs

The student to be assessed periodically as per categories listed in postgraduate student appraisal form (Annexure I).

The formative assessment is continuous as well as end-of-term. The former is be based on the feedback from the senior residents and the consultants concerned. All the consultants of the unit in which resident is working will give marks based on performance. These marks will be summated over a period of tenure. ***End-of-term assessment is held at the end of each semester (upto the 5th semester). Formative assessment will not count towards pass/fail at the end of the program, but will provide feedback to the candidate***

INTERNAL ASSESSMENT

The performance of the Postgraduate student during the training period should be monitored throughout the course and duly recorded in the log books as evidence of the ability and daily work of the student. Marks should be allotted out of 100 as followed.

Sr. No.	Items	Marks
1	Personal Attributes	20
2	Clinical Work	20
3	Academic activities	20
4	End of term theory examination	20
5	End of term practical examination	20

1. Personal attributes:

- **Behavior and Emotional Stability:** Dependable, disciplined, dedicated, stable in emergency situations, shows positive approach.
- **Motivation and Initiative:** Takes on responsibility, innovative, enterprising, does not shirk duties or leave any work pending.
- **Honesty and Integrity:** Truthful, admits mistakes, does not cook up information, has ethical conduct, exhibits good moral values, loyal to the institution.
- **Interpersonal Skills and Leadership Quality:** Has compassionate attitude towards patients and attendants, gets on well with colleagues and paramedical staff, is respectful to seniors, has good communication skills.

2. Clinical Work:

- **Availability:** Punctual, available continuously on duty, responds promptly on calls and takes proper permission for leave.
- **Diligence:** Dedicated, hardworking, does not shirk duties, leaves no work pending, does not sit idle, competent in clinical case work up and management
- **Academic ability:** Intelligent, shows sound knowledge and skills, participates adequately in academic activities, and performs well in oral presentation and departmental tests.
- **Clinical Performance:** Proficient in clinical presentations and case discussion during rounds and OPD work up. Preparing Documents of the case history/examination and progress notes in the file (daily notes, round discussion, investigations and management) Skill of performing bed side procedures and handling emergencies.

3. Academic Activity:

Performance during presentation at Journal club/ Seminar/Case discussion/Stat meeting and other academic sessions. Proficiency in skills as mentioned in job responsibilities.

4. End of term theory examination conducted at end of 1st, 2nd year and after 2years 9 months

5. End of term practical/oral examinations after 2 years 9 months.

- Marks for **personal attributes** and **clinical work** should be given annually by all the consultants under whom the resident was posted during the year. Average of the three years should be put as the final marks out of 20.
- Marks for **academic activity** should be given by the all consultants who have attended the session presented by the resident.
- The Internal assessment should be presented to the Board of examiners for due consideration at the time of Final Examinations.
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SUMMATIVE ASSESSMENT, ie., assessment at the end of training The summative examination would be carried out as per the Rules given in **POSTGRADUATE MEDICAL EDUCATION REGULATIONS, 2000.**

THE EXAMINATION WILL BE IN THREE PARTS

1. THESIS

Every post graduate student shall carry out work on an assigned research project under the guidance of a recognised 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 at least 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 examination 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 3 hours each.**

Paper I: Basic Sciences

Paper II: Principles and Practice of Surgery

Paper III: Principles and practice of Operative Surgery

Paper IV: Recent Advances in Surgery

3. 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.

Theory Examination (Total= 400)

Paper	Title	Pattern of question	Marks
Paper 1	Basic Sciences	**10 question each will carry equal 10 marks**	**100**
Paper 2	Principles and Practice of Surgery	**10 question each will carry equal 10 marks**	**100**
Paper 3	Principles and practice of Operative Surgery	**10 question each will carry equal 10 marks**	**100**
Paper 4	Recent Advances in Surgery	**10 question each will carry equal 10 marks**	**100**

Practical Examination and Viva voce (Total=400)

S. NO	CASE		MARKS
1	**LONG CASE**	**=ONE X** 150	**150**
2	**SHORT CASE**	**=THREE X 50**	**150**
3	**VIVA VOCE** **SPECIMEN** **INSTRUMENTATION** **XRAY** **OPERATIVE PROCEDURES** **LOG BOOK**	 **25** **20** **20** **25** **10**	**100**

JOB RESPONSIBILITIES OF PG

During first year, the resident should work under direct supervision of the 2nd & 3rd year residents/senior residents and consultant on call. He/she will be responsible for taking detailed history, examination of patients as per the file record and send appropriate investigations as advised by the seniors and making discharge cards. Initially all the procedures are to be observed and then performed under supervision of seniors and during 2nd / 3rd year should do procedures independently. In 2nd year, resident should be posted in emergency, Surgical ICU and specialties concerned. In 3rd year, resident is encouraged to make independent decisions in management of ases and perform surgery independently. He /she is involved in teaching of undergraduate students.

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 J C
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. A manual of clinical Surgery, by S Das
12. Hamilton Bailey's demonstration of clinical signs
13. Pye's Surgical Handicraft

JOURNALS

03-05 international Journals and 02 national (all indexed) journals

TEACHING PROGRAM

GENERAL PRINCIPLES

Acquisition of practical competencies being the keystone of postgraduate medical education, postgraduate training is skills oriented. Learning in postgraduate program is essentially self-directed and primarilyemanating from clinical and academic work. The formal sessions are merelymeant to supplement this core effort.

TEACHING SESSIONS

In addition to bedside teaching rounds, in the department there are daily hourly sessions of formal teaching per week comprising of seminars, case presentations, journal clubs, clinical meetings and central sessions.

4**Teaching schedule**

The suggested teaching schedule of the department will be as follows:

1. Seminar
2. Case Presentation
3. Journal Club
4. Case Presentation
5. Clinical Meeting
6. Central session (held in hospital auditorium regarding various topics like CPC, guest lectures, student integrated seminars, grand round, sessions on basic sciences, biostatistics, research methodology, teaching methodology, health economics, medical ethics and legal issues).

LECTURES ON DIFFERENT TOPICS ARE GIVEN BY THE CONSULTANTS EVERY MONTH.

- All sessions are attended by the faculty members. All PGs are supposed to attend the sessions except the ones posted in Surgical ICU and emergency.
- All the teaching sessions are assessed by the consultants at the end of session and kept in the office for internal assessment.
- The P.G. residents in IIIrd year take preferably undergraduate classes in the evening. This helps them to prepare and make them confident in clinical presentation. The undergraduate students are encouraged to clarify their doubts and sharpen their clinical skills.
- Ward rounds may be service or teaching rounds. Service rounds should be taken every day for the care of patients and every unit should have grand rounds for teaching purpose. Entry of both the rounds should be made in Log Book.
- Inter departmental meetings particularly between Pathology, Gastroentrology and Radio-diagnosis are being held at least once a month, and entries ofintresting cases should be made in the log book.
- Recommended that at least two state level CME programmes should be attended by each student during the three year tenure.
- Attending conferences is encouraged although it is optional

OTHER SUGGESTED BOOKS AND JOURNALS

CORE BOOKS

- Bailey & Love's- Short Practice of Surgery
- Farquaharson's Text Book of General Surgery
- Current Surgical Diagnosis & Treatment

REFERENCE BOOKS

➢ Hamilton Bailey Demonstration of Clinical signs & Symptoms in surgery ➢ Emergency Surgery By Baily H ➢ Dudley's Atlas of General Surgery ➢ Pye's Surgical Handicraft ➢ Mastery of Surgery by Baker R.J Vol. I & II ➢ Schwartz-Principles of Surgery ➢ Recent Advances, Tayler ➢ Sabiston Text Book of Surgery, Part I & II ➢ Maingot's Abdominal Operations	➢ Oxford Text Book of Surgery Vol.I,II& III by Morris and Wood ➢ S.Das Text Book on Surgical Short Cases ➢ Mastery of Thoracic Surgery ➢ Text Book of Hepatobiliary Surgery-Blumgart ➢ Textbook Colorectal Surgery by Corman Marwin L. ➢ Laparoscopic Surgery Technique-Darsi ➢ Zollinger Altas of Surgical Operation ➢ Surgery of Alimentary Tract Vol 1 & 2 Shackelford

JOURNALS

➢ Annals of Surgery ➢ Archives of Surgery ➢ British Journal of Surgery ➢ Journal of Neurosurgery ➢ Journal of Neurosurgery : Spine ➢ Journal of Neurosurgery : Pediatrics ➢ Journal of Plastic , Reconstructive and Aesthetic Surgery ➢ Journal of Trauma ➢ Journal of Urology	➢ Neurosurgery clinics of North America ➢ Plastic & Reconstructive Surgery ➢ Surgery ➢ Surgical Clinics of North America ➢ Urologic Clinics of North America ➢ Indian Journal of Surgery ➢ Journal of Minimal Access Surgery ➢ Journal of Indian Association of Paediatric Surgery

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	Journal based / recent advances learning	1 2 3	4 5 6	7 8 9	
2	Patient based /Laboratory or Skill based learning				
3	Self directed learning and teaching				
4	Departmental and interdepartmental learning activity				
5	External and Outreach Activities / CMEs				
6	Thesis / Research work				
7	Log Book Maintenance				

Publications **Yes/ No**

Remarks*_____

***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

SENT UP CRITERIA

- The performance of the Postgraduate student during the training period should be monitored throughout the course and duly recorded in the log books as evidence of the ability and daily work of the student. Marks should be allotted out of 100 as followed.

Sr. No.	Items	Marks
1	Personal Attributes	20
2	Clinical Work	20
3	Academic activities	20
4	End of term theory examination	20
5	End of term practical examination	20

MINIMUM OF 75 MARKS WILL BE CUMPULSORY

- Post graduate students **appraisal form (annexure-1)** duly signed by HOD Of Department

GOPAL NARAYAN SINGH UNIVERSITY

JAMUHAR, SASARAM, ROHTAS-821305

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