

Preface

The promulgation of the much-awaited Competency Based Medical Education (CBME) for post graduate programs by the National Medical Council is a welcome move. Sri Balaji Vidyapeeth (SBV), Puducherry, deemed to be University, declared u/s 3 of the UGC Act. and accredited by the NAAC with A grade, takes immense privilege in preparing such an unique document in a comprehensive manner and most importantly the onus is on the Indian setting for the first time, with regard to the competency based medical education for post graduate programs that are being offered in the broad specialty departments. SBV is committed to making cardinal contributions that would be realised by exploring newer vistas. Thus, post graduate medical education in the country could be made to scale greater heights and SBV is poised to show the way in this direction.

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Preface

The salient feature of this document is defining the program educational objectives (PEO) for its postgraduate program as a whole, defining program outcomes (PO) based on the competencies to be practiced by the specialist, course outcomes (CO) and program specific sub-competencies and their progression in the form of milestones. The compilation of the milestone description leads to the formation of the required syllabus. This allows the mentors to monitor the progress in sub-competency milestone levels. It also defines milestone in five levels, for each sub-competency. Although NMC has described three domains of competencies, the domain 'Attitude' is elaborated into 4 more competencies for ease of assessment. The six competency model (ACGME) for residency education: Medical Knowledge, Patient Care, Practice Based Learning and Improvement, Systems Based Practice, Professionalism, Inter personal and Communication Skills gives better clarity and in-depth explanation and is used in this document. The sub-competency and their milestone levels are mapped into the entrustable professional activities(EPA) that are specific to the individual postgraduate program. While doing all this, the syllabus prescribed by NMC is fully incorporated into the curriculum. To make the program more relevant, PEO, PO, CO and EPAs are mapped with each other. EPAs which are activity based are used for formative assessment and graded. EPA assessment is based on workplace based assessment (WPBA), multisource feedback (MSF) and eportfolio. A great emphasis is given on monitoring the progress in acquisition of knowledge, skill and attitude through various appraisal forms including e-portfolios during three years of residency period.

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Foreword

We are in an era when knowledge is expanding at an unprecedented rate and moral values are being challenged. To prepare our younger generation to meet the challenges of an ever advancing knowledge-based society and the dynamically changing environment, it is not enough to impart them with mere 'knowledge'. Instead, we have to help them develop a global outlook, equip them with a repertoire of skills and the positive attitudes to respect knowledge and to learn how to learn.

In preparing the curriculum framework for Post graduate students of MS General Surgery, which is a student-focused curriculum, Competency based curriculum developed in the best interest of students, we firmly believe that all students could learn, and that they have different intelligences. We provide them with opportunities to learn. We identify key learning experiences and key learning areas, integrating the generic skills, values and attitudes that are essential to their whole person development. What is important is to enhance their quest for knowledge, their awareness and responsibilities in advancing the frontiers of knowledge.

In order to allow for holistic and coherent planning and to provide more flexibility, we have developed a curriculum framework with key learning areas (knowledge/concepts), skills, values and attitudes as the major components. We must bear in mind that curriculum development is an ongoing endeavour and the ultimate goal of curriculum reform is to benefit students and to raise the quality of learning.

We in our Sri Balaji Vidyapeeth University coping with international standards.

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The National Medical Council has laid down the PG curricula in their website <https://www.nmc.org.in/information-desk/for-colleges/pg-curricula-2> that is listing the syllabus course wise, listing competency to some extent, teaching learning methods and the assessment methods as well. The document describes competencies in three domains (knowledge, skill, and attitude). However, the most significant problem in competency-based training is the development of appropriate assessment tools.

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List of Abbreviations and Acronyms

PEO	Programme Educational Objective
PO	Programme Outcome
CO	Course outcome
EPA	Entrustable Professional Activity
MK	Medical Knowledge
PC	Patient Care
SBP	System Based Practice
PBLI	Practice Based Learning and Improvement
IPCS	Interpersonal Communication Skills
P	Professionalism

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Sri Balaji Vidyapeeth
Post - Graduate Programme
M.S. General Surgery

1. Preamble

The competency based curriculum should take into account the needs of the society, both local and global. It needs to outline the demand for the present day as well as future. The curriculum needs to be reviewed at least every five years to address the trending needs, as new knowledge is evolving and communication of the same is seamless. Accordingly the competencies need to meet the societal needs detailing the cognitive, psychomotor and affective domain development for attaining these competencies.

The curriculum indicates to the candidate the knowledge, basic skills and attitudes required to become a *General Surgeon*. It disciplines the thinking habits for problem solving and discovery of new knowledge in the field of *General Surgery*. It defines the Teaching - Learning methods adopted for the resident to achieve the goals of the, and the methods of assessment performed throughout the training period and at the completion of training. The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment.

2. Programme Educational Objective (PEO)

Programme Educational Objectives are broad statements that describe what graduates are expected to attain within few years of completing their programme. These are based on the needs of the society as analysed and outlined by the regulatory body. So as defined by Medical Council of India (MCI), the PEO for *MS General Surgery* are as follows:

- PEO1.** Specialist who can provide comprehensive care related to General Surgery over and above the physician of first contact.
- PEO2.** Be a leader and team member who understands health care system and act to provide safe patient care with accountability and responsibility.
- PEO3.** Communicator possessing adequate communication skill to convey required information in an appropriate manner in various health care setting.
- PEO4.** Lifelong learner keen on updating oneself regarding the advancement in the health care field and able to perform the role of researcher and teacher.
- PEO5.** Professional who understands biomedical research and follows the principle of bio - ethics / ethics related to health care system.

3. Programme Outcome (PO)

PO's represent broad statements that incorporate many areas of inter - related knowledge and skills developed over the duration of the programme through a wide range of courses and experiences. They represent the big picture and describe broad aspects of knowledge, skill and attitude development. They encompass multiple learning experiences.

After a period of 3 years, the resident should be able to attain the following PO's:

- PO1:** diagnose and appropriately manage common surgical ailments in a given situation.(C1,C2)
- PO2:** Perform common minor& major General Surgical procedures and provide Peri-operative care. (C2, C3, C4)
- PO3:** Identify situations calling for urgent or early surgical intervention and refer at the optimum time to the appropriate centers (C2, C3, C4)
- PO 4:** provide and coordinate emergency resuscitative measures in acute surgical situations including trauma (C2, C3)
- PO5:** Identify patient safety and ^{SBV}system approach to medical errors. (C2, C4)
- PO6:** perform a surgical audits on a regular basis and maintain records (manual and/or electronic) for life.(C2, C4)
- PO7:** Communicate with stakeholders of the health care system.
- PO8:** must update knowledge in recent advances and newer techniques in the management of the patients.(C4).
- PO9:** Develop & execute a protocol for a scientific research project, collect and analyze the data and scientifically communicate to the others
- PO10:** Perform SDL and Critical appraisal of medical literature. (C2, C4)
- PO11:**
 - ✓ The student will show integrity, accountability, respect, compassion, and dedicated patient care. The student will demonstrate a commitment to excellence and continuous professional development..(C2, C4)
 - ✓ The student should demonstrate a commitment to ethical principles relating to providing patient care, the confidentiality of patient information, and informed consent..(C2, C4)
 - ✓ The student should show sensitivity and responsiveness to patients' culture, age, gender, and disabilities..(C2, C4)

4. Course and Course Outcomes (CO)

CO's describe the learning that will take place across the curriculum through concise statements, made in specific and measurable terms, of what students will know and /or be able to do after successful completion of each course.

There are four courses for MS *General Surgery*

4.1 Course 1 (C1): Basic sciences (Applied)

Objectives: At the end of three years post-graduate student should be able to

- C1.1** Apply knowledge of pre and para clinical sciences related to General Surgery and its allied Surgical Specialities

4.2 Course 2 (C2): Principles and Practice of Surgery

Objectives: At the end of three years post-graduate student should be able to

- C2.1** Wound healing including recent advances, asepsis, antisepsis, sterilization, and universal precaution
- C2.2** Surgical infections, causes of infections, including diabetes and prevention
- C2.3** Antibiotic therapy rationale including antibiotic prophylaxis, misuse, abuse
- C2.4** Hospital acquired nosocomial infection causes and prevention including MRSA
- C2.5** Surgical nutrition, fluid and electrolyte balance including acid-base disturbance
- C2.6** Surgical knots, sutures, drains, bandages and splints (skills)

4.3 Course 3 (C3): Principles and Practices of Operative Surgery

Objectives: At the end of three years post-graduate student should be able to

- C3.1** Manage effectively all emergency and elective GI disorders.
- C3.2** Practice the concept of Single Stop Breast Clinic.
- C3.3** Cancer breast diagnosis, staging and multimodality management
- C3.4** Understand and manage effectively surgical diseases affecting various endocrine organs like thyroid, parathyroid, and adrenals

5.4 Course 4 (C4): Recent advances and subspeciality

Objectives: At the end of three years post-graduate students should be able to

- C4.1** Comprehensively evaluate and manage common surgical conditions in subspecialties of Urology, Cardiothoracic, Neurosurgery, Plastic and Paediatric Surgery. The resident should also be abreast of recent advances in the surgical field.

Mapping of PEO, PO and CO

Programme mapping facilitates the alignment of course - level outcomes with programme outcomes. It allows faculty to create a visual map of a programme. It is also used to explore how students are meeting program - level outcomes at the course level. Outcomes mapping focuses on student learning also.

Table1. Mapping of PEO, PO and CO

	PEO1					PEO2 &PEO3		PEO4			PEO5
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
C1	Y		Y					Y	Y		
C2	Y	Y		Y	Y	Y	Y	Y		Y	Y
C3		Y	Y	Y	Y	Y	Y	Y		Y	Y
C4				Y			Y	Y	Y	Y	Y

All courses run concurrently for 3 years with a summative assessment at the end of 3 years. The program is competency-based and the competencies, sub-competencies, and milestones are detailed. These are mapped to the Entrustable professional activities (EPA) identified as essential for a specialist. Formative assessment is carried out every three months using appropriate tools, for identifying eligibility for transfer of trust.

Competencies, Sub - competencies and milestones

The post graduate programme is competency based, consisting of six domains of competency. Sub - competencies under these domains, specific to the speciality, have been mentioned in general terms. The progression through the curriculum is detailed in sub - competency milestone levels, that directs the prescribed syllabus. These sub - competency milestones are mapped to the Entrustable Professional Activities (EPAs), identified as essential for a specialist. Formative assessment includes EPA assessment, and is carried out every quarter using appropriate tools, for identifying eligibility for transfer of trust, to the resident.

Domain of Competencies

1. **Medical Knowledge (MK)**–Acquiring Knowledge of established and evolving biomedical, clinical, epidemiological, and social – behavioural sciences, and the application of this knowledge to patient care.
2. **Patient Care/Procedural Skill PC/PS)**–Demonstrate ability to provide patient - centred care/demonstrate skills required for teaching and conducting research.
3. **System Based Practise (SBP)** - Demonstrate the ability to follow the standard operating procedures relevant to practices of the organisations for patient care, inculcating quality and economical practices.
4. **Practice Based Learning and improvement (PBLI)** - Demonstrate the commitment to learn by literature search, feedback, practice and improve upon their ability.
5. **Interpersonal Communication skills (IPCS)** - Demonstrate behaviour and skills that result in the effective communication, exchange of information and cooperation with patients, their families, and health professionals
6. **Professionalism (P)** - Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Sub - competencies

System Based Practice

- SBP1.** Demonstrate the ability to follow the standard operating procedures (SOP) relevant to the organisations of patient care.
- SBP2.** Ascertain incorporation of patient safety and quality improvement into clinical practice
- SBP3.** Acquire an understanding of cost effectiveness in health care.

Practice based learning and improvement

- PBLI1.** Demonstrate the ability to critically appraise medical literature
- PBLI2.** Cultivate habits for self - directed learning

Interpersonal communication skills

- IPCS1.** Communication with patients and their care givers
- IPCS2.** Communication with peers/Faculty/other health care workers/paramedical and support staff – within speciality and with other specialties
- IPCS3.** Communication skills required for teaching and training

Professionalism

- PROF1.** Punctuality, honesty and self-discipline
- PROF2.** Accountability and responsiveness to needs of patient's, society and speciality, with ethical conduct and professional etiquette
- PROF3.** Ability to receive feedback/reflect and respond and give feedback to others respectfully.
- PROF4.** Awareness of one's own wellbeing – maintaining Work-life balance

Milestone Levels for Sub-competencies – Insert milestone descriptions for each sub-competency in the table format

Medical Knowledge

MK1. Knowledge of anatomy and surgical conditions

Knowledge of normal and variant anatomy pertinent to completing operations and functioning of organs associated with different systems (vascular, gastrointestinal, endocrine, etc). Knowledge of physical signs and symptoms for interpreting abnormalities associated with different surgical conditions

Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Demonstrates basic knowledge of the normal anatomy of systems relevant to general surgical practice.</p>	<p>In addition to Milestone Level 1 Demonstrates a basic understanding of symptoms and signs of common surgical conditions.</p> <p>Demonstrates knowledge of relevant surgical anatomy and common procedural indications (abscess drainage, appendectomy, etc)</p>	<p>In addition to Milestone Level 2 <small>SBV</small> Correlate the symptoms and signs with the underlying pathology and disease process Develops appropriate differential diagnoses Able to correlate anatomy organs to diagnostic evaluation and basic imaging. Identifies variations in anatomy during common operations and articulates their implications on operative steps.</p>	<p>In addition to Milestone Level 3 Demonstrates an in-depth knowledge regarding core surgical conditions for the management of patients with multiple co-morbidities Educates residents regarding surgical anatomy and basic operative steps for common procedures</p>	<p>In addition to Milestone Level 4, Demonstrates knowledge in recent advances.</p> <p>Comprehends adequately to teach others</p> <p>Demonstrates knowledge of variations in anatomy during complex operations and articulates their implications on operative</p>

M.K 2: knowledge of pathophysiology and application of established principles

Apply established principles of clinical sciences to diagnostic, therapeutic decision-making, and skill-based procedures. Demonstrates progressive knowledge of pathophysiology, treatment of surgical conditions, and aspects of evidence-based health care

Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Demonstrates basic knowledge of pathophysiology and treatment of patients with common surgical conditions.</p>	<p>In addition to Milestone Level 1 Demonstrates an understanding of initial evaluation and treatment options of common surgical conditions. Demonstrates the ability to formulate initial steps of management plans for patients with common surgical conditions Ability to formulate a differential diagnosis of various general surgical conditions Practice basic principles of perioperative care for common surgical procedures</p>	<p>In addition to Milestone Level 2 Demonstrates the ability to Interpret tests appropriate for surgical diseases(Haematology, Biochemistry, Microbiology, Radiology) Demonstrates the ability to formulate comprehensive management plans for surgical patients with comorbidities. Demonstrates knowledge of pathophysiology and treatment of patients with complex surgical conditions.</p>	<p>In addition to Milestone Level 3 Demonstrates the ability to formulate comprehensive management plans for surgical patients with comorbidities Demonstrate the ability to share knowledge with other members of the health care. Demonstrate knowledge of the impact of patient factors on surgical care pathways. Applies appropriate evidence base guidelines in surgical practice.</p>	<p>In addition to Milestone Level 4 Demonstrate the ability to share knowledge with the multidisciplinary team regarding surgical conditions. Contributes to peer-reviewed literature on disease presentations, alternative or adjuvant treatment of surgical disorders. Applies innovative approaches and implements treatment plans based on emerging evidence for general surgical conditions.</p>

M.K 3: Research methodology and principles of social-behavioural sciences

Knowledge of research methodology employed in surgical specialties and techniques of scientific communication. Apply principles of social-behavioural sciences on the provision of patient care, and to assess the impact of psychosocial-cultural influences on health, barriers to and attitudes toward care

Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Recognize the importance of data collection, basic principles of auditing.</p>	<p>In addition to Milestone Level 1</p> <p>Assess psychosocial-cultural influences on woman's health, care seeking, care-compliance, barriers and attitudes toward care.</p>	<p>In addition to Milestone Level 2</p> <p>Analyze psychosocial-cultural influences on woman's health, care seeking, care-compliance, barriers, and attitudes toward care. Prepare a plan to improve patient care-seeking and care-compliance attitudes toward health care. Demonstrate an investigatory and analytic approach to clinical situations.</p>	<p>In addition to Milestone Level 3</p> <p>Educates residents and other health care members regarding psychosocial-cultural influences on health, care-seeking, care-compliance, barriers and attitudes toward care. Apply established and emerging biophysical scientific principles fundamental to health care for patients and populations.</p>	<p>In addition to Milestone Level 4</p> <p>Comprehends adequately to teach others</p> <p>Applies innovative approaches and implements treatment plans based on emerging evidence</p> <p>Develop & execute a protocol for a scientific research project, collect and analyze the data, and scientifically communicate to the others.</p>

Patient Care/Procedural Skill – PC/PS

PC/PS 1:Patient evaluation and decision making

To ensure progressive development of knowledge and skill required to evaluate and manage patients with surgical conditions through history taking, physical examination, and available laboratory data, imaging, and other tests

Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Gathers necessary information and performs basic history taking and physical examination appropriate to surgery and develops a differential diagnosis for patients in all clinical settings</p>	<p>In addition to Milestone Level 1</p> <p>Evaluates patients; orders and interprets diagnostic testing</p> <p>Manages non-operative straightforward patients and conditions (e.g., bowel obstruction, diverticulitis)</p>	<p>In addition to Milestone Level 2</p> <p>Develops a plan to manage straightforward patients (e.g., healthy patients) o hernia and conditions (e.g., colon cancer, breast) o symptomatic</p> <p>Adapts management plan for changing clinical situation (e.g., drainage of diverticular abscess)</p>	<p>In addition to Milestone Level 3</p> <p>Develops a plan to manage complex patients (e.g., patient with multiple comorbidities) and conditions (e.g., hemorrhagic shock)</p> <p>Manages non-operative complex patients conditions (e.g., severe pancreatitis)</p> <p>Effectively supervises and educates lower-level residents</p>	<p>In addition to Milestone Level 4</p> <p>Comprehends adequately to teach others</p> <p>Develops a clinical pathway or guideline for the management of complex patients and conditions</p> <p>Applies innovative approaches to recognizes atypical presentations</p>

PC/PS 2: Interpretation of investigations

Interpret laboratory data, imaging studies, and other tests required for the general surgical problems				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Demonstrate knowledge of surgical and surgery-related medical comorbidities</p>	<p>In addition to Milestone Level 1 Interpretation of commonly performed laboratory data, imaging studies. Correlating the laboratory data, imaging studies with underlying pathology</p>	<p>In addition to Milestone Level 2 Interpretation of specially performed laboratory data, imaging studies. Correlating specially performed laboratory data, imaging studies with underlying pathology</p>	<p>In addition to Milestone Level 3 Formulates management plans and initiates treatment for surgical and surgery-related medical comorbidities.</p>	<p>In addition to Milestone Level 4 Comprehends adequately to teach others Applies innovative approaches to treatment plans based on emerging evidence</p>

PC/PS 3: Planning patient management

Develop and carry out patient management plans rationally				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Demonstrate knowledge of surgical and surgery-related medical comorbidities</p> <p>Demonstrates an understanding of the indications for endoscopy</p> <p>Demonstrates a basic understanding of the effectiveness, risks, benefits, complications, and contraindications of procedures</p> <p>Demonstrates knowledge of common procedural indications</p> <p>Demonstrates the ability to recognize and manage perioperative complications</p>	<p>In addition to Milestone Level 1</p> <p>Performs the initial assessment, formulates a differential diagnosis and initiates treatment for common surgical complications</p> <p>Recognize complications and formulate an initial management plan.</p> <p>Counsels on the effectiveness, risks, and benefits of available forms of management option</p> <p>Performs the initial assessment, formulates a differential diagnosis, and initiates treatment for common surgical problems</p>	<p>In addition to Milestone Level 2</p> <p>Formulates management plans and initiates treatment for complex conditions</p> <p>Plan prophylactic strategies to reduce postoperative complications.</p>	<p>In addition to Milestone Level 3</p> <p>Demonstrates good decisions making and ability to modify management plans</p> <p>Recognizes timely consultation during management</p>	<p>In addition to Milestone Level 4</p> <p>Comprehends adequately to teach others</p> <p>Applies innovative approaches to treatment plans based on emerging evidence complications.</p>

PC/PS 4: Intra-operative care - Performance of procedures

To ensure the progressive development of integrated knowledge and skills and assist diagnostic, and surgical procedures considered essential for the area of practice complete an operation

Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Performs basic procedures</p> <p>Demonstrates basic skills (e.g., knot tying, suturing) including depth of the wound</p> <p>Demonstrates basic surgical principles, including the use of universal precautions and aseptic technique</p> <p>Positions patient appropriately for surgery</p>	<p>In addition to Milestone Level 1</p> <p>Performs bedside procedures (e.g., central line, chest tube)</p> <p>Teaches basic surgical skills to medical students and junior</p> <p>Performs a simple abdominal incision and closure alone</p>	<p>In addition to Milestone Level 2</p> <p>Performs common operations (e.g., hernia, cholecystectomy, appendectomy)</p> <p>Works effectively as a surgical assistant</p> <p>Teaches bedside operations to junior residents</p>	<p>In addition to Milestone Level 3</p> <p>Performs complex operations (e.g., low anterior resection, para esophageal hernia, abdominal wall reconstruction)</p> <p>Teaches common operations to junior residents</p> <p>Collaborates and provides consultation to other members of the health care team</p>	<p>In addition to Milestone Level 4</p> <p>Comprehends adequately to teach others</p> <p>Performs uncommon complex operations (e.g., Whipple, esophagectomy)</p> <p>Applies innovative approaches based on emerging evidence in medical, diagnostic and procedural skill</p> <p>Teaches complex operations to junior residents</p>

PC/PS 5: Intra-operative patient care – technical skills

To ensure the progressive development of technical skills needed to complete operation including tissue handling, instrument use, and recognition of anatomy				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Demonstrates limited tissue-handling skills</p> <p>Requires prompting to identify appropriate tissue</p> <p>Moves forward in the operation only with the active direction</p>	<p>In addition to Milestone Level 1</p> <p>Inconsistently demonstrates careful tissue handling</p> <p>Identifies appropriate plane but requires redirection to maintain dissection in the optimal tissue plane</p> <p>Moves forward in the operation but requires prompting to complete the operation</p>	<p>In addition to Milestone Level 2</p> <p>Consistently^{SBV} demonstrates careful tissue handling</p> <p>Visualizes tissue plane, identifies and dissects relevant normal anatomy</p> <p>Moves fluidly through the course of the operation and anticipates next steps</p>	<p>In addition to Milestone Level 3</p> <p>Adapts tissue handling based on tissue quality</p> <p>Visualizes tissue plane, identifies and dissects relevant abnormal anatomy</p> <p>Adapts to unexpected findings and events during the course of the operation</p>	<p>In addition to Milestone Level 4</p> <p>Comprehends adequately to teach others</p> <p>Identifies innovative operative techniques, instrumentation, operative approaches, or significant improvement in established techniques</p>

PC/PS6: Management of post-operative patients

To ensure progressive development of recognition and evaluation and management of post-operative patients				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Evaluates simple post-operative problems (e.g., fever, bleeding, hypotension,</p> <p>Evaluates post-operative hypertension oliguria)</p> <p>Manages routine post-operative course for an operation (e.g., hernia, cholecystectomy, appendectomy)</p>	<p>In addition to Milestone Level 1</p> <p>Evaluates complex post-operative problems (e.g., sepsis, anastomotic leak)</p> <p>Manages simple post-operative problems</p>	<p>In addition to Milestone Level 2</p> <p>Evaluates complex post-problems in the complex patient (e.g., renal failure, congestive heart failure, cirrhosis)</p> <p>Manages routine post-operative course for a complex operation (e.g., Whipple, esophagectomy)</p>	<p>In addition to Milestone Level 3</p> <p>Anticipates and mitigates post-operative patient problems in complex patients</p> <p>Manages complex post-operative problems</p>	<p>In addition to Milestone Level 4</p> <p>Comprehends adequately to teach others</p> <p>Develops a clinical pathway or guideline management of complex post-operative problems</p>

PC/PS 7: Preventing health problems or maintaining health

Provide health care services aimed at preventing health problems or maintaining health				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Demonstrates knowledge of the characteristics of a good screening test.</p> <p>Demonstrates knowledge of indication, benefit, and limitations of commonly used screening.</p>	<p>In addition to Milestone Level 1</p> <p>Recognizes basic risk factors, symptoms, and signs of common surgical conditions and surgical comorbidities</p> <p>Demonstrates knowledge of evidence-based, age-appropriate guidelines for the prevention of surgical conditions and disease prevention (e.g., breast screening,)</p>	<p>In addition to Milestone Level 2</p> <p>Formulates plans and initiates appropriate screening measure</p>	<p>In addition to Milestone Level 3</p> <p>Effectively supervises and educates lower level residents.</p>	<p>In addition to Milestone Level 4</p> <p>Collaborates and provides consultation to other members of the health care team</p> <p>Applies innovative approaches for preventive and promotive health care</p>

PC/PS 8: Referral of patients

Provide appropriate referral of patients				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
Identifies indications for consultation, referral for patients with surgical conditions and conditions with medical complications	In addition to Milestone Level 1 Prepare necessary relevant document for referral transfer of care for patients with surgical conditions and conditions with medical complications	In addition to Milestone Level 2 Uses a multidisciplinary approach and makes appropriate referrals	In addition to Milestone Level 3 Effectively supervises and educates lower level residents. Collaborates and provides consultation to other members of the health care team	In addition to Milestone Level 4 Follow up till final outcome after referral

System based practice

SBP1. SOP

Demonstrate the ability to follow the standard operating procedures (SOP) relevant to practices of the organisations for patient care.				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
Aware of the Departmental SOP but doesn't understand.	Aware and understands the SOP, but unable to implement.	Aware, understands and Implements core components that ensures patient safety.	Aware, understands and Implements all the components of SOP effectively.	Identify deficiency in SOP & provides solutions. Supervises and ensures that juniors follow the SOP.

SBP2. Safety and Quality Practice

Ascertain incorporation of patient safety and quality improvement into clinical practice				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
Aware of patient safety practices and quality control measures, in the speciality. Including - Management of Medication, Infection control practices, WHO checklist, Occupational hazards.	Aware, understands and implement patient safety practices and quality control.	Recognizes adverse clinical events, drug administration errors and complications, and appropriately escalates the call	Critically analyse the event and submit Morbidity and Mortality report. Create an appropriate monitoring systems that ensures patient safety and quality clinical practice.	Analyse and use the data from monitoring system to change the patient safety and quality improvement practice care.

SBP3. Cost Effectiveness

Acquire an understanding of cost effectiveness in health care				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
Understands importance of cost effective clinical practice.	Implements cost effective into clinical practice.	Identifies opportunities to reduce total costs of care without compromising patient outcomes	Substantially contributes to programmes to reduce costs and improve efficiency of clinical care	Creates policy and system in place to ensure cost - effective delivery of health care.

Practice based learning and improvement

PBLI1. Critical Appraisal

Demonstrate the ability to critically appraise medical literature				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Demonstrates an understanding of critical appraisal of the literature</p> <p>Demonstrates responsiveness to constructive feedback</p>	<p>Identifies resources (e.g., texts, search engines) to answer questions while providing patient care</p> <p>Recognizes limits of knowledge, expertise, and technical skills</p> <p>Describes commonly used study designs (e.g., randomized controlled trial [RCT], cohort; case - control, cross - sectional)</p>	<p>Applies patient - appropriate evidence - based information from review articles or guidelines on common topics in practice</p> <p>Critically reviews and interprets the literature.</p>	<p>Interprets the strength of evidence in current literature and applies it to practice.</p> <p>Analyses his or her own outcomes as compared to national standards.</p>	<p>Contributes to peer - reviewed medical literature</p>

PBLI2. Self Directed Learning

Cultivate habits for self - directed learning				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Analyse practice experience and perform practice - based improvement activities using a systematic methodology or preprocedural checklists</p>	<p>Reviews the literature and information relevant to specific clinical assignments</p> <p>Periodically modifies learning plan based on</p>	<p>Differentiates evidence - based information from non - evidence - based resources to address specific patient management needs</p>	<p>Ability to participate in audits and understand the data to improve their practice and the system.</p> <p>Incorporates evidence - based medicine practices</p>	<p>Facilitate the learning of students and other healthcare professionals</p> <p>Refines clinical practice based on evolving medical evidence</p>

<p>Completes assigned readings and prescribed learning activities</p> <p>Uses clinical opportunities to direct self - learning</p>	<p>feedback, and self - reflection.</p>	<p>Incorporates experiences from subspecialty rotations to modify learning plan</p> <p>Use information technology to manage information, access on - line medical information, and support their own education <small>SBV</small></p> <p>Understands the importance of audits to improve their practice.</p>	<p>into patient management</p> <p>Takes responsibility for integrating past experience, multiple learning activities, and self - reflection to direct lifelong learning independently</p>	<p>Continually analyzes personal practice to focus self - directed lifelong learning</p>
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Interpersonal communication skills

<p>IPCS1. Communication with patients and their care givers</p>				
<p>Milestone Level 1</p>	<p>Milestone Level 2</p>	<p>Milestone Level 3</p>	<p>Milestone Level 4</p>	<p>Milestone Level 5</p>
<p>Understands the need for effective communication, maintaining a respectful and culturally - sensitive manner.</p> <p>Obtains informed consent for routine procedures using language appropriate to the patient's and family's level of</p>	<p>Ability to gather the needed information during History taking and physical examination in a respectful manner.</p> <p>Communicates effectively in routine situations and ensures that patient and family understand the situation and procedure</p>	<p>Communicates effectively in stressful, emergent, and complex situations.</p> <p>Ability to give the necessary information regarding choice of management and guide the patient/attenders for informed decision making.</p>	<p>Capable of delivering bad news to patients and families regarding poor prognoses situations in a compassionate way.</p> <p>Ability to declare and explain the unexpected outcome to families about complications.</p>	<p>Leads multidisciplinary family/patient/team member conferences.</p> <p>Capable of training UG's, PG's and junior colleagues in communication skills.</p>

understanding	<p>and allows to ask questions.</p> <p>Maintains respectful communication throughout procedures where patient is awake.</p> <p>Willingness to solicit and answer all questions from patients and relatives.</p>	<p>Ability to communicate the risks involved for patient care, in an understandable language without making the patient/attenders apprehensive, allowing two way communication.</p> <p style="text-align: center;">SBV</p>	Participates in education of patients and families	
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IPCS2: Communication with peers/Faculty/other health care workers/paramedical and support staff – within speciality and with other specialties

Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
Understands the importance of relationship development, information gathering, sharing, and teamwork.	<p>Demonstrates an understanding of the roles of health care team members and communicates effectively within the team.</p> <p>Demonstrates an understanding of transitions of care and team debriefing.</p> <p>Ability to maintain clear and meticulous documentation with legible handwriting.</p>	<p>Works effectively in interprofessional and interdisciplinary health care teams</p> <p>Ability to convey the required information clearly to the consultants, peers and other health care workers.</p> <p>Participates in effective transitions of care and team debriefing</p>	<p>Responds to requests for consultation in a timely manner and communicates recommendations to the requesting team.</p> <p>Knows the etiquette of speaking / arguing respectfully in group meetings</p>	<p>Educates other health care professionals regarding team building</p> <p>Leads effective transitions of care and team debriefing</p> <p>Has developed skills for public speaking.</p>

IPCS 3: Communication skills required for teaching and training – Seminars, case presentations and Journal clubs				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Makes the effort to speak clearly with good clear enunciation.</p> <p>Maintains proper communication with the moderator/consults senior prior to presentation.</p>	<p>Confidently vocalises the topic clearly with good language articulation – both subject oriented and general grammar.</p>	<p>Communicates effectively with students, ensuring audience has understood and allows them to ask questions. SBV</p>	<p>Confidently able to answer questions, raised during the presentation, without a biased reproach.</p>	<p>Ability to take the role of Moderator to junior or other students.</p>

Professionalism

Prof1. Punctuality, honesty and self-discipline				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
<p>Does not maintain punctuality, is irregular in attendance.</p> <p>Gives excuses without accepting responsibility.</p> <p>Not able to depend on the versions of transferred information.</p>	<p>Ability to be regular and punctual.</p> <p>Submission of assignments within stipulated times.</p> <p>Is truthful in all forms of communication.</p>	<p>Maintenance of timings while taking teaching and training sessions – Arrives on time, conducts the class/journal club as per the stipulated time and format.</p>	<p>Ability to maintain emotional balance during triggering situations, people and environment.</p>	<p>Serves as a role model and mentor for juniors and students.</p>

Prof 2 Accountability and responsiveness to needs of patient's, society and speciality, with ethical conduct and professional etiquette.				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
Inappropriate work attire. Is not forthcoming in all communications	Addresses ethical issues relevant to the needs of the patient/student, society and profession. Understands the importance of workplace hierarchy. Demonstrates respectfulness and spirit of cooperation to consultants, peers and other health care workers/support staff	Addresses ethical issues in complex and challenging circumstance. Demonstrates sensitivity and responsiveness to diversity of patients/students, ages, cultures, races, religions, abilities, or sexual orientations Takes responsibility for the care provided and seeks help appropriately Able to follow the hierarchy in the working environment.	Ability to be a functional member of a coordinated team and follow the protocol and chain of command appropriately.	Serves as a role model and mentors others about bioethical principles Ability to function as the team leader and coordinate overall team performance. Develops a systematic approach to managing ethical dilemmas.

Prof3: Ability to receive feedback/reflect and respond and give feedback to others respectfully.				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
Seeks constructive feedback from faculty members and colleagues.	Ability to accept and follow constructive feedback from consultants, peers and other health care	Correlates feedback with self - reflection and incorporates it into lifelong learning to	Provides constructive feedback to juniors in a tactful and supportive way to enhance patient care.	Effectively seeks and provides constructive feedback in challenging situations.

	workers, and integrate into their practise.	enhance patient care.		
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Prof4: Awareness of one's own wellbeing – maintaining Work-life balance				
Milestone Level 1	Milestone Level 2	Milestone Level 3	Milestone Level 4	Milestone Level 5
Does not manage stress adequately - Maladaptive reactions to stress	Understands the importance of work-life balance.	Ability to recognise their own stress and seek help to manage it ^{SBV}	Maintains a well- balanced work etiquette and works well under pressure and coordinates tasks appropriately.	Maintains balance between work and life and serves as an example to all.
Reluctance in accepting tasks	Proactively accepts tasks with a pleasant demeanour.	Is proactive in task management and self reflects for improvement.		Ability to guide others in management of stress and well being.

6. 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.

1. General topics:

A student should have a 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 the 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 The problem of resistance.
15. Sepsis - SIRS

16. Nosocomial infection
17. Advances in imaging technologies
18. Disaster management, mass casualties, Triage
19. O.T. design, technologies, equipment
20. Critical care in surgical practice
21. Response to trauma
22. Wound healing
23. Fluid and electrolyte balance
24. Nutrition
25. Blood transfusion
26. Brain death
27. Cadaveric organ retrieval
28. Basic course in Biomedical Research < data collection and analysis, scientific communication.

1. Systemic Surgery

The student must acquire knowledge in the following important topics are but teaching should not be limited to these topics. A standard textbook 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, cellulitis, abscess, necrotizing 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-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 hyperglycemia 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 initial 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 the scalp and its management
- Recognition, diagnosis, and monitoring of patients with a head injury, Glasgow coma scale
- Undergo advanced trauma and cardiac support course (certified) before appearing in the final examination
- Recognition of acute cerebral compression, indication for referrals.
- Cleft lip and palate
- Leukoplakia, retention cysts, ulcers of the 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 goiter
- 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 a breast lump
- Concept of Single Stop Breast Clinic
- Cancer breast diagnosis, staging, and multimodality management (common neoadjuvant and adjuvant and palliative chemotherapy protocols and indications of 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 oesophageal atresia and principles of management
- Neoplasms of the lung including its prevention by tobacco control
- Cancer esophagus: principles of management including the importance of early detection and timely referral to a specialist
- Achalasia cardia
- Gastroesophageal reflux disease (GERD)
- Congenital hypertrophic pyloric stenosis
- Aetiopathogenesis, diagnosis, and management of peptic ulcer including the role of H. Pylori and its diagnosis and eradication
- Cancer stomach
- Signs and tests of liver dysfunction SBV
- Amoebic liver abscess and its non-operative management
- Hydatid cyst and its medical and surgical management including laparoscopic management
- Portal hypertension, index of suspicion, symptom, and signs of liver failure and timely referral to a specialist center
- Obstructive jaundice with emphasis on differentiating medical vs surgical Jaundice, the algorithm of investigation, diagnosis and surgical treatment options
- Neoplasms of liver
- Rupture spleen
- Indications for splenectomy
- Clinical features, diagnosis, complication, and principles of management of cholelithiasis 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 its staging and principles of management
- Choledochal cyst
- Acute pancreatitis both due to gallstones and alcohol
- Chronic pancreatitis

- Carcinomapancreas
- 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, the involvement of biliarytract)
- Abdominal tuberculosis both peritoneal and intestinal
- Intestinal obstruction
- **Appendix:** Diagnosis and management of acute appendicitis
- Appendicular lump and abscess^{SBV}

Colon

- Congenital disorders, Congenitalmegacolon
- Colitis infective / noninfective
- Inflammatory bowel diseases
- Premalignant conditions of the largebowel
- Ulcerativecolitis
- Carcinomacolon
- Principles of management of types of colostomy

Rectum and Anal Canal:

- Congenital disorders, Anorectalanomalies
- Prolapse of rectum
- Carcinoma rectum
- Anal Canal: surgical anatomy, features, and management of fissures, fistula - in – ano.
- Perianal and ischiorectalabscess
- Hemorrhoids – Non-operative outpatient procedures for the control of bleeding (Banding, cryotherapy, injection) operative options - open and closed haemorrhoidectomy and stapledhaemorrhoidectomy

- 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
- SBV
- Diagnosis and principles of treatment of undescended testis
- Torsion of testis
- Hydrocele, hematocele and pyocele
- Varicocele: Diagnosis (Medical Board for fitness)
- Varicocele: Diagnosis (Medical Board for fitness)
- Acute and chronic epididymal-orchitis
- Testicular tumors
- 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 an 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, lumbar 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 the oral cavity
2. Solitary nodule of the thyroid
3. Lymph node in the neck

4. Suspected breastlump
5. Benign breastdisease
6. Acute abdominalpain
7. Blunt TraumaAbdomen
8. Gall stonedisease
9. Dysphagia
10. Chronic abdominalpain
11. Epigastricmass
12. Righthypochondriummass
13. Right iliac fossamass
14. Renalmass
15. Inguino-scrotalswelling
16. Scrotalswelling SBV
17. Gastric outletobstruction
18. Upper gastrointestinalbleeding
19. Lower gastrointestinalbleeding
20. Anorectalsymptoms
21. Acute intestinalobstruction
22. Obstructivejaundice
23. Acute retention ofUrine
24. Bladder outletobstruction
25. Haematuria
26. Peripheral vascular disease
27. Varicose veins
28. Newborn 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, postgraduate students should be able to perform independently (including perioperative management) the following:

- Start IV lines and monitor infusions

- Start and monitor bloodtransfusion
- Venous cut-down
- Start and manage a C.V.P.line
- Conduct CPR (Cardiopulmonary resuscitation)
- Basic/ advance life support
- Endotrachealintubation
- Insert nasogastrictube
- Proctoscopy
- Urethralcatheterization
- Surgical management of wounds
- Biopsies includingimage-guided
- Manage pneumothorax / pleural space collections
- Infiltration, surfac, and digital Nerveblocks
- Incise and drain superficial abscesses
- Control external hemorrhage
- Vasectomy (Preferablynon-scalpel)
- Circumcision
- Surgery forhydrocele
- Surgery forhernia
- Surgery and Injection/banding of piles
- Management of all types of shock
- Assessment and management of burns
- Hemithyroidectomy
- Excision of thyroglossalcyst
- Excision Biopsy of CervicalLymphnode
- Excision of a benign breastlump
- Modified Radicalmastectomy
- Axillary LymphnodeBiopsy
- Excision of gynaecomastia
- Excision of skin and subcutaneous swellings
- Split thickness skin graft
- Management of hernias

- Laparoscopic and open cholecystectomy
- Management of Liverabscess
- appendectomy
- Management of intestinal obstruction, small bowel resection, perforationand anastomosis
- Colostomy

The student must have observed or assisted (the list is illustrative) in the following:

- Hartmann's procedure for cancerrectum Splenectomy(emergency)
- Stomachperforation
- Varicose Veinsurgery
- Craniotomy (HeadInjury)
- Superficial parotidectomy SBV
- Submandibular glandexcision
- Soft tissue tumors including sarcoma
- Pancreatic oduodenal resection
- Hydatid cystliver
- Pancreatic surgery
- Retroperitoneal operations

7. Teaching and Learning Method

The trainee will undergo a graded training over a period of three years.

○ Orientation

At the beginning of the course each resident should be given an orientation to the department and subject. The candidate shall be assigned dissertation guides so as to help them prepare protocols

Theory(Knowledge/ Cognitive Domain)

The teaching learning methods does not totally depend on didactic lectures. Only the introductory lectures by faculty are in this format.

Teaching programme

This will include theory topics and will ensure participation of the resident in the form of:

1. Seminars, group discussions and symposia. These should be regularly organized in the department. SBV
2. Problem case discussion, before and after the conduct of the case should form part of training.
3. Journal club presentation and discussion
4. Interdepartmental programmes with clinical departments
5. Simulation based training involving - Weekly 2hrs class on simulation:
 - a) Learning and practicing basic skills and competencies
 - b) Problem solving and decision making skills/ Interpersonal and communications skills or team - based competencies, Deliberate practice with feedback, Exposure to uncommon events and Assessment of learners

Structured Graded Training–Year wise Knowledge / cognitive domain

First Year Objectives:

1. To understand the basics of surgery.
2. To observe surgical Procedures and other ward management.
3. To know Anatomy, Pathophysiology, Common associated symptoms, Positive physical findings, Differential diagnosis.
4. To be responsible and Attend Lectures, Professor's hour, Skills laboratory, Exams feedback session
5. To be able to follow principles of Surgical ethics, surgical audit and be a life long learner

Second Year Objectives

1. To present interesting case scenarios, Patient care and Management.
2. To acquire knowledge of Various surgical procedures.
3. To have knowledge of various surgical procedures performed.

4. To present topics at evidence based management Sessions.
5. To Demonstrate ability to evaluate, assess and choose topics from journals.
6. student will show integrity, accountability, respect, compassion, and dedicated patient care. The student will demonstrate a commitment to excellence and continuous professional development..(C2, C4)
7. To demonstrate a commitment to ethical principles relating to providing patient care, the confidentiality of patient information, and informed consent.
8. To Demonstrate ability to provide patient - centred care/demonstrate skills required for teaching and conducting research.
9. To Demonstrate the ability to follow the standard operating procedures relevant to practices of the organisations for patient care, inculcating quality and economical practices.

Third Year Objectives:

1. Must update knowledge in recent advances and newer techniques in the management of the patients.
2. To Identify patient safety and system ^{SBV} approach to medical errors.
3. To Develop & execute a protocol for a scientific research project, collect and analyze the data and scientifically communicate to the others.
4. To diagnose and appropriately manage common surgical ailments in a given situation.
5. To Apply knowledge of pre and para clinical sciences related to General Surgery and its allied Surgical Specialities
6. To Comprehensively evaluate and manage common surgical conditions in subspecialties of Urology, Cardiothoracic, Neurosurgery, Plastic and Pediatric Surgery. The resident should also be abreast of recent advances in the surgical field.
7. To Demonstrate the ability to follow the standard operating procedures relevant to practices of the organisations for patient care, inculcating quality and economical practices.
8. To Demonstrate behaviour and skills that result in the effective communication, exchange of information and cooperation with patients, their families, and health professionals

Practical skills training (psychomotor domain)

Resident Rotations

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

Structured Graded Training –Year - wise Practical training objectives

First Year Objectives:

1. To observe the Treatment for medical/surgical alternatives, when treated medically, indications for surgical intervention.
2. To assess risk factors

3. To know pre- and post-operative management.
4. To recognise complications: recognition and treatment.
5. Adjuvant therapies – indications and outcome
6. Prognosis, Discharge: timing, patient education, follow-up, resumption of activities.
7. To Learn, teach and Transfer practical knowledge acquired to interns.
8. To Demonstrate ability to evaluate and suture open wounds.
9. To perform minor surgical procedures like Catherization at ward and post operative management care.
10. To Demonstrate ability to assess, evaluate and thoroughly examine OPD patients.
11. To individually perform minor procedures like Lipoma excision, Sebaceous cyst excision, toe nail removal, corn foot excision.
12. To Demonstrate ability to provide patient - centred care/demonstrate skills required for teaching and conducting research.
13. To Demonstrate the ability to follow the standard operating procedures relevant to practices of the organisations for patient care, inculcating quality and economical practices.
14. To Demonstrate and Teach acquired Clinical and Medical Literature.
15. To Acquire knowledge and understanding of Medical Literature.
16. Actively participate in Evidence Based Learning.
17. Imparting the skills and knowledge to engage in a range of practices to ensure ongoing professional development, including critical reflection, research and inquiry, and participation in discourse with relevant communities of practice.
18. To Demonstrate ability to select and use appropriate approach, techniques, and resources to facilitate learning in any given educational context while also critically evaluating the impact of assessment and feedback on learners and their learning.
19. To Demonstrate ability to examine professional practice in education through processes of critical inquiry, reflection and practice-based research
20. To Demonstrate ability to evaluate and critically reflect upon own teaching practice.

Second Year Objectives

1. To transfer and demonstrate acquired ability to work with a team.
2. To assist surgical procedures like Laparotomy, Abdominal Emergency, Vascular repair and Other surgical procedures.
3. To individually perform minor surgical emergency surgeries like open Appendectomy under strict supervision.
4. To individually perform minor surgical procedures like hernia repair, Wound debridment under strict supervision.
5. To show sensitivity and responsiveness to patients' culture, age, gender, and disabilities.

Third Year Objectives:

1. To individually perform surgical procedures like Laparotomy, Abdominal Emergency, Hernia repair under loose supervision.
2. To provide and coordinate emergency resuscitative measures in acute surgical situations including trauma.
3. To Identify situations calling for urgent or early surgical intervention and refer at the optimum time to the appropriate centers.
4. To Perform common minor & major General Surgical procedures and provide Peri-operative care under supervision.

E - portfolio

It is an electronic portfolio to be maintained by the resident to record their day to day academic and patient care activities under the following sections:

- Entrustable Professional Activity assessment
- Daily log SBV
- Patient care
- Procedure
- Dissertation
- Academic activities(Seminar, symposium, case presentation, journal club)
- Co - curricular activities (Conference, CME, Workshop),
- Teaching Assignments,
- Awards and achievements
- Outreach activities.

E - portfolio will be monitored and endorsed periodically by the faculty supervisors. This will enable faculty to monitor residents progress, attainment of milestones and impart the training accordingly.

Essential Surgical Skills

Surgery is a skill-based discipline. The following list is drawn up with a view to specifying basic minimum skills to be acquired. While an attempt has been made to specify the year wise distribution of the learning of skills (in the latter part of this curriculum), it is recognized that the process is a continuous one.

. The list within the tables, indicates the surgical procedures that the students should, by the end of the course, be able to perform independently (PI) by himself/herself or should have performed with assistance (PA) during the course.

The other categories of surgical procedures mentioned form a general guide for the procedures that the student should either have observed (O) or have assisted the operating surgeon (A). Note, for all categories, the student washes up in the operating room.

There may an overlap in the skill list between the general surgery list and the specialty list. Where different numbers are mentioned for the same/similar procedures between the general

surgery and specialty lists, the higher number is applicable as the prescribed number. (Note that the total number is not the sum of the numbers mentioned for the same/similar procedures in the general surgery and specialty lists.)

Skills may be considered under the following headings.

- a) Basic graduate skills
- b) Ward procedures
- c) ICU procedures
- d) Emergency room procedures
- e) Preoperative workup procedures
- f) Postoperative procedures
- g) Minor surgical procedures
- h) Major operating room techniques
- i) General surgical procedures
- j) Speciality surgical procedures SBV

a) Basic graduate skills

The student should have acquired the certain skills during his under-graduation and internship. These skills have to be reinforced at the beginning of the training period.s These skills include:

Procedure	Category	Year	Number
Insertion of I.V. lines, nasogastric tubes, urinary catheters, etc.,	PI	I	50
Minor suturing and removal of sutures	PI	I	50
Removal of tubes and drains	PI	I	50
Routine wound dressings	PI	I	50

b) Ward Procedures

Ward work forms an important part of the training of the surgeon. In addition to the touting examination of the patient with proper recording of findings, diligent practice of the following is recommended.

Procedure	Category	Year	Number
Abdominal Paracentesis including Diagnostic Peritoneal Lavage	PI	I	5
Ability to teach UG’s and Interns	PI	I	NA
Blood sampling – venous and arterial	PI	I	NA
Bone Marrow Aspiration	PI	I	2
Burns dressing	PI	II	10
Communication skills with patients, relatives, colleagues and paramedical staff	PI	I	NA*
Ordering of the requisite laboratory and Radiological	PI	I	NA

investigations and Interpretation of the reports in light of the clinical picture			
Proficiency in common ward procedures	PI	I	NA
Skills for Per-rectal examination and Proctoscopy	PI	I	NA
Thoracocentesis	PI	II	5
Universal precautions against communicable diseases	PI	I	NA
Venesection	PI	I+II+III	5

NA: Not Applicable

c) ICU Procedures:

Procedure	Category	Year	Number
Insertion of Arterial lines	PI	II	10
Insertion of Central venous lines	PI	I	10
Insertion of Endotracheal tubes	PI	II	10
Insertion of Peritoneal Dialysis Catheters	A/PA	I,II,III	5
Intercostal Drainage	PI	II	5
Suprapubic Puncture/ Stab Cystostomy <small>SBV</small>	PI	II	5
Tracheotomy	PI	I	2
Working Knowledge of Ventilators and various Monitors	PI	I	NA
Interpretation of Arterial blood gases	PI	I	NA
Correction of Electrolyte disturbances	PI	I	NA
Prescribing Parenteral & Enteral nutrition	PI	I	NA

d) Emergency Room Procedures

Procedure	Category	Year	Number
Application of Splints for Fractures	PI	I	NA
Arterial and Venous Lines	PI	I	NA
Assessment and initial management of Polytrauma	PI	I	NA
Cardiopulmonary Resuscitation	PI	I	NA
Management of Airway Obstruction	PI	I	NA
Management of Shock and Cardiac / Respiratory failure	PI	I	NA
Recognition and Initial management of Surgical Emergencies	PI	I	NA
Suturing Techniques	PI	I	NA

e) Pre-operative Workup

Procedure	Category	Year	Number
Ability for adequate pre-operative preparation in special situations like Diabetes, renal failure, cardiac and Respiratory failure etc. and risk Stratification	PI	I	NA
Communication skills with special reference to obtaining Informed Consent	PI	I	NA
Proper pre-operative assessment and preparation of patients including DVT prophylaxis, Blood transfusion and Antibiotics	PI	I	NA

f) Post-operative Care

Procedure	Category	Year	Number
Airway management	PI	I	NA
Basic Physiotherapy	PI	I	NA
Management of epidural analgesia	PI	I	NA
Management of Fistulae	PI	I	NA
Management of postoperative hypo and hypertension	PI	I	NA
Postoperative pain control	PI	I	NA
Skills for Nutritional rehabilitation of patients	PI	I	NA
Skills for proper Fluid & Antibiotic management	PI	I	NA
Stoma care	PI	I	NA

g) Minor O.T. procedures

Procedure	Category	Year	Number
Circumcision under Local Anesthesia	PI	I	5
Drainage of Abscesses <small>SBV</small>	PI	I	5
FNAC	PI	I	5
Major dressings	PI	I	20
Minor Anorectal Procedures (Haemorrhoids – Banding, Cryotherapy, Suturing etc.,; Anal dilatation and Fissures), Fistulectomy	PI	III	10
Minor Biopsies – Lymph node, ulcer, swellings etc.,	PI	I	20
Reduction and plaster application of simple fractures and dislocations	PA	II	10
Removal of simple subcutaneous swellings	PI	I	10
Sigmoidoscopy and Upper G.I. endoscopy (preferable in and endoscopy room)	PA/A/O	II	10
Suturing Techniques	PI	I	20
Vasectomy	PI/PA	I	5
Wound debridement	PI	I	10

h) Major Operating room techniques

Procedure	Category	Year	Number
Instrument arrangement and trolley layout	PA	I	NA
Skills in Sterilization techniques, O.T.Layout and Asepsis	O	I	NA
Skin preparation – painting and draping	PI	I	NA
Techniques of scrubbing and gowning	PI	I	NA

i) General Surgical Operative Procedures

Procedure	Category	Year	Number
Appendicectomy	PA	I	10
Appendicectomy	PI	III	5
Cholecystectomy	PI and PA	III	1 and 3
Closure of Colostomy	PA	III	2
Closure of peptic ulcer / under-running bleeding ulcer / vagotomy drainage	PI	III	3
Colostomy	PA	III	2
Cysts and sinuses of the neck	PA	III	2
Diagnostic laparoscopy	PA	III	3
Drainage of breast abscess / Excision of breast lump	PI	I	10
Groin Hernia repair	PI	II / III	5
Gynaecomastia	PA	III	2
Haemorrhoidectomy / Fissurectomy / Simple fistulectomy	See Minor OT procedures		
Hemicolectomy <small>SBV</small>	PA	III	1
Herniotomy / Orchidopexy in children	PA	III	3
Laparotomy for abdominal trauma / splenectomy	PI	III	3
Laparotomy for intestinal obstruction / bowel resections / bowel anastomosis	PI	III	3
Management of complex wounds	PI	I	10
Mastectomy	PA/A	III	2
Opening and closing the abdomen	PI	I	5
Opening and closing the chest	PI	III / III	1
Parotidectomy	A	III	2
Release of bands and simple adhesive obstruction	PI	II	5
Thyroid lobectomy	PA	III	3
UGI endoscopy / Flexible sigmoidoscopy	A/O	II/III	10
Ventilation	PI	II	5
Wide excision of breast tumours / mastectomy / microdochectomy	PA	III	3
Gastrostomy / feeding jejunostomy	PA	III	3

j) Speciality Procedure

There may be repetition of some of the procedures listed under this category and those listed under General surgical procedures. Where different numbers are mentioned for the same/similar procedures between the general surgery and specialty lists, the higher number is applicable as the prescribed number. (Note that the total number is not the sum of the numbers mentioned for the same/similar procedures in the general surgery and specialty lists.)

Laparoscopy and GI Endoscopy

Procedure	Category	Year	Number
Diagnostic and therapeutic Upper and Lower GI endoscopy	PA	III	10
Diagnostic laparoscopy	PA	III	3
Diagnostic Upper GI endoscopy	PA	III	10
Laparoscopic Cholecystectomy	A	III	3

Neurosurgery

Procedure	Category	Year	Number
Craniotomy	A	II	2
Management of paraplegia	A	II	2
Peripheral nerve repair	A	II	2
Prevention of nerve injury – specific operations	A	II	2
Suturing complex scalp wounds	PI	II	2
Trephining	PA	II	2

Urology

SBV

Procedure	Category	Year	Number
Carcinoma penis	PA/A	II	3
Catheterization	PI	I	NA
Circumcision	PI	I	10
Diagnostic cystoscopy	PA/A	II	3
Inguinal Block Dissection	PA	II	1
Meatotomy	PI	II	3
Nephrectomy – partial / total	A	II	3
Nephrolithotomy	A	II	3
Orchidectomy	PA/A	II	3
Orchidopexy	A	II	3
Retroperitoneal lymph node dissection	O	II / III	1
Supra pubic cystostomy	PI	II	3
Total amputation of penis	A	II	1
TUR / Open prostatectomy	A	II	5
Ureterolithotomy	A	II	3
Urethral / Urogenital injuries	A	II	3
Urethral dilatation	PI	II	5
Varicocele	PA/A	II	3
Vasectomy	PI	I / II / III	10

Oncology

Procedure	Category	Year	Number
All radical operations – Breast, Thyroid, GI and Facio-maxillary malignancies	A	II	2 EACH
Breast lumpectomy	PI	II	5
Functional neck node dissection	A	II	3
Gastrectomy / Bowel resection	A	II	3
Imprint cytology	PA	II	3
Metastatic workup	PA	II	5

Stoma care	PI	II	5
Thyroid surgery	A	II	5
U/s guided biopsy	A/O	II	3

Plastic Surgery

Procedure	Category	Year	Number
Burn resuscitation	PI	I	5
Lip surgery	A	II	5
Local blocks in anaesthesia	PI	I	10
Minor hand injuries (specify)	PI	II	5
Nerve repair	A	II	2
Post excision reconstruction	A	II	2
Reimplantation of digits	O	II	1
Skin flap surgery	O	II	2
Split skin graft	PI	II	3
Stitch craft	PI	I	NA
Tendon repair	PA	II	2
Wound debridement	PI	I	10

Paediatric Surgery

Procedure	Category	Year	Number
Anorectal anomalies	A	II	2
Circumcision / meatoplasty	PA	II	10
Herniotomy	PA	II / III	2
Intercostal aspiration	PI	II	2
Laparotomy for peritonitis	PA	II	5
Lymph node biopsy	PI	II / III	5
Non operative treatment of volvulus	A/O	II	2
Orchidopexy	PA/A	II	5
Ostomies	PA	II	2
Paediatric emergencies	A/PA	II	10
Pyloromyotomy	PA/A	II / III	5

Cardiothoracic Surgery

Procedure	Category	Year	Number
Canulation of artery and vein	A	II	2
Chest injuries	PA	II / III	5
Empyema drainage / decortication	PI	II	2
Endotracheal intubation	PI	I	10
Intercostal drainage	PI	I	5
ITU duties	PI	II/III	NA
Lobectomies and pneumonectomies	O	II	2
Oesophageal surgery	O	II/III	2
Opening and closing the chest	PA	II	2
Pericardiectomy	O	II	2
Removal of FBs	A	II / III	2
Remove pulse generator (pacing)	PA/A	II	1
Rib resection	PA	II / III	2

Tracheostomy	PI	III	5
Undertake sternotomies	PA	II / III	2
Vein and arterial harvesting	PA/A	II / III	2
Ventilator management	PA	I	10

Vascular Surgery

Procedure	Category	Year	Number
AV shunts for vascular access	PA	II / III	2
Bypass graft – prosthetic	A	II / III	2
Conservative amputations	PI	II / III	5
Embolectomy	PA	II / III	2
Post-traumatic aneurysms	A	II / III	2
Sympathectomy	PA	II / III	2
Use of heparin	PI	II / III	10
Varicose vein surgery	PI	II / III	2
Vascular suturing	PA	II / III	2
Vein graft	A/O	II / III	2
Vein patch repair	A/O	II / III	2

8. Assessment

Assessment will have 2 components Formative and Summative

Formative Assessment

Cognitive Assessment

- Assessment in Cognitive Domain
- Schedule of theory tests
 - 1st year – 2 papers consisting of syllabus from Course 1
 - 2nd year – 2 papers consisting of syllabus from Course 2 and 3
 - 3rd year – one paper consisting of syllabus from Course 4
 - 3rd year – Mock exams one month prior to University examination, consisting of 4 papers, including syllabus from all the four courses.

Formative Assessment

The formative assessment is continuous as well as every 6 months. The former is being 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. Assessment is held at the end of every 6 months. 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 E portfolio 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. Clinical Work - 25 Marks
 - 2. Academic activities -25 Marks
 - 3. End of 6 month theory examination – 25 Marks
 - 4. End of 6 month practical examination- 25 Marks
- **1. 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.
- **2. Academic Activity:**
- Performance during presentation at Journal club/ Seminar/ Case discussion and other academic sessions. Proficiency in skills as mentioned in job responsibilities.
- **3. Theory examination conducted every 6 months.**
- **4. Practical/oral examinations every 6 months.**
- 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.**

EPA Assessment

SBV

- Assessment of Entrustable Professional Activities (EPA) done during the OT posting by the consultant in - charge. EPA assessment will be done once by the end of the 1st week of the posting and then again at the end of the posting, for monitoring of resident progress.

List of EPA's

EPA Descriptions (Enter all the EPA and their descriptions)

EPA1. Gathering a history and performing a physical examination

Gathering a history and performing a physical examination			
Description for the activity	Residents should be able to perform an accurate complete or focused history and physical exam in a prioritized, organized manner without supervision and with respect for the patient. The history and physical examination should be tailored to the clinical situation and specific patient encounter. This data gathering and patient interaction activity serve as the basis for clinical work and as the building block for patient evaluation and management.		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	1	1-L3
	PC/PS	1	1-L3
	IPCS	1	1-L2
	P	2	2-L2
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting 		

EPA2. Prioritizing a differential diagnosis following a clinical encounter

Prioritizing a differential diagnosis following a clinical encounter			
Description for the activity	Residents should be able to integrate patient data to formulate an assessment, developing a list of potential diagnoses that can be prioritized and lead to the selection of a working diagnosis		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L2
	PC/PS	1, 2	1-L2; 2-L3
	PBLI	1,2	1-L3; 2-L2
	IPCS	1,2	1-L3; 2-L3
	P	2	2-L2
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting 		

EPA3: Recommending and interpreting common diagnostic and screening tests

Recommending and interpreting common diagnostic and screening tests			
Description for the activity	Residents should be able to select and interpret common diagnostic and screening tests using evidence-based and cost-effective principles as one approach a patient in any setting.		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L2
	PC/PS	2	2-L3
	PBLI	1,2	1-L4; 2-L4
	IPCS	1	1-L3
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD, ER and in ard setting 		

EPA4: Entering and discussing orders and prescriptions and giving the necessary instructions to the patients

Entering and discussing orders and prescriptions and giving the necessary instructions to the patients			
Description for the activity	Residents should be able to prescribe therapies or interventions beneficial to patients. Entering residents will have a comprehensive understanding of some but not necessarily all of the patient’s clinical problems for which they must provide orders. They must also recognize their limitations and seek review for any orders and prescriptions they are expected to provide but for which they do not understand the rationale. The expectation is that learners will be able to enter safe orders and prescriptions in a variety of settings (e.g., inpatient, ambulatory, urgent, or emergent care).		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L3
	PC/PS	3	3-L2
	SBP	2,3	2-L3; 3-L5
	IPCS	1,2	1-L3, 2-L2
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD, ER and ward setting 		

EPA5: Documenting a clinical encounter in patient records and provide an oral presentation of a clinical encounter

Documenting a clinical encounter in patient records and provide an oral presentation of a clinical encounter			
Description for the activity	Residents should be able to provide accurate, focused, and context-specific documentation of a clinical encounter in either written or electronic formats. The performance of this EPA is predicated on the ability to obtain information through history, using both primary and secondary sources, and physical exams in a variety of settings (e.g., office visit, admission, discharge summary, telephone call, email).		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L3
	PC/PS	1	1-L5
	SBP	1,2	1-L4; 2-L2
	IPCS	1	1-L4
	P	1,2	1-L2; 2-L3
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS,SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in Ward and ER setting 		

EPA6: Form clinical questions and retrieve evidence to advance patient care

Form clinical questions and retrieve evidence to advance patient care			
Description for the activity	Residents should be able to identify key clinical questions in caring for patients, identify information resources, and retrieve information and evidence that will be used to address those questions. Residents should have basic skills in critiquing the quality of the evidence and assessing applicability to their patients and the clinical context. Underlying the skill set of practicing evidence-based medicine is the foundational knowledge an individual has and the self-awareness to identify gaps and fill them.		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	3	3-L5
	PC/PS	1	1-L5
	PBLI	1,2	1-L4, 2-L5
	P	2,3	2-L3; 3-L2

Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in ICU and ward setting
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EPA 7: Give or receive a patient handover to transition care responsibility

Prioritizing a differential diagnosis following a clinical encounter			
Description for the activity	Effective and efficient handover communication is critical for patient care. Handover communication ensures that patients continue to receive high-quality and safe care through transitions of responsibility from one health care team or practitioner to another. Handovers are also foundational to the success of many other types of interprofessional communication, including discharge from one provider to another and from one setting to another. Handovers may occur between settings (e.g., hospitalist to PCP; paediatric to the adult caregiver; discharges to lower-acuity settings) or within settings (e.g., shift changes).		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L4
	PC/PS	1	1-L5
	PBLI	2	2-L4
	IPCS	2	2-L5
	P	2	2-L5
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in ICU, ward and PeriOP setting 		

EPA 8: Collaborate as a member of an interprofessional team

Collaborate as a member of an interprofessional team			
Description for the activity	Effective teamwork is necessary to achieve the Institute of Medicine competencies for care that is safe, timely, effective, efficient, and equitable. Introduction to the roles, responsibilities, and contributions of individual team members early in professional development is critical to fully embracing the value that teamwork adds to patient care outcomes.		
Resident will be entrustable when these sub	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L4

competency Milestone Levels are attained	PC/PS	1	1-L5
	PBLI	1,2	1-L3; 2-L4
	IPCS	2	2-L5
	P	2	2-L4
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in all areas of surgical field 		

EPA 9: Obtain informed consent for tests and/or procedures

Obtain informed consent for tests and/or procedures			
Description for the activity	Residents should be able to obtain informed consent for tests and/or procedures after formulate an assessment and developing a potential diagnosis for further management		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L3
	PC/PS	1	1-L5
	PBLI	1	1-L5
	IPCS	1	1-L5
P	2	2-L4	
	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD, ICU, wards and pre op setting 		

EPA 10: Perform general procedures of a physician

Perform general procedures of a physician			
Description for the activity	The resident should have the knowledge and technical knowhow for performing basic surgical skills like administering vaccines and injections can list the indications, complications, and contraindications of a procedure adequately explain the family members/ caregivers clarifies any questions and should be able to detect complications if any and communicate with the consultant.		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L2
	PC/PS	3	3-L2
	PBLI	1,2	1-L4; 2-L3
	IPCS	2	2-L3

	P	1,2	1-L4; 2-L3
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting 		

EPA 11 Identify system failures and contribute to a culture of safety and improvement

Identify system failures and contribute to a culture of safety and improvement			
Description for the activity	To ensure to identify system failure and contribute to a culture of safety and improvement		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L5
	PC/PS	7	7-L5
	PBLI	1	1-L5
	P	2	2-L5
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in ICU and ward setting 		

EPA 12: Attitudes towards patient, relatives, peers and Supervisors

Attitudes towards patient, relatives, peers and Supervisors			
Description for the activity	Effective teamwork is necessary to achieve the Institute of Medicine competencies for care that is safe, timely, effective, efficient, and equitable. Introduction to the roles, responsibilities, and contributions of individual team members early in professional development is critical to fully embracing the value that teamwork adds to patient care outcomes.		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	3	3-L4
	PC/PS	1	1-L4
	PBLI	1,2	1-L2; 2-L5
	IPCS	1,2,3	1-L5; 2-L3; 3-L4
	P	1,2,3	1-L3; 2-L4; 3-L2

Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting
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EPA 13: Effective relevant systemic Examination in OPD and bedside clinics

Effective relevant systemic Examination in OPD and bedside clinics			
Description for the activity	Residents should be able to perform an accurate complete or focused systemic exam in a prioritized, organized manner without supervision and with respect for the patient. The systemic examination should be tailored to the clinical situation and specific patient encounter. This data gathering and patient interaction activity serve as the basis for clinical work and as the building block for patient evaluation and management.		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	1	1-L3
	PC/PS	1	1-L5
	PBLI	1,2	1-L4; 2-L4
	IPCS	1	1-L3
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting 		
	P	1,2,3	1-L4; 2-L3; 3-L2

EPA 14: Ability to make a diagnosis and DD

Ability to make a diagnosis and DD			
Description for the activity	Residents should be able to integrate patient data to formulate an assessment, developing a list of potential diagnoses that can be prioritized and lead to the selection of a working diagnosis		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L2
	PC/PS	1	1-L2
	PBLI	2	2-L3
	IPCS	1	1-L2
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting 		
	P	1,2	1-L4; 2-L3

Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting
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EPA 15: Pre-operative counselling of patient and attendant

Pre-operative counselling of patient and attendant			
Description for the activity	To deliberately use language and behaviours to form a therapeutic relationship with a patient and his or her family; to identify communication barriers, including self-reflection on personal biases, and minimize them in the doctor-patient relationship; organize and lead communication around shared decision-making		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	3	3-L3
	PC/PS	1	1-L5
	PBLI	1,2	1-L4; 2-L2
	IPCS	1	1-L5
	P	1,2,3,5	1-L5; 2-L3; 3-L2; 5-L5
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting 		

EPA 16: Basic Pre & Post-operative care.

Basic Pre& Post-operative care.			
Description for the activity	To deliver optimised and standardised care to all patients in the pre and postoperative setting , including counselling , basic care and follow up.		
Resident will be entrustable when these subcompetency Milestone Levels are attained	Relevant domains of competency	Subcompetencies within each domain	Milestone level (L) in subcompetency
	MK	2	2-L4
	PC/PS	1,2,4,6	1-L2; 2-L4; 4-L2; 6-L5
	PBLI	1,2	1-L4; 2-L3
	IPCS	1,2	1-L4; 2-L3
	P	1,2,3	1-L4; 2-L4; 3-L2

Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS,SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting
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EPA 17: Basic surgical skills like handling energy devices, suturing techniques and OT techniques

Basic surgical skills like handling energy devices, suturing techniques and OT techniques			
Description for the activity	The resident should have the knowledge and technical knowhow for performing basic surgical skills like handling energy devices, suturing techniques, Operative theatre techniques - Aseptic techniques, Scrubbing, Gowning, donning and draping, drains and should be able to detect complications if any and communicate with the consultant.		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L2
	PC/PS	5	5-L5
	PBLI	1	1-L3
	IPCS	2	2-L3
P	1,2,3	1-L3; 2-L3; 3-L2	
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting 		

EPA 18: Performing Minor General Surgery procedure (Performing simple swelling excision, appendicectomy, hydrocele, haemorrhoids, fissure, hernia)

Performing Minor General Surgery procedure (Performing simple swelling excision, appendicectomy, hydrocele, haemorrhoids, fissure, hernia)			
Description for the activity	The resident should have the knowledge and technical know-how for performing minor surgical procedures like simple swelling excision, appendicectomy, hydrocele, haemorrhoids, fissure, hernia)		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L2
	PC/PS	4	4-L3
	PBLI	1,2	1-L4; 2-L5
	IPCS	2	2-L5
P	1,2,3	1-L5; 2-L5; 3-L2	

Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS,SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting
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EPA 19: Basic trauma management

Basic trauma management			
Description for the activity	Residents should be able to provide the ability to recognize several life-threatening traumatic emergencies that present to the casualty and provide basic life support, communicate with other departments and in a safe, timely, and effective manner. Compiles knowledge of various conditions that require urgent trauma care.		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	1,2	1-L4; 2-L4
	PC/PS	1,2,3,4,5	1-L2; 2-L4; 3-L2; 4-L2; 5-L1
	PBLI	1,2	1-L4; 2-L5
	IPCS	2,3	2-L5; 3-L5
	P	1,2,3,5	1-L5; 2-L5; 3-L2; 5-L4
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS,SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting 		

EPA 20 and 21: Reading and interpreting all basic X-rays and CT abdomen relevant to General surgery

Reading and interpreting all basic X-rays and CT abdomen relevant to General surgery			
Description for the activity	Residents should be able to interpret X-ray and CT Abdomen commonly dealt for various conditions in general surgery using evidence-based and cost-effective principles as one approach a patient in any setting.		
Resident will be entrustable when these sub competency Milestone Levels	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L3
	PC/PS	2	2-L3
	PBLI	1,2	1-L4; 2-L3

are attained	IPCS	2,3	2-L3; 3-L4
	P	2,3	2-L4; 3-L2
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS,SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting 		

EPA 22: Endoscopy, Colonoscopy, Laparoscopy, Laparotomy Skills

Endoscopy, Colonoscopy, Laparoscopy, Laparotomy Skills			
Description for the activity	<p>To ensure the progressive development of technical skills needed for laparotomy, laparoscopy, endoscopy, colonoscopy including tissue handling, instrument use, and recognition of anatomy</p> <p>To ensure the progressive development of integrated knowledge and skills and perform diagnostic, and surgical procedures considered essential for the area of practice complete an operation.</p>		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	1,2	1-L4; 2-L4
	PC/PS	1,2,3,4,5,6	1-L2; 2-L4; 3-L4; 4-L5; 5-L5; 6-L4
	PBLI	1,2	1-L4; 2-L5
	IPCS	2,3	2-L5; 3-L5
	P	1,2,3	1-L5; 2-L5; 3-L2
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS,SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting 		

EPA 23: Perform basic procedures like breast lumpectomy, thyroidectomy, and varicose vein surgeries.

Perform basic procedures like breast lumpectomy, thyroidectomy, and varicose vein surgeries.			
Description for the activity	<p>A resident should be having the necessary expertise to perform Surgical procedures for surgical pathologies of Thyroid, Breast, Varicose veins safely as well as diagnose and rectify complications if any. Should possess the necessary communication skills to obtain consent. Should know and apply the same in deciding to perform this operative procedure.</p>		
Resident will be entrustable when	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency

these sub competency Milestone Levels are attained	MK	1,2	1-L4; 2-L4
	PC/PS	1,2,3,4,5,6	1-L3; 2-L4; 3-L4; 4-L4; 5-L5; 6-L4
	PBLI	1,2	1-L4; 2-L5
	IPCS	2,3	2-L5; 3-L5
	P	1,2,3	1-L5; 2-L5; 3-L2
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting 		

EPA 24: Gastrectomy, Hemicolectomy, Pancreatic Surgery

Gastrectomy, Hemicolectomy, Pancreatic Surgery			
Description for the activity	<p>To ensure the progressive development of technical skills needed for Gastrectomy, hemicolectomy, Pancreatic Surgery including tissue handling, instrument use, and recognition of anatomy</p> <p>To ensure the progressive development of integrated knowledge and skills and perform diagnostic, and surgical procedures considered essential for the area of practice complete an operation</p>		
Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	1,2	1-L4; 2-L4
	PC/PS	1,2,3,4,5,6	1-L5; 2-L4; 3-L4; 4-L5; 5-L5; 6-L5
	PBLI	1,2	1-L4; 2-L5
	IPCS	2,3	2-L5; 3-L5
	P	1,2,3	1-L5; 2-L5; 3-L2
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS,SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting 		

EPA 25, 26: Able to write Scientific Papers, Make podium Presentation and conduct bedside clinics to Undergraduate students

Able to write Scientific Papers, Make podium Presentation and conduct bedside clinics to Undergraduate students	
Description for the activity	Residents should be able to write scientific papers, make podium presentation and take clinics for under graduation students based on their compiles knowledge of various conditions in general surgery

Resident will be entrustable when these sub competency Milestone Levels are attained	Relevant domains of competency	Sub competencies within each domain	Milestone level (L) in sub competency
	MK	2	2-L5
	PC/PS	7	7-L5
	PBLI	1,2	1-L5; 2-L5
	IPCS	3	3-L5
	P	1,2,3,5	1-L5; 2-L5; 3-L5; 5-L4
Method of Assessment	<ol style="list-style-type: none"> 1. MK assessment will be done by the faculty either by direct interaction, written exam or eportfolio 2. PC/PS, SBP& PBLI assessment will be done by the Faculty at the workplace and eportfolio. 3. Communication skills & Professionalism will be assessed by Multisource feedback. 4. Assessment done in OPD and ward setting 		

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Mapping of EPA to Programme Outcomes (PO)

Table 4 showing mapping of the EPA's to the Programme outcomes
(Tick the boxes as appropriate)

	PO1.	PO2.	PO3.	PO4.	PO5.	PO6.	PO7.	PO8.	PO9.	PO10.	PO11.
EPA1.											
EPA2.											
EPA3.											
EPA4.											
EPA5.											
EPA6.											
EPA7.											
EPA8.											
EPA9.					SBV						
EPA10.											
EPA11.											
EPA12.											
EPA13.											
EPA14.											
EPA15.											
EPA16.											
EPA17.											
EPA18.											
EPA19.											
EPA20.											
EPA21.											
EPA22.											
EPA23.											
EPA24.											
EPA25.	+/L5	+/L5	+/L5		+/L4		+/L5				
EPA26.											

Summative Assessment

Dissertation

Objectives

1. The student should be able to demonstrate capability in research by planning and conducting systematic scientific inquiry & data analysis and deriving conclusion.
2. Communicate scientific information for health planning.

Guide for dissertation

1. Chief guide will be allocated from the Department of General Surgery.
2. Co - guides can be selected from within the department or from other disciplines related to the dissertation topic.

Submission of dissertation protocol

It should be submitted at the end of six months after admission in the course, in the format prescribed by the institute:

1. Protocol in essence should consist of: SBV
 - a) Introduction and objectives of the research project.
 - b) Brief review of literature
 - c) Suggested materials and methods, and (scheme of work)
 - d) Statistician should be consulted at the time of selection of groups, number of cases and method of study. He should also be consulted during the study.
 - e) Bibliography
2. The protocol must be presented in the Department of General Surgery before being forwarded to the Institutional Research Committee (IRC) for review.
3. Protocol must be approved by the research committee, which is appointed by the Dean / Principal to scrutinize the dissertation protocol in references to its feasibility, statistical validity, ethical aspects, etc.
4. Once approved by the IRC, the protocol will be forwarded to the Institutional Human Ethics Committee (IHEC) for review.
5. After presentation and approval of the protocol by the IHEC, the dissertation must be registered in the Clinical Trial Registry of India - <http://ctri.nic.in>, following which data collection may be initiated.

Submission of dissertation

1. The dissertation shall relate to the candidates own work on a specific research problem or a series of clinical case studies in accordance with the approved plan.
2. The dissertation shall be written in English, printed or typed double line spacing, on white bond paper 22x28 cm with a margin of 3.5 cm, bearing the matter on one side of paper only and neatly bound with the title, the name of the College and University printed on the front cover.
3. The dissertation shall contain: Introduction, review of literature, material and methods, observations, discussion, conclusion and summary and reference as per index medicus.

4. Each candidate shall submit to the Dean four copies of dissertation, through their respective Heads of the Department not later than six months prior to the date of commencement of theory examination in the subject.

Evaluation of Dissertation:

1. The dissertation shall be referred by the University for Evaluation, to External Examiners appointed by the University. The examiners will evaluate and report independently to the Controller of Examinations using Proforma for Dissertation Evaluation Form and recommend whether the dissertation
 - a. Accepted as submitted
 - b. Accepted pending modification as suggested
 - c. Not Accepted for reasons specified
2. The dissertation shall be deemed to be accepted when it has been approved by at least two external examiners, who will allocate marks from which an average will be taken.
3. If the dissertation is rejected by one of the external examiners it shall be referred to another external examiner (other than the one appointed for initial evaluation) whose judgment shall be final for purposes of acceptance or otherwise of the dissertation.
4. Where improvements have been suggested by the external examiners, the candidate shall be required to re - submit the dissertation, after making the required improvements for evaluation.
5. When a dissertation is rejected by the examiners, it shall be returned to the candidate who shall have to rewrite it. The second version of the dissertation, as and when submitted shall be treated as a fresh dissertation and processed.
6. Acceptance of dissertation submitted by the candidate is a pre - condition for his / her admission to the written, oral and practical / clinical part of the examination.
 - a. Provided that under special circumstances if the report from one or more examiners is not received by the time the Post - Graduate examination is due, the candidate may be permitted provisionally to sit for the examination but the result be withheld till the receipt of the report, subject to the condition that if the dissertation is rejected then the candidate in addition to writing a fresh dissertation, shall have to reappear for the examination.
7. A candidate whose dissertation stands approved by the examiners but fails in the examination, shall not be required to submit a fresh one if he/she appears in the examination in the same branch on a subsequent occasion.

Eligibility Criteria

- Candidates will be eligible to appear for the university examinations after completion of 3years and when following criteria are fulfilled:
 1. Attendance of 80%
 2. Submission of dissertation and acceptance by external examiner
 3. One research Publication based on the Dissertation
 4. One poster and one Podium presentation at National or Regional conferences, recognised by Theory (Subject contents already outlined in syllabus)

Theory

- Final Theory Papers: 4 papers
- All papers should have 10 short answer questions.
- Question papers are prepared based on the prescribed blueprint described later (see blueprint section)
- Model question paper is attached for ready reference.

Practical

- The practical examination is structured and consists of 2 sessions-morning and afternoon.

Morning Session – one hour			
Clinical Cases	No	Duration	Marks
Long case	1		100
Short cases	2		50

- Structured Assessment (For clinical Cases)^{SBV}

Segment	Marks distribution	Duration
Oral skills / Presentation	20	25
Diagnosis / Investigations	20	
Preoperative preparation	20	
Intraoperative management	20	20
Post operative complications & management	20	

Afternoon Session		
Segment		Marks
1.	Instruments	25
2.	Pathology Specimen	25
3.	Dissertation	25
4.	Operative surgery	25

- Total Marks allotted:

Segment	Total Marks
Theory (Papers 1 - 4)	400
Practical	200
Viva Voce	100
Grand Total	700

○ Recommendations for passing:

1. The candidate will be required to secure minimum 50% marks in theory and 50% marks in clinicals and viva - voce separately, which is mandatory for passing the whole examination.
2. There will be enough gap between theory and practical examination as recommended by MCI rules.
3. There university practical examination will be conducted by 2 external and 2 internal examiners.

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9. Blueprint of Theory Exam Paper

BLUE PRINT FOR MS GENERAL SURGERY QUESTION PAPER

Blue Print - All four papers will have 10 SAQ (10x10=100 Marks)

Paper – I

Basic Sciences as applied to Surgery

Anatomy – 3 Questions

Pathology – 3 Questions

Physiology, Pharmacology, Microbiology and Biochemistry- 1 Question in each Specialty.

Paper – II

Principle and practice of General Surgery.

General Surgery - 4 Questions

Gastroenterology - 6 Questions

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Paper – III

Principles and Practice of Surgery & Operative surgery

General Surgery - 2 Questions

Breast - 2 Questions

Endocrine Surgery - 2 Questions

Urology - 2 Questions

Operative Surgery - 2 Questions

Paper IV

Recent Advances. Including subspeciality

Trauma -3

Neurosurgery -1

CTVS -1

Paed. Surg. -1

Plastic Surg. -1

Recent Advance -3

10. Model Question Paper

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PILLAIYARKUPPAM, PUDUCHERRY-607 402
M.S. GENERAL SURGERY
PAPER I
PAPER I BASIC SCIENCES**

1. Describe the surgical anatomy of liver with appropriate diagrams and its relevance to cancer surgery
2. Discuss the metabolic response of the body following injury
3. What are the causes of hypercalcaemia? Discuss the diagnostic modalities of hyperparathyroidism.
4. Discuss surgical site infections and principle of their prevention.
5. Describe the role of biochemical markers in the treatment of acute pancreatitis.
6. Describe the types of biopsies with their significance
7. Discuss the role of immune-histochemistry in surgery
8. Enumerate the levels of lymph nodes of stomach and discuss their importance in the surgery of gastric cancer
9. Discuss the role of Helicobacter pylori in the causation of various gastro-duodenal diseases
10. Discuss the mechanism of action of anti-thyroid drugs

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PAPER II

PAPER II PRINCIPLES AND PRACTICE OF GENERAL SURGERY

1. Describe the clinical features and management of locally advanced breast cancer.
2. Classify salivary gland tumors. Discuss the clinical features and management of mixed parotid tumor.
3. Discuss the etiopathogenesis, clinical features and management of hydatid cyst of liver.
4. Describe the fascial spaces of the hand and discuss the management of hand infections.
5. Classify choledochal cysts. Briefly describe the clinical presentation, diagnosis and surgical management of choledochal cysts.
6. Describe your approach to the diagnosis and management of a patient who presents with acute upper gastrointestinal bleeding.
7. Enumerate the risk factors for breast cancer. Describe the modes of imaging in screening for breast cancer.
8. Discuss the etiopathogenesis, clinical features and management of hirschsprung's disease.
9. Describe the clinical presentation, diagnosis and treatment of caecal tuberculosis.
10. Classify benign disorders of the breast. Describe your approaches to the management of a thirty year old woman who presents with mastalgia.

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M.S. GENERAL SURGERY

PAPER III

**PAPER-3 SURGERY INVLUDING TRAUMA, ENDOCRINE SURGERY, UROLOGY
AND OPERATIVE SURGERY**

1. Describe the clinical features and management of pheochromocytoma.
 2. Classify maxillo-facial injuries. Briefly describe principles of their management.
 3. Classify thyroid neoplasms. Discuss the pathology, clinical features and management of medullary carcinoma of thyroid.
 4. Describe the clinical presentation, diagnosis and treatment of primary parathyroidism.
 5. Describe your approach to managing an unconscious man who is a victim of road traffic accident.
- SBV
6. Discuss the etiopathogenesis, clinical features and management of caste pancreas.
 7. Describe the metabolic response to trauma in brief and explain how it modified in laparoscopic surgery?
 8. Classify renal tumours. Discuss the etiopathogenesis, clinical features and management of renal cell carcinoma.
 9. Describe the principles of gastric resection for carcinoma stomach. Enumerate it's post-operative complications.
 10. Describe the clinical features and management of benign prostatic hypertrophy.

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M.S. GENERAL SURGERY**

PAPER IV

**PAPER-4: SURGERY INCLUDING SUB SPECIALITIES AND
RECENT ADVANCES IN GENERAL SURGERY**

1. Classify nerve injuries. Discuss the management of radial nerve injury.
2. Enumerate myocutaneous flaps and briefly outline the principles of harvesting them with suitable examples.
3. Discuss the recent concepts in the management of Hepatocellular carcinoma (HCC).
4. Describe the clinical presentation of hypertrophic pyloric stenosis and management of the same.
5. Outline the application of Lasers in surgical practice.
6. Briefly describe the development of the thoraco-abdominal diaphragm. Enumerate the types of congenital diaphragmatic hernia. Outline the principles of its management.
7. Briefly discuss the role of tumour markers in the diagnosis and management of cancers treated surgically.
8. How will you investigate obstructive jaundice?
9. Enumerate the various types of vascular grafts. Discuss the management of Abdominal Aortic Aneurysm(AAA).
10. Enumerate the anatomical types of Tracheo-oesophageal fistula and outline the principles of surgical treatment.

11. Recommended Reading

List of recommended books

S. No	Name of the book	Author name
1	Text Book of Surgery	Christopher Davis
2	ASI Text Book of Surgery	
3	Surgery of Colon, Rectum and Anal canal	Goligher JC
4	Text Book of Surgery	Schwartz
5	Textbook on Laparoscopic Surgery	
6	Trauma	Mattox
7	Recent Advances in Surgery	
8	Year Book of Surgery	
9	Surgical Clinics of North America ^{SBV}	
10	Short practice of Surgery	Bailey and Love
11	A manual of clinical Surgery	S Das
12	demonstration of clinical signs	Hamilton Bailey
13	Textbook of Surgery	Sabiston
14	Surgical Handicraft	Pye's

List of recommended journals

S. No	Name of the Journal
1	International Journal of Surgery
2	British Journal of Surgery
3	The American Journal of Surgery
4	Annals of Surgery
5	Journal of Surgical Research
6	World Journal of Surgery
7	Journal of Surgical Research
8	Current trauma reports

Annexures - Assessment and Feedback forms

Annexure 1 – Multisource Evaluation sheet

SRI BALAJI VIDYAPEETH

PILLAIYARKUPPAM, PUDUCHERRY – 607 402

Evaluation sheet for postgraduate clinical work

(To be completed by respective Unit Head/Peers/HCPs/Patient relatives)

Name of the Resident: UIN No.:

Name of the Faculty/Peers/HCPs/Patient relatives:

Date:

Sl. No.	Criteria to be assessed	Score		
		Below par (0)	At par (1)	Above par (2)
	INTERPERSONAL COMMUNICATION SKILLS(IPCS)			
1.	Ability to gather the needed information during History taking and physical examination in a respectful manner.			
2.	Ability to give the necessary information regarding choice of management and guide the patient/attenders to make appropriate decisions.			
3.	Ability to communicate the risks involved for patient care, in an understandable language without making the patient/attenders apprehensive, allowing 2 way communication.			
4.	Ability to be caring and respectful with patients during any procedure.			
5.	Ability to convey the required information clearly to the consultants, peers and other health care workers.			
	PROFESSIONALISM(P)			
1.	Ability to be regular and punctual			
2.	Demonstrate respectfulness and obedience to consultants, peers and other health care workers.			
3.	Ability to accept and follow constructive feedback from consultants, peers and other health care workers.			
4.	Ability to maintain emotional balance during triggering situations, people and environment.			
5.	Makes their presence respectful, with their physical appearance and wearing appropriate attire.			

	<p>IPCS Total score:</p> <p>IPCS Final score= IPCS Total score*10</p>		
	<p>Milestone Level: IPCS=1 0 - 20%, IPCS=2 20 - 40%, IPCS=3 40 - 60%, IPCS=4 60 - 80%, IPCS=5 80 - 100%,</p>		
	<p>P Total score:</p> <p>P Final score= P Total score*10</p>		
	<p>Milestone Level: 0 - 20%, P=1. 20 - 40%, P=2. 40 - 60%, P=3. 60 - 80%, P=4. 80 - 100%, P=5</p>		
	<p>Signature:</p>		

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Annexure 2–Seminar

SRI BALAJI VIDYAPEETH
PILLAIYARKUPPAM, PUDUCHERRY – 607 402

Evaluation sheet for postgraduate seminar

(To be marked individually by each faculty)

Name of the Resident:

UIN No.:

Name of the Faculty:

Date:

S. No.	Criteria to be assessed	*Score (1 – 10)
1	Introduction of subject and its importance / Objectives	
2	Completeness of presentation	
3	Cogency of presentation	
4	Consulted all relevant literature	
5	Use of audio - visual aids	
6	Understanding of subject	
7	Summary and take home message	
8	Cites appropriate references / suggests further reading	
9	Time management	
10	Overall performance – relevant answers to questions, attitude during presentation and confidence	

***Score interpretation – 1-3->Needs improvement; 4-6->Meets expectations; 7-9->Exceeds expectation; 10->Outstanding.**

General Comments:

Highlights in performance (strengths)

Possible suggested areas for improvement (weakness)

Signature

Annexure 3 – Journal Club

**SRI BALAJI VIDYAPEETH
PILLAIYARKUPPAM, PUDUCHERRY – 607 402**

Evaluation sheet for postgraduate journal club

(To be marked individually by each faculty)

Name of the Resident: UIN No.....

Name of the Faculty: Date:

S. No.	Criteria to be assessed	*Score(1-10)
1	Relevance of article chosen	
2	Identifies the problem addressed in the paper	
3	Completeness of presentation	
4	Analyses and gives comments on methodology and statistics	
5	Brief summary of results	
6	Comparison of work with other published work	
7	Merits and demerits of the paper	
8	Summary and take home message	
9	Time management	
10	Overall performance – relevant answers to questions, attitude during presentation and confidence	

***Score interpretation – 1-3->Needs improvement; 4-6->Meets expectations; 7-9->Exceeds expectation; 10->Outstanding.**

General Comments:
Highlights in performance (strengths)
Possible suggested areas for improvement (weakness)
Signature:

Annexure 4 - Case Presentation

**SRI BALAJI VIDYAPEETH
PILLAIYARKUPPAM, PUDUCHERRY – 607 402**

Evaluation sheet for postgraduate case presentation

(To be marked individually by each faculty)

Name of the Resident:

UIN No.....

Name of the Faculty:

Date:

S. No.	Criteria to be assessed	*Score (1-10)
1	Logical order in presentation (History taking)	
2	Cogency of presentation	
3	Accuracy and completeness of general and local physical examination	
4	Other systemic examination <small>SBV</small>	
5	Summarizes the case and analyses the appropriate differential diagnoses	
6	Whether the diagnosis follows logically from history and findings	
7	Investigations required : Completeness of list, relevant order, interpretation of investigations	
8	Management principles and details	
9	Time management	
10	Overall performance – relevant answers to questions, attitude during presentation and confidence	

***Score interpretation – 1-3->Needs improvement; 4-6->Meets expectations; 7-9->Exceeds expectation; 10->Outstanding.**

General Comments:
Highlights in performance (strengths)
Possible suggested areas for improvement (weakness)
Signature:

Annexure 5 - EPA Assessment Form
SRI BALAJI VIDYAPEETH
PILLAIYARKUPPAM, PUDUCHERRY-607 402
DEPARTMENT OF GENERAL SURGERY
ENTRUSTABLE PROFESSIONAL ACTIVITY ASSESSMENT FORM

STUDENT NAME:
 PGY:
 FACULTY:

SBV

UIN No:
 ASSESSMENT No:
 DATE:

Upper half for self-
assessment

Lower half for Faculty
assessment

EPA	MARKING OF SUBCOMPETENCY							
1. Gathering a history and performing a physical examination	MK1 L3	PC1 L3	IPCS1 L2	P2 L2				
	/	/	/	/				
2. Prioritizing a differential diagnosis following a clinical encounter	MK L2	PC1 L2	PS2 L3	PBLI1 L3	PBLI2 L2	IPCS1 L3	IPCS2 L3	P2 L2
	/	/	/	/	/	/	/	/
3. Recommending and interpreting common diagnostic and screening tests	MK2 L2	PC2 L3	PS2 L3	PBLI1 L4	PBLI2 L4	IPCS1 L3		
	/	/	/	/	/	/		
4. Entering and discussing orders and	MK2 L3	PC3 L2	PS3 L2	SBP2 L3	SBP3 L5	PBLI2 L3	IPCS1 L3	IPCS2 L2

prescriptions and giving the necessary instructions to the patients													
5. Documenting a clinical encounter in patient records and provide an oral presentation of a clinical encounter	MK2 L3	PC1 L5	PS1 L5	SBP1 L4	SBP2 L2	IPCS1 L4	P1 L2	P2 L3					
6. Form clinical questions and retrieve evidence to advance patient care.	MK3 L5	PC1 L5	PS2 L5	PBLI1 L4	PBLI2 L5	P2 L3	P3 L2						
7. Give or receive a patient handover to transition care responsibility.	MK2 L4	PC1 L5	PS1 L5	PBLI2 L4	IPCS2 L5	P2 L5							
8. Manage Central Neuraxial Blockade in patients with ASA III and IV physical status	MK2 L4	PC1 L5	PS1 L5	PBLI1 L3	PBLI2 L4	IPCS2 L5	P2 L4						
9. Obtain informed consent for tests and/or procedures	MK2 L3	PC1 L5	PS1 L5	PBLI1 L5	IPCS1 L5	P2 L4							
10. Basic trauma management	MK1 L4	MK2 L4	PC1 L2	PC2 L4	PC3 L2	PC4 L2	PC5 L1	PBLI1 L4	PBLI2 L5	IPCS2 L5	IPCS2 L5	IPCS3 L5	
	P1 L5	P2 L5	P3 L2	P5 L4									
11. Reading and interpreting all basic X-rays and CT abdomen relevant to General surgery	MK2 L3	PC2 L3	PBLI1 L4	PBLI2 L3	IPCS2 L3	IPCS3 L4	P2 L4	P3 L2					
12. Reading and	MK2	PC2	PBLI1	PBLI2	IPCS2	IPCS3	P2	P3					

interpreting all basic X-rays and CT abdomen relevant to General surgery	L3	L3	L4	L3	L3	L4	L4	L2					
	/	/	/	/	/	/	/	/					
13. Endoscopy, Colonoscopy, Laparoscopy, Laparotomy Skills	MK1 L4	MK2 L4	PC1 L2	PC2 L4	PC3 L4	PC4 L5	PC5 L5	PC6 L4	PBLI1 L4	PBLI2 L5	P1 L5	P2 L5	
	/	/	/	/	/	/	/	/	/	/	/	/	
	P3 L2												
	/												
14. Perform basic procedures like breast lumpectomy, thyroidectomy, and varicose vein surgeries	MK1 L4	MK2 L4	PC1 L3	PC2 L4	PC3 L4	PC4 L4	PC5 L5	PC6 L4	PBLI1 L4	IPCS2 L5	IPCS3 L5	P1 L5	
	/	/	/	/	/	/	/	/	/	/	/	/	
	P2 L5	P3 L2											
	/	/											
15. Gastrectomy, Hemicolectomy, Pancreatic Surgery	MK1 L4	MK2 L4	PC1 L3	PC2 L4	PC3 L4	PC4 L4	PC5 L5	PC6 L4	PBLI1 L4	IPCS2 L5	IPCS3 L5	P1 L5	P2,P3 L5
	/	/	/	/	/	/	/	/	/	/	/	/	/
16. Able to write Scientific Papers, Make podium Presentation and conduct bedside clinics to Undergraduate students	MK2 L5	PC7 L5	PBLI1 L5	PBLI3 L5	IPCS3 L5	P1 L5	P2 L5	P3 L5	P5 L4				
	/	/	/	/	/	/	/	/	/				
17. Able to write Scientific Papers, Make podium Presentation and conduct bedside clinics to Undergraduate students	MK2 L5	PC7 L5	PBLI1 L5	IPCS3 L5	IPCS3 L5	P1 L5	P2 L5	P3 L5	P5 L4				
	/	/	/	/	/	/	/	/	/				
18. Performing Minor General Surgery procedure	MK2 L2	PC4 L3	PBLI1 L4	PBLI2 L5	IPCS2 L5	P1 L5	P2 L5	P3 L2					
	/	/	/	/	/	/	/	/					

(Performing simple swelling excision, appendicectomy, hydrocele, haemorrhoids, fissure, hernia)													
19. Basic trauma management	MK1 L4	MK2 L4	PC1 L2	PC2 L4	PC3 L2	PC4 L2	PC5 L1	PBLI1 L4	PBLI2 L5	IPCS2 L5	IPCS2 L5	IPCS3 L5	
	P1 L5	P2 L5	P3 L2	P5 L4	SBV								
20. Reading and interpreting all basic X-rays and CT abdomen relevant to General surgery	MK2 L3	PC2 L3	PBLI1 L4	PBLI2 L3	IPCS2 L3	IPCS3 L4	P2 L4	P3 L2					
21. Reading and interpreting all basic X-rays and CT abdomen relevant to General surgery	MK2 L3	PC2 L3	PBLI1 L4	PBLI2 L3	IPCS2 L3	IPCS3 L4	P2 L4	P3 L2					
22. Endoscopy, Colonoscopy, Laparoscopy, Laparotomy Skills	MK1 L4	MK2 L4	PC1 L2	PC2 L4	PC3 L4	PC4 L5	PC5 L5	PC6 L4	PBLI1 L4	PBLI2 L5	P1 L5	P2 L5	
	P3 L2												
23. Perform basic procedures like breast lumpectomy, thyroidectomy, and varicose vein surgeries	MK1 L4	MK2 L4	PC1 L3	PC2 L4	PC3 L4	PC4 L4	PC5 L5	PC6 L4	PBLI1 L4	IPCS2 L5	IPCS3 L5	P1 L5	
	P2 L5	P3 L2											
24. Gastrectomy, Hemicolecotom, Pancreatic Surgery	MK1 L4	MK2 L4	PC1 L3	PC2 L4	PC3 L4	PC4 L4	PC5 L5	PC6 L4	PBLI1 L4	IPCS2 L5	IPCS3 L5	P1 L5	P2,P3 L5
25. Able to write	MK2	PC7	PBLI1	PBLI3	IPCS3	P1	P2	P3	P5				

Scientific Papers, Make podium Presentation and conduct bedside clinics to Undergraduate students.	L5	L5	L5	L5	L5	L5	L5	L5	L5	L5	L4	
26. Able to write Scientific Papers, Make podium Presentation and conduct bedside clinics to Undergraduate students	MK2 L5	PC7 L5	PBLI1 L5	IPCS3 L5	IPCS3 L5	P1 L5	P2 L5	P3 L5	P5 L4			
						SBY						

Key for assigning Grade of entrustability

Grade	1	2	3	4	5
Entrustability	Can observe and assist	Can perform with strict supervision	Can perform with loose supervision	Can perform independently	Expert

EPA	Grade of Entrustability
EPA1.	
EPA2.	
EPA3.	
EPA4.	
EPA5.	
EPA6.	
EPA7.	
EPA8.	
EPA9.	
EPA10.	
EPA11.	
EPA12.	
EPA13.	
EPA14.	
EPA15.	
EPA16.	
EPA17.	
EPA18.	
EPA19.	
EPA20.	
EPA21.	

Signatures	
Resident	
Faculty	
Head of the Department	

Comments

Annexure 6 – EPA Progress Sheet

EPA	GRADE OF ENTRUSTABILITY								
	PG Y1				PG Y2		PG Y3		
	0	3 MONTHS	6 MONTHS	9 MONTHS	12 MONTHS	6 MONTHS	12 MONTHS	6 MONTHS	12 MONTHS
Date Assessed									
EPA1.					SBV				
EPA2.									
EPA3.									
EPA4.									
EPA5.									
EPA6.									
EPA7.									
EPA8.									
EPA9.									
EPA10.									
EPA11.									
EPA12.									
EPA13.									
EPA14.									
EPA15.									
EPA16.									
EPA17.									
EPA18.									
EPA19.									

EPA20.									
Candidates sign									
HOD Sign									

SBV

Annexure 7 – Dissertation evaluation form

**SRI BALAJI VIDYAPEETH
PILLAIYARKUPPAM, PUDUCHERRY – 607 402
Proforma for evaluation of Dissertation**

UIN:

Topic of the study:

DISSERTATION COMPONENTS	Grade		
TITLE			
Title appropriate and clear	A	B	C
INTRODUCTION			
Purpose of the Study	A	B	C
Hypothesis/Research Question	A	B	C
Aims & Objectives	A	B	C
REVIEW OF LITERATURE			
Appropriate	A	B	C
Complete and current	A	B	C
METHODS			
Study subjects, controls, Inclusion and Exclusion criteria	A	B	C
Materials/Apparatus/Cases	A	B	C
Methodology used	A	B	C
Procedure for data collection	A	B	C
Appropriate statistical methods employed	A	B	C
Handling of ethical issues	A	B	C
RESULTS			
Logical organization of data	A	B	C
Appropriate use of charts, tables, Graphs, figures, etc.	A	B	C
Statistical/Clinical interpretation	A	B	C
DISCUSSION			
Appropriate to data	A	B	C
Discussion and implication of results	A	B	C
Comparison with other studies	A	B	C
Satisfactory explanation of deviations if any	A	B	C
Limitations of the study	A	B	C
Recommendation for future studies	A	B	C
CONCLUSION			
Relevance, are they in line with aims	A	B	C
SUMMARY			
Clear and Concise	A	B	C
REFERENCES			
Vancouver Format and appropriately cited in text.	A	B	C

Key for grading – A – Exceeds expectation, B – Meets expectation, C – Needs Improvement

Overall Impression

(Please Check the appropriate box)

- Accepted as submitted
- Accepted pending modification as suggested below
- Not Accepted for reasons specified below

Remarks:

SBV

Signature of the examiner with date