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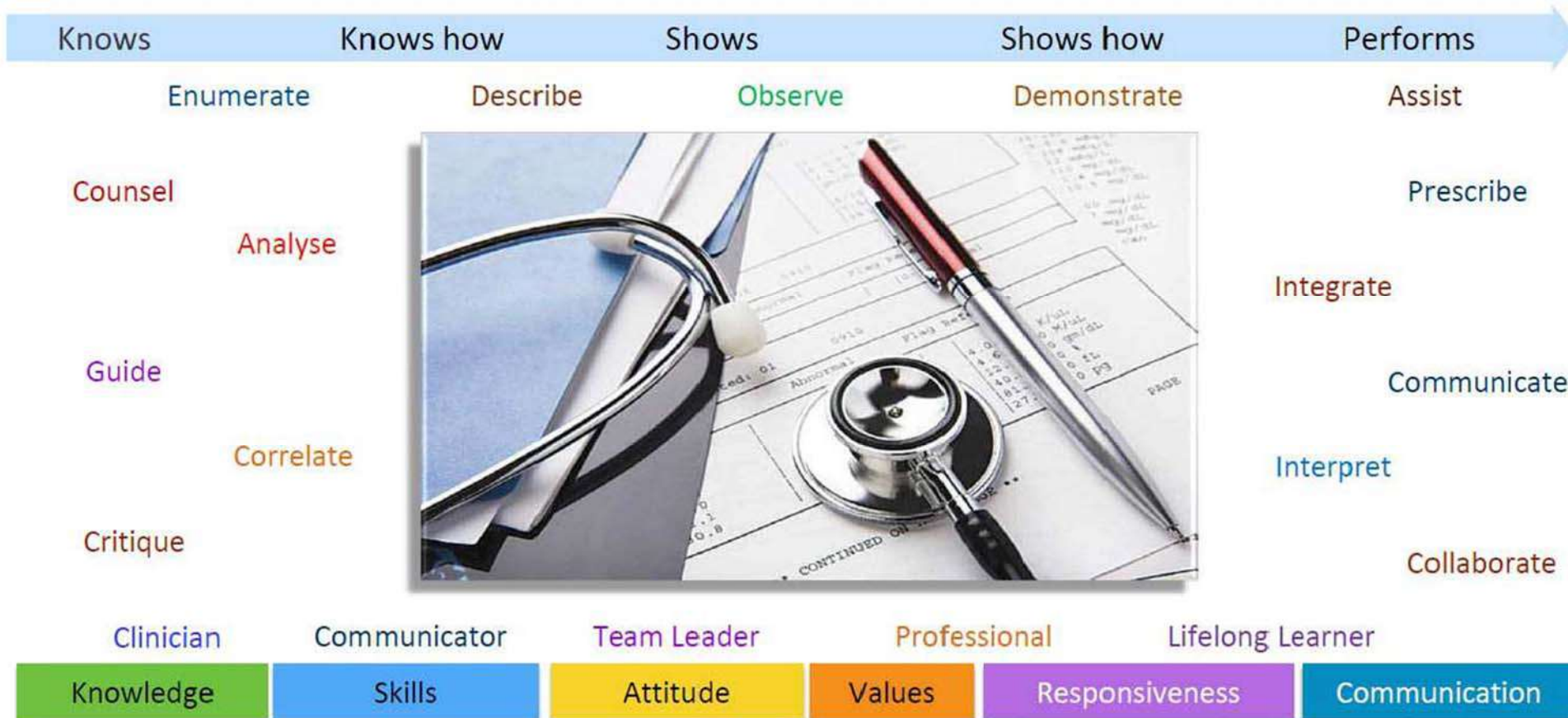
*Affiliated to Kerala University of Health Sciences (KUHS)*

**SYLLABUS FOR  
UG PROGRAMME  
BACHELOR OF MEDICINE AND  
BACHELOR OF SURGERY(MBBS)  
2024**

**VOLUME-03**



# NATIONAL MEDICAL COMMISSION COMPETENCY BASED UNDERGRADUATE CURRICULUM FOR THE INDIAN MEDICAL GRADUATE



**Volume III-2024**

# **COMPETENCY BASED UNDERGRADUATE CURRICULUM FOR THE INDIAN MEDICAL GRADUATE**

## **2024**



**National Medical Commission  
Pocket-14, Sector- 8, Dwarka  
New Delhi 110 077**



## राष्ट्रीय आयुर्विज्ञान आयोग National Medical Commission



### FOREWORD

The National Medical Commission (NMC) was created on 24th September, 2020 by the Act of Parliament replacing the erstwhile Medical Council of India and Board of Governors. The foundation for making of an Indian Medical Graduate (‘Doctor’) depends on building a sound base of medical education. In the year 2019, a committed team appointed by erstwhile MCI revolutionized the age-old didactic teaching system in Indian medical colleges by bringing in Competency Based Medical Education (CBME). This unique approach has raised the level of medical education with respect to quality, versatility and horizontal- vertical alignment of all subjects. The mandate of NMC to see that the first line of health care leaders who reach out to the common masses empathizing with the problems of the rural populace are being met with. The two-pronged approach of increasing the quantity and improving the quality of medical education is being tackled with this approach.

Education has now become student-centric and patient-centric instead of pedagogic system. The first batch of students have now completed their training under CBME implemented in 2019. It was a demand from actively involved academia to revisit the curriculum and modify it so as to keep abreast at international level. Interim years of covid pandemic also were ‘a good teaching academy’ for all. Increasing influence of artificial

intelligence on student community, matched with rising cost of medical education and competitiveness, instead of accommodative, helping and balanced approach, has led to increasing risk of losing social intelligence and humane approach amidst the emerging doctors. The risk of creating overqualified clerks looms large on our medical system.

A national team of experienced as well as emerging empathetic and talented teachers engaged as full-time faculty in various medical institutions were invited by the Undergraduate Education Board (UGMEB) of the NMC to invest their extra energy and hours to assess the curricula, examinations, AETCOM, vertical and horizontal integration of various subjects and bring in modifications. Each subject had committee of five persons on an average, from different parts of the country. Totally 93 experts have given their valuable time and energy in framing this new curriculum and all three volumes, prepared by their predecessors in 2019. The hard work done by them was the base on which this edifice has further been refined.

We are sure that fraternity and students are going to have an educational journey that will be full of fun, knowledge and experience sharing. UGMEB of the NMC acknowledges each and every one involved in the process, named and unsung heroes who have been the part of this exercise of bringing the document to the readers.

**Dr. Aruna V. Vanikar, President,  
Dr. Vijayendra Kumar, Member,  
UGMEB, NMC**

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# How to use the Manual

This Manual is intended for curriculum planners in an institution to design learning and assessment experiences for the MBBS student. Contents created by subject experts have been curated to provide guidance for the curriculum planners, leaders and teachers in medical schools. The manual must be used with reference to and in the context of the Regulations.

## Section 1

### Competencies for the Indian Medical Graduate

**Section 1** - provides the Roles (global competencies) extracted from the Competency Based Medical Education (CBME) Guidelines, 2024. The global competencies identified as defining the roles of the Indian Medical Graduate are the broad competencies that the learner must aspire to achieve, teachers and curriculum planners must ensure that the learning experiences are aligned to this Manual.

#### Extract from the Competency Based Medical Education (CBME) Guidelines, 2024

#### 2. Objectives of the Indian Graduate Medical Training Programme

The undergraduate medical education program is designed with a goal to create an "Indian Medical Graduate" (IMG) possessing requisite knowledge, skills, attitudes, values and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being globally relevant. To achieve this, the following national and institutional goals for the learner of the Indian Medical Graduate training program are hereby advocated. The first contact physician needs to be skilful to perform duties of primary care physician and have requisite skills for promotive, preventative, rehabilitative, palliative care & referral services.

## 2.1 National Goals

At the end of undergraduate program, the Indian Medical Graduate should be able to:

- a. Recognize "health for all" as a national goal and health right of all citizens and by undergoing training for medical profession to fulfill his social obligations towards realization of this goal.
- b. Learn key aspects of National policies on health and devote himself to its practical implementation.
- c. Achieve competence in the practice of holistic medicine, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases.
- d. Develop scientific temper, acquire educational experience for proficiency in profession and promote healthy living.
- e. Become an exemplary citizen by observance of medical ethics and fulfilling social and professional obligations, so as to respond to national aspirations.

## 2.2 Institutional Goals

In consonance with the national goals, each medical institution should evolve institutional goals to define the kind of trained manpower (or professionals) they intend to produce. The Indian Medical Graduates coming out of a medical institute should be competent in diagnosis and management of common health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.

- a. Be competent for working in the health care team from Phase I MBBS to Compulsory rotatory medical internship (CRMI) in a gradual manner with increasing complexity in an integrated multi-department involvement.
- b. Be competent to practice preventive, promotive, curative, palliative and rehabilitative medicine in respect to the commonly encountered health problems.
- c. Appreciate rationale for different therapeutic modalities; be familiar with the administration of the "essential medicines" and their common adverse effects.

- d. Appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.
- e. Possess the attitude for continued self-learning and to seek further expertise or to pursue research in any chosen area of medicine, action research and documentation skills.
- f. Be familiar with the basic factors which are essential for the implementation of the National Health Programs including practical aspects of the following:
- i. Family Welfare and Maternal and Child Health (MCH);
  - ii. Sanitation and water supply;
  - iii. Prevention and control of communicable and non-communicable diseases;
  - iv. Immunization;
  - v. Health Education and advocacy;
  - vi. Indian Public Health Standards (IPHS) at various level of service delivery;
  - vii. Bio-medical waste disposal;
  - viii. Organizational and or institutional arrangements.
- g. Acquire basic management skills in the area of human resources, materials and resource management related to health care delivery, general and hospital management, principal inventory skills and counselling.
- h. Be able to identify community health problems and learn to work to resolve these by designing, instituting corrective steps and evaluating outcome of such

measures with maximum community participation.

- i. Be able to work as a leading partner in health care teams and acquire proficiency in communication skills.
- j. Be competent to work in a variety of health care settings.
- k. Have personal characteristics and attitudes required for professional life including personal integrity, sense of responsibility, dependability, and ability to relate to or show concern for other individuals.

All efforts must be made to equip the medical graduates to acquire certifiable skills as given in comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) Indian Medical Graduate, as given in the Graduate Medical Education Regulations.

### **2.3 Goals for the Learner**

In order to fulfil these goals, the Indian Medical Graduate must be able to function in the following roles appropriately and effectively:-

- a. Clinician who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.
- b. Leader and member of the health care team and system with capabilities to collect, analyse, synthesize and communicate health data appropriately.
- c. Communicate with patients, families, colleagues, community and community in a methodological and skilful way using various approaches in family visits, family adoption program, clinic-social cases, clinical cases and AETCOM training programs.
- d. Lifelong learner committed to continuous improvement of skills and knowledge.
- e. Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community, profession, and society. Training of humanities and social sciences will be useful for this training.

### **3. Competency Based Training Programme of the Indian Medical Graduate**

Competency based learning would include designing and implementing medical education. Curriculum that focuses on the desired and observable activity in real life situations. In order to effectively fulfil the roles, the Indian Medical Graduate would have obtained the following set of competencies at the time of graduation:

#### **3.1 Clinician, who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.**

- 3.1.1 Demonstrate knowledge of normal human structure, function and development from a molecular, cellular, biological, clinical, behavioral and social perspective.
- 3.1.2 Demonstrate knowledge of abnormal human structure, function and development from a molecular, cellular, biological, clinical, behavioral and social perspective.
- 3.1.3 Demonstrate knowledge of medico-legal, societal, ethical and humanitarian principles that influence healthcare.
- 3.1.4 Demonstrate knowledge of national and regional health care policies including the National Health Mission that incorporates National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), frameworks, economics and systems that influence health promotion, health care delivery, disease prevention, effectiveness, responsiveness, quality and patient safety.
- 3.1.5 Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is complete and relevant to disease identification, disease prevention and health promotion.
- 3.1.6 Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is contextual to gender, age, vulnerability, social and economic status, patient preferences, beliefs and values.
- 3.1.7 Demonstrate ability to perform a physical examination that is complete and relevant to disease identification, disease prevention and health promotion.

- 3.1.8 Demonstrate ability to perform a physical examination that is contextual to gender, social and economic status, patient preferences and values.
- 3.1.9 Demonstrate effective clinical problem solving, judgment and ability to interpret and integrate available data in order to address patient problems, generate differential diagnoses and develop individualized management plans that include preventive, promotive and therapeutic goals.
- 3.1.10 Maintain accurate, clear and appropriate record of the patient in conformation with legal and administrative frameworks.
- 3.1.11 Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context.
- 3.1.12 Demonstrate ability to prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy and interventions based on the principles of rational drug therapy, scientific validity, evidence and cost that conform to established national and regional health programmes and policies for the following:
- i. Disease prevention,
  - ii. Health promotion and cure,
  - iii. Pain and distress alleviation, and
  - iv. Rehabilitation and palliation.
- 3.1.13 Demonstrate ability to provide a continuum of care at the primary (including home care) and/or secondary level that addresses chronicity, mental and physical disability,
- 3.1.14 Demonstrate ability to appropriately identify and refer patients who may require specialized or advanced tertiary care.
- 3.1.15 Demonstrate familiarity with basic, clinical and translational research as it applies to the care of the patient.

### **3.2 Leader and member of the health care team and system**

- 3.2.1 Work effectively and appropriately with colleagues in an inter-professional health care team respecting diversity of roles, responsibilities and competencies of other professionals.
- 3.2.2 Recognize and function effectively, responsibly and appropriately as a health care team leader in primary and secondary health care settings.
- 3.2.3 Educate and motivate other members of the team and work in a collaborative and collegial fashion that will help maximize the health care delivery potential of the team.
- 3.2.4 Access and utilize components of the health care system and health delivery in a\_ manner that is appropriate, cost effective, fair and in compliance with the national health care priorities and policies, as well as be able to collect, analyse and utilize health data.
- 3.2.5 Participate appropriately and effectively in measures that will advance quality of health care and patient safety within the health care system.
- 3.2.6 Recognize and advocate health promotion, disease prevention and health care quality improvement through prevention and early recognition: in a) life style diseases and b) cancer, in collaboration with other members of the health care team.

### **3.3 Communicator with patients, families, colleagues and community**

- 3.3.1 Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients, families, colleagues and community in a language that patients, families, colleagues and community understands and in a manner that will improve patient patients, families, colleagues and community satisfaction and health care outcomes.
- 3.3.2 Demonstrate ability to establish professional relationships with patients, families, colleagues and community that are positive, understanding, humane, ethical, empathetic, and trustworthy.
- 3.3.3 Demonstrate ability to communicate with patients, families, colleagues and community in a manner respectful of patient's preferences, values, prior

experience, beliefs, confidentiality and privacy.

- 3.3.4 Demonstrate ability to communicate with patients, colleagues and families in a manner that encourages participation and shared decision- making and overcoming hesitancy towards health initiatives.

### **3.4 Lifelong learner committed to continuous improvement of skills and knowledge**

- 3.4.1 Demonstrate ability to perform an objective self-assessment of knowledge and skills, continue learning, refine existing skills and acquire new skills.
- 3.4.2 Demonstrate ability to apply newly gained knowledge or skills to the care of the patient.
- 3.4.3 Demonstrate ability to introspect and utilize experiences, to enhance personal and professional growth and learning.
- 3.4.4 Demonstrate ability to search (including through electronic means), and critically re- evaluate the medical literature and apply the information in the care of the patient.
- 3.4.5 Be able to identify and select an appropriate career pathway that is professionally rewarding and personally fulfilling.

### **3.5 Professional who is committed to excellence, is ethical, responsive and accountable to patients, the profession and community.**

- 3.5.1 Practice selflessness, integrity, responsibility, accountability and respect.
- 3.5.2 Respect and maintain professional boundaries between patients, colleagues and society.
- 3.5.3 Demonstrate ability to recognize and manage ethical and professional conflicts.
- 3.5.4 Abide by prescribed ethical and legal codes of conduct and practice.
- 3.5.5 Demonstrate commitment to the growth of the medical profession as a whole.

## **Section 2**

### **Subject-wise competencies**

Section 2 contains subject-wise competencies that must be achieved at the end of instruction in that subject. These are organised in tables.

Competencies (Outcomes) in each subject are grouped according to topics number-wise. It is important to review the individual competencies in the light of the topic outcomes as a whole. For each competency outlined - the learning domains (Knowledge, Skill, Attitude, Communication) are identified. The expected level of achievement in that subject is identified as – [knows (K), knows how (KH), shows how (SH), perform (P)]. As a rule, 'perform' indicates independent performance without supervision and is required rarely in the pre-internship period. The competency is a core (Y - must achieve) or non-core (N - desirable) outcome. Suggested learning and assessment methods (these are suggestions) and explanation of the terms used are given under the section "definitions used in this document". The suggested number of times a skill must be performed independently for certification in the learner's logbook is also given.

The number of topics and competencies in each subject are given below:

### Topics and competencies in Phase 1 & Phase 2 subjects (Volume I)

<b>Sr. No.</b>	<b>Subjects</b>	<b>Number of topics</b>	<b>Number of competencies</b>
1.	Anatomy	82	413
2.	Physiology	12	136
3.	Biochemistry	14	84
4.	Pharmacology	10	92
5.	Pathology	35	182
6.	Microbiology	11	74
7.	Forensic Medicine	14	158
	<b>Total</b>	<b>178</b>	<b>1139</b>

## Topics and competencies in Medicine and Allied subjects (Volume II)

<b>Sr. No.</b>	<b>Subjects</b>	<b>Number of topics</b>	<b>Number of competencies</b>
1.	Community Medicine	20	136
2.	General Medicine	29	525
3.	Paediatrics	35	406
4.	Psychiatry	13	17
5.	Dermatology, Venereology & Leprosy	15	48
	<b>Total</b>	<b>112</b>	<b>1132</b>

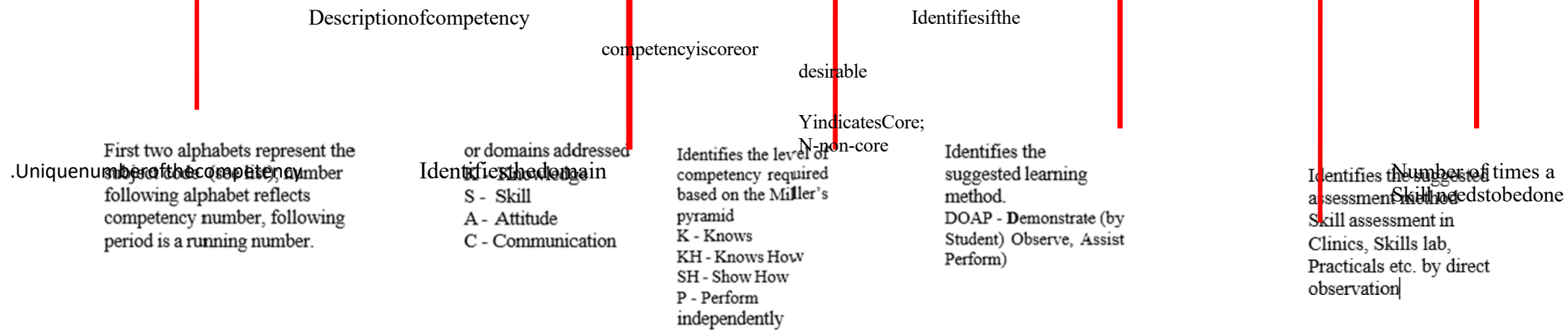
### Topics and competencies in Surgery and Allied subjects (Volume III)

<b>Sr. No.</b>	<b>Subjects</b>	<b>Number of topics</b>	<b>Number of competencies</b>
1.	General Surgery	30	133
2.	Ophthalmology	10	60
3.	Otorhinolaryngology	04	63
4.	Obstetrics & Gynaecology	38	141
5.	Orthopaedics'	14	40
6.	Anaesthesiology	11	52
7.	Radiodiagnosis	07	21
	<b>Total</b>	<b>114</b>	<b>510</b>

## **Understanding the competencies table**

## Understanding the competency table

A	B	C	D	E	F	G	H
No.	Competencies	Domain	K/KH/SH/P	Core	Suggested Teaching Learning Method	Suggested Assessment method	No. required to certify (P)
Physiology PY1.1	Describe the structure and functions of a	K	KH	Y	LGT, SGT	Written/Viva	
IM 4.10	Elicit <i>document</i> and present medical history that helps delineate the	S	SH	Y	Bed Side clinic, DOAP	OSCE, Direct observation	3



LGT-Large group teaching; SGT-Small group teaching; OSCE-Objective structured clinical examination; P- indicate how many competencies/competencies must be done independently under observation for Certification. \*Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents;

## **Deriving learning objectives from competencies**

## Deriving learning objectives from competencies

K	Knows	A knowledge attribute – Usually enumerates or describes
KH	Knows how	A higher level of knowledge – is able to discuss or analyse
S	Shows	A skill attribute: is able to identify or demonstrate the steps
SH	Shows how	A skill attribute: is able to interpret / demonstrate a complex procedure requiring thought, knowledge and behaviour
P	Performs (under supervision or independently)	Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results

**Competency:** An observable ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

PA42.3*	Identify the etiology of meningitis based on given CSF parameters	K/S	SH	Y
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LO 1	At the end of the session the <b>phase II student</b> must be able to enumerate the most common causes of meningitis correctly	<u>Audience</u> - who will do the behavior
LO 2	At the end of the session the <b>phase II student</b> must be able to enumerate the components of CSF analysis correctly	<u>Behavior</u> - What should the learner be able to do?
LO 3	At the end of the session the <b>phase II student</b> must be able to <b>describe</b> the CSF features for a given etiology of meningitis <b>accurately</b>	<u>Condition</u> - Under what conditions should the learner be able to do it?
LO 4	At the end of the session the <b>phase II student</b> must be able to identify the aetiology of meningitis correctly from a <b>given set of CSF parameters</b>	<u>Degree</u> - How well must it be done

**Learning Objective (LO):** Statement of what a learner should be able to do at the end of a specific learning experience

\*Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents

## **Deriving learning methods from competencies**

## Deriving learning methods from competencies

**Competency:** An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

PA34.3*	Identify the etiology of meningitis based on given CSF parameters	K, S	SH	Y
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**Objective:** Statement of what a learner should be able to do at the end of a specific learning experience

LO 1	At the end of the session the <b>Phase II student</b> must be able to enumerate the most common causes of meningitis <b>correctly</b>	
LO 2	At the end of the session the <b>Phase II student</b> must be able to enumerate the components of a CSF analysis <b>correctly</b>	
LO 3	At the end of the session the <b>Phase II student</b> must be able to <b>describe</b> the CSF features for a given etiologic of meningitis <b>accurately</b>	
LO 4	At the end of the session the <b>Phase II student</b> must be able to identify the aetiology of meningitis correctly from a <b>given set of CSF parameters</b>	

\*Numbers given are for illustrative purposes only and should not be compared with the same in curriculum documents

## **Deriving assessment methods from competencies**

## Deriving assessment methods from competencies

**Competency:** An **observable** ability of a health professional, **integrating multiple components** such as knowledge, skills, values and attitudes.

PA34.3*	Identify the etiology of meningitis based on given CSF parameters	K, S	SH	Y
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**Objective:** Statement of what a learner should be able to do at the end of a specific learning experience

LO 1	At the end of the session the Phase II student must be able to enumerate the most common causes of meningitis correctly	Written/SAQ: Enumerate 5 causes of meningitis based on their prevalence in India
LO 2	At the end of the session the Phase II student must be able to enumerate the components of a CSF analysis correctly	Short note or part of structured essay: Enumerate the components tested in a CSF analysis
LO 3	At the end of the session the Phase II student must be able to describe the CSF features for a given aetiology of meningitis accurately	Short note or part of structured essay: Describe the CSF findings that are characteristic of tuberculous meningitis
LO 4	At the end of the session the Phase II student must be able to identify the aetiology of meningitis correctly from a given set of CSF parameters	Short note / part of the structured essay/ Direct observation/OSPE/ Viva voce Review the CSF findings in the following patient and identify (write or vocalize) the most likely etiology

\* Numbers given are for illustrative purposes only and should not be compared with numbers in the curriculum document

## Definitions used in the Manual

1. **Goal:** A projected state of affairs that a person or system plans to achieve.

In other words: Where do you want to go? or What do you want to become?

2. **Competency:** The habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served.

In other words: What should you have? Or What should have changed?

3. **Objective:** Statement of what a learner should be able to do at the end of a specific learning experience. In other words: What the Indian Medical Graduate should know, do, or behave.

### Action Verbs used in this manual

Knowledge	Skill	Attitude/communicate
Enumerate	Identify	Counsel
List	Demonstrate	Inform
Describe	Perform under supervision	Demonstrate understanding of
Discuss	Perform independently	Communicate
Differentiate	Document	
Define	Present	
Classify	Record	
Choose	Elicit	
Interpret		
Report		

**Note:**

1. Specified essential competencies only will be required to be performed independently at the end of the final year M BBS.
2. The word 'perform' or 'do' is used ONLY if the task has to be done on patients or in laboratory practical in the pre/para-clinical phases.
3. Most tasks that require performance during undergraduate years will be performed under supervision.
4. If a certification to perform independently has been done, then the number of times the task has to be performed under supervision will be indicated in the last column.

### Explanation of terms used in this manual

LGT (LGT)	Any instructional large group method including interactive lecture
SGT (SGT)	Any instructional method involving small groups of students in an appropriate learning context
DOAP (Demonstration-Observation-Assistance-Performance)	A practical session that allows the student to observe a demonstration, assist the performer, perform in a simulated environment, perform under supervision or perform independently
Skill assessment/ Direct observation	A session that assesses the skill of the student including those in the practical laboratory, skillslab, skills station that uses mannequins/papercase/simulated patients/real patients as the context demands
DOPS (Directly observed procedural skills)	DOPS is a method of assessment for assessing competency of the students in which the examiner directly observes the student performing procedure
Core	A competency that is necessary in order to complete the requirements of the subject (traditional must know)
Non-Core	A competency that is optional in order to complete the requirements of the subject (traditional nice (good) to know/ desirable to know)
National Guidelines	Health programs as relevant to the competency that are part of the National Health Program

### Domains of learning

K	Knowledge
S	Skill
A	Attitude
C	Communication

### Levels of competency

K	Knows	Acknowledge attribute-Usually enumerates or describes
KH	Knows how	A higher level of knowledge-is able to discuss or analyze
SH	Show show	A skill attribute is able to interpret/demonstrate a complex procedure requiring thought, knowledge and behavior
P	Performs (under supervision or independently)	Mastery for the level of competence - When done independently under supervision a pre-specified number of times - certification or capacity to perform independently results

**Note:**

In the table of competency - the highest level of competency acquired is specified and implies that the lower levels have been acquired already. Therefore, when a student is able to SH - Show how- an informed consent is obtained - it is presumed that the preceding steps - the knowledge, the analytical skills, the skill of communicating have all been obtained.

It may also be noted that attainment of the highest level of competency may be obtained through steps spread over several subjects or phases and not necessarily in the subject or the phase in which the competency has been identified.

**Volume III**  
**Competency based Undergraduate Curriculum**  
**in**  
**Surgery & Allied subjects**

# **GENERAL SURGERY (CODE:SU)**

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
<b>GENERAL SURGERY (Topics:30, Competencies: 133)</b>							
<b>Topic1: Metabolic response to injury</b>		<b>Number of competencies: (03)</b>			<b>Number of competencies that require certification: (NIL)</b>		
SU1.1	Describe Basic concepts of homeo stasis, enumerate the metabolic changes in injury and their mediators.	K	KH	Y	LGT, Bed side clinic, SGT	Written/Vivavoce	
SU1.2	Describe the factors that affect the metabolic response to injury.	K	KH	Y	LGT, Bed side clinic,SGT	Written/Vivavoce	
SU1.3	Describe basic concepts of perioperative care.	K	KH	Y	LGT, Bed side clinic,SGT	Written/Vivavoce	
<b>Topic 2: Shock</b>		<b>Number of competencies: (03)</b>			<b>Number of competencies that require certification: (NIL)</b>		
SU2.1	Describe Pathophysiology of shock, types of shock & principles of resuscitation including fluid replacement and monitoring.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU2.2	Describe the clinical features of shock and its appropriate treatment.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU2.3	Communicate and counsel patients and families about the treatment and prognosis of shock demonstrating empathy and care	A/C	SH	Y	DOAP	Skillassessment	
<b>Topic 3: Blood and blood components</b>		<b>Number of competencies: (03)</b>			<b>Number of competencies that require certification: (NIL)</b>		
SU3.1	Describe the Indications and appropriate use of blood and blood products and complications of blood transfusion.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU3.2	Observe blood transfusions.	S	SH	Y	SGT,DOAP	Skillsassessment, Log book	
SU3.3	Counsel patients and family/friends for blood transfusion and blood donation.	A/C	SH	Y	DOAP	Skillsassessment	
<b>Topic 4: Burns</b>		<b>Number of competencies: (04 )</b>			<b>Number of competencies that require certification: (NIL)</b>		
SU4.1	Elicit document and present history in a case of Burns and perform physical examination. Describe Pathophysiology of Burns.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU4.2	Describe Clinical features, Diagnose type and extent of burns and plan appropriate treatment.	K	KH	Y	LGT,SGT	Written/Vivavoce	

SU4.3	Discuss the Medico legal aspects in burn injuries.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU4.4	Communicate and counsel patients and families on the outcome and rehabilitation demonstrating empathy and care.	A/C	SH	Y	SGT,Roleplay, Skills assessment	Vivavoce	
<b>Topic 5: Wound healing and wound care      Number of competencies: (04 ) Number of competencies that require certification: (NIL)</b>							
SU5.1	Describe normal wound healing and factors affecting healing.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU5.2	Elicit, document and present a history in a patient presenting with wounds.	C	SH	Y	LGT,SGT	Written/Vivavoce	
SU5.3	Differentiate the various types of wounds,plan and observe management of wounds.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU5.4	Discuss medico legal aspects of wounds	K	KH	Y	LGT,SGT	Written/Vivavoce	
<b>Topic 6: Surgical infections      Number of competencies: (02)      Number of competencies that require certification: (NIL)</b>							
SU6.1	Define and describe the aetiology and pathogenesis of surgical Infections	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU6.2	Enumerate Prophylactic and therapeutic antibiotics Plan appropriate management	K	KH	Y	LGT,SGT	Written/Vivavoce	
<b>Topic 7: Surgical Audit and Research      Number of competencies: (02) Number of competencies that require certification: (NIL)</b>							
SU7.1	Describe the Planning and conduct of Surgical audit	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU7.2	Describe the principles and steps of clinical research in General Surgery	K	KH	Y	LGT,SGT	Written/Vivavoce	
<b>Topic 8: Ethics      Number of competencies: (03) Number of competencies that require certification: (NIL)</b>							
SU8.1	Describe the principles of Ethics as it pertains to General Surgery	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	-
SU8.2	Demonstrate Professionalism and empathy to the patient undergoing General Surgery	A/C	SH	Y	LGT,SGT, DOAP	Written/Vivavoce/ Skill assessment	
SU8.3	Discuss Medico-legal issues in surgical practice	A/C	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
<b>Topic 9: Investigation of surgical patient      Number of competencies (03) Number of competencies that require certification: (NIL)</b>							
SU9.1	Choose appropriate biochemical, microbiological, pathological, imaging investigations and interpret the investigative data in a surgical patient	C	KH	Y	LGT,SGT	Written/Vivavoce	

SU9.2	Biological basis for early detection of cancer and multi disciplinary approach in management of cancer	C	KH	Y	LGT,SGT	Written/Vivavoce	
SU9.3	Communicate the results of surgical investigations and counsel the patient appropriately	C	SH	Y	DOAP	Skillassessment	
<b>Topic 10: Pre, intra and post- operative management. Number of competencies: (04) Number of competencies that require certification: (NIL)</b>							
SU10.1	Describe the principles of perioperative management of common surgical competencies	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU10.2	Describe the steps and obtain informed consent in a simulated environment	S/A/C	SH	Y	DOAP	Skillassessment/Log book	
SU10.3	Observe common surgical competencies and assist in minor surgical competencies; Observe emergency lifesaving surgical competencies.	S	KH	Y	DOAPs	Logbook	
SU10.4	Perform basic surgical Skills such as First aid including suturing and minor surgical competencies in simulated environment	S	P	Y	DOAP	Skillassessment	
<b>Topic 11: Anaesthesia and pain management Number of competencies: (06) Number of competencies that require certification: (NIL)</b>							
SU11.1	Describe principles of Preoperative assessment.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU11.2	Enumerate the principles of general, regional, and local Anaesthesia.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU11.3	Demonstrate maintenance of an airway in a mannequin or equivalent	S	SH	Y	DOAP	Skillassessment	
SU11.4	Enumerate the indications and principles of daycare General Surgery	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU11.5	Describe principles of providing post-operative pain relief and management of chronic pain.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU11.6	Describe Principles of safe General Surgery	K	KH	Y	LGT,SGT	Written/Vivavoce	
<b>Topic 12: Nutrition and fluid therapy Number of competencies: (03 ) Number of competencies that require certification: (NIL)</b>							
SU12.1	Enumerate the causes and consequences of malnutrition in the surgical patient	K	KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce	
SU12.2	Describe and discuss the methods of estimation and replacement of the fluid and electrolyte requirements in the surgical patient	K	KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce	
SU12.3	Discuss the nutritional requirements of surgical patients, the methods of providing nutritional support and their complications	K	KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce	

<b>Topic 13: Transplantation      Number of competencies: (04)      Number of competencies that require certification: (NIL)</b>							
SU13.1	Describe the immunological basis of organ transplantation	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU13.2	Discuss the Principles of immunosuppressive therapy. Enumerate Indications, describe surgical principles, management of organ Transplantation	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU13.3	Discuss the legal and ethical issues concerning organ donation	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU13.4	Counsel patients and relatives on organ donation in a simulated environment	S	SH	Y	DOAP	Skillassessment	
<b>Topic 14: Basic Surgical Skills      Number of competencies: (04)      Number of competencies that require certification: (NIL)</b>							
SU14.1	Describe Aseptic techniques, sterilization and disinfection.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU14.2	Describe Surgical approaches,incisions and the use of appropriate instruments in Surgery in general.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU14.3	Describe the materials and methods used for surgical wound closure and anastomosis (sutures, knots and needles)	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU14.4	Demonstrate the techniques of asepsis and suturing in a simulated environment	S	SH	Y	DOAP	Skillassessment/Log book	
<b>Topic 15: Biohazard disposal      Number of competencies: (01)      Number of competencies that require certification: (NIL)</b>							
SU15.1	Describe classification of hospital waste and appropriate methods of disposal.	K	KH	Y	LGT,SGT	Written/Vivavoce	
<b>Topic 16: Minimally invasive General Surgery      Number of competencies: (01)      Number of competencies that require certification: (NIL)</b>							
SU16.1	Minimally invasive General Surgery: Describe indications advantages and disadvantages of Minimally invasive General Surgery	K	K	Y	LGT, Demonstration, Bedside clinic, Discussion	Theory/ Practical / Orals/Written/Viva voce	
<b>Topic 17: Trauma      Number of competencies: (10)      Number of competencies that require certification: (NIL)</b>							
SU17.1	Describe the Principles of FIRST AID	S	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.2	Demonstrate the steps in Basic Life Support. Transport of injured patient in a simulated environment	S	SH	Y	DOAP	Skill assessment	

SU17.3	Describe the Principles in management of mass casualties	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.4	Describe Pathophysiology, mechanism of head injuries	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.5	Describe clinical features for neurological assessment and GCS in head injuries	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.6	Chose appropriate investigations and discuss the principles of management of head injuries	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.7	Describe the clinical features of soft tissue injuries. Chose appropriate investigations and discuss the principles of management.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.8	Describe the pathophysiology of chest injuries.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.9	Describe the clinical features and principles of management of chest injuries.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU17.10	Demonstrate Airway maintenance. Recognizeand manage tension pneumothorax, hemothorax and flailchest in simulated environment.	S	SH	Y	DOAP	Skill assessment/Log book	
<b>Topic 18: Skin and subcutaneous tissue Number of competencies: (03) Number of competencies that require certification: (NIL)</b>							
SU18.1	Describe the pathogenesis, clinical features and management of various cutaneous and subcutaneous infections.	K	KH	Y	LGT,Small group Discussion	Written/Vivavoce	
SU18.2	Classify skin tumors Differentiate different skin tumors and discuss their management.	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU18.3	Describe and demonstrate the clinical examination of surgical patient including swelling and order relevant investigation for diagnosis. Describe and discuss appropriate treatment plan.	S	SH	Y	Bedside clinic,SGT, DOAP	Skillassessment	
<b>Topic 19: Developmental anomalies of face, mouth and jaws Number of competencies: (02) Number of competencies that require certification: (NIL)</b>							
SU19.1	Describe the etiology and classification of cleftlip and palate	K	KH	Y	LGT,Small group Discussion	Written/Vivavoce	
SU19.2	Describe the Principles of reconstruction of cleftlip and palate	K	KH	Y	LGT,Small group Discussion	Written/Vivavoce	
<b>Topic 20: Oropharyngeal cancer Number of competencies: (02) Number of competencies that require certification: (NIL)</b>							
SU20.1	Describe etiopathogenesis of oral cancer symptoms and signs of oropharyngeal cancer.	K	KH	Y	LGT,SGT	Written/Vivavoce	

SU20.2	Enumerate the appropriate investigations and discuss the Principles of treatment.	K	K	Y	LGT,SGT	Written/Vivavoce	
<b>Topic 21: Disorders of salivary glands Number of competencies: (02) Number of competencies that require certification: (NIL)</b>							
SU21.1	Describe surgical anatomy of the salivary glands, pathology, and clinical presentation of disorders of salivary glands	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU21.2	Enumerate the appropriate investigations and describe the Principles of treatment of disorders of salivary glands	K	KH	Y	LGT,SGT	Written/Vivavoce	
<b>Topic 22: Endocrine General Surgery: Thyroid and parathyroid Number of competencies: (06) Number of competencies that require certification: (NIL)</b>							
SU22.1	Describe the applied anatomy and physiology of thyroid	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU22.2	Describe the etiopathogenesis of thyroidal swellings	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU22.3	Demonstrate and document the correct clinical examination of thyroid swellings and discuss the differential diagnosis and their Management	S	SH	Y	Bedsideclinic	Skillassessment	
SU22.4	Describe the clinical features, classification and principles of management of thyroid cancer	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU22.5	Describe the applied anatomy of parathyroid	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU22.6	Describe and discuss the clinical features of hypo - and Hyperparathyroidism and the principles of their management	K	KH	Y	LGT,SGT	Written/Vivavoce	
<b>Topic 23: Adrenal glands Number of competencies: (03) Number of competencies that require certification: (NIL)</b>							
SU23.1	Describe the applied anatomy of adrenal glands	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU23.2	Describe the etiology, clinical features and principles of management of disorders of adrenal gland	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU23.3	Describe the clinical features, principles of investigation and management of Adrenal tumors	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU24.1	Describe the clinical features, principles of investigation, prognosis and management of pancreatitis.	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU24.2	Describe the clinical features, principles of investigation, prognosis and management of pancreatic endocrine tumours	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	

SU24.3	Describe the principles of investigation and management of Pancreatic disorders including pancreatitis and endocrine tumors.	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
<b>Topic 25: Breast</b>		<b>Number of competencies: (05)</b>			<b>Number of competencies that require certification: (NIL)</b>		
SU25.1	Describe applied anatomy and appropriate investigations for breast disease	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU25.2	Describe the etiopathogenesis, clinical features and principles of management of benign breast disease including infections of the Breast	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skillassessment	
SU25.3	Describe the etiopathogenesis, clinical features, Investigations and principles of treatment of benign and malignant tumours of breast.	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU25.4	Counsel the patient and obtain informed consent for treatment of malignant conditions of the breast	A/C	SH	Y	DOAP	Skillassessment	
SU25.5	Demonstrate the correct technique to palpate the breast for breast swelling in a mannequin or equivalent	S	SH	Y	DOAP	Skillassessment	
<b>Topic 26: Cardio-thoracic General Surgery- Chest - Heart and Lungs</b>		<b>Number of competencies: (04)</b>			<b>Number of competencies that require certification: (NIL)</b>		
SU26.1	Outline the role of surgery in the management of coronary heart disease, valvular heart diseases and congenital heart diseases	K	K	Y	LGT,SGT	Written/Vivavoce	
SU26.3	Describe the clinical features of mediastinal diseases and the principles of management	K	K	Y	LGT,SGT	Written/Vivavoce	
SU26.4	Describe the etiology, pathogenesis, clinical features of tumors of lung and the principles of management	K	K	Y	LGT,SGT	Written/Vivavoce	
SU27.1	Describe the etiopathogenesis, clinical features, investigations and principles of treatment of occlusive arterial disease.	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skillassessment	
SU27.2	Demonstrate the correct examination of the vascular system and enumerate and describe the investigation of vascular disease	S	SH	Y	DOAP	Skillassessment	
SU27.3	Describe clinical features, investigations and principles of management of vasospastic disorders	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU27.4	Describe the types of gangrene and principles of amputation	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU27.5	Describe the applied anatomy of venous system of lower limb	K	K	Y	LGT,SGT	Written/Vivavoce	

SU27.6	Describe pathophysiology, clinical features, Investigations and principles of management of DVT and Varicose veins	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU27.7	Describe pathophysiology, clinical features, investigations and principles of management of Lymphedema, lymphangitis and Lymphomas	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU27.8	Demonstrate the correct examination of the lymphatic system	S	SH	Y	DOAP, Bedside clinic	Skillassessment	
<b>Topic 28: Abdomen      Number of competencies: (18)      Number of competencies that require certification: (NIL)</b>							
SU28.1	Describe pathophysiology, clinical features, Investigations and principles of management of Hernias	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU28.2	Demonstrate the correct technique to examine the patient with hernia and identify different types of hernias.	S	SH	Y	DOAP, Bedside clinic	Skillassessment	
SU28.3	Describe causes, clinical features, complications and principles of management of peritonitis	K	K	Y	LGT,SGT, Bedsideclinic	Written/Vivavoce	
SU28.4	Describe pathophysiology, clinical features, investigations and principles of management of Intra-abdominal abscess, mesenteric cyst, and retroperitoneal tumors	K	K	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.5	Describe the applied Anatomy and physiology of esophagus	K	K	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.6	Describe the clinical features, investigations and principles of management of benign and malignant disorders of esophagus	K	K	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.7	Describe the applied anatomy and physiology of stomach	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU28.8	Describe and discuss the aetiology, the clinical features, investigations and principles of management of congenital hypertrophicpyloricstenosis, Peptic ulcer disease, Carcinoma stomach	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU28.9	Demonstrate the correct technique of examination of a patient with disorders of the stomach	S	SH	Y	DOAP, Bedside clinic	Skillassessment	
SU28.10	Describe the applied anatomy of liver. Describe the clinical features, Investigations and principles of management of liver abscess, hydatid disease, injuries and tumors of the liver	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.11	Describe the applied anatomy of spleen. Describe the clinical features, investigations and principles of management of splenic injuries. Describe the post-splenectomy sepsis - prophylaxis	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	

SU28.12	Describe the applied anatomy of biliary system. Describe the clinical features, investigations and principles of management of diseases of biliary system	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.13	Describe the applied anatomy of small and large intestine	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.14	Describe the clinical features, investigations and principles of management of disorders of small and large intestine including neonatal obstruction and Short gut syndrome	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce	
SU28.15	Describe the clinical features, investigations and principles of management of diseases of Appendix including appendicitis and its complications.	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU28.16	Describe applied anatomy including congenital anomalies of the rectum and anal canal	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU28.17	Describe the clinical features, investigations and principles of management of common anorectal diseases	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU28.18	Describe and demonstrate clinical examination of abdomen. Order relevant investigations. Describe and discuss appropriate treatment plan	S	SH	Y	Bedside clinic, DOAP, SGT	Skill assessment	
<b>Topic 29: Urinary System      Number of competencies: (11)      Number of competencies that require certification: (NIL)</b>							
SU29.1	Describe the causes, investigations and principles of management of Hematuria	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.2	Describe the clinical features, investigations and principles of management of congenital anomalies of genito urinary system	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.3	Describe the Clinical features, Investigations and principles of management of urinary tract infections	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.4	Describe the clinical features, investigations and principles of management of hydronephrosis	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.5	Describe the clinical features, investigations and principles of management of renal calculi	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.6	Describe the clinical features, investigations and principles of management of renal tumours	K	KH	Y	LGT,SGT	Written/Vivavoce	

SU29.7	Describe the principles of management of acute and chronic retention of urine	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.8	Describe the clinical features, investigations and principles of management of bladder cancer	K	KH	Y	LGT,SGT	Written/Vivavoce	
SU29.9	Describe the clinical features, investigations and principles of management of disorders of prostate	K	KH	Y	LGT,SGT	Written/Vivavoce/ Skill assessment	
SU29.10	Demonstrate a digital rectal examination of the prostateina mannequin or equivalent	S	SH	Y	DOAP	Skillassessment	
SU29.11	Describe clinical features, investigations and management of urethral strictures	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
<b>Topic 30: Penis, Testis and scrotum</b>							
		<b>Number of competencies: (06)</b>			<b>Number of competencies that require certification: (NIL)</b>		
SU30.1	Describe the clinical features, investigations and principles of management of phimosis, paraphimosis and carcinoma penis.	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU30.2	Describe the applied anatomy clinical features, investigations and principles of management of undescended testis.	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU30.3	Describe the applied anatomy clinical features, investigations and principles of management of epidydimo-orchitis	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU30.4	Describe the applied anatomy clinical features, investigations and principles of management of varicocele	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU30.5	Describe the applied anatomy, clinical features, investigations and principles of management of Hydrocele	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	
SU30.6	Describe classification, clinical features, investigations and principles of management of tumours of testis	K	KH	Y	LGT,SGT, Demonstration	Written/Vivavoce/ Skill assessment	

# **OPHTHALMOLOGY(CODE:OP)**

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
<b>OPHTHALMOLOGY ( Topics:10, Competencies: 60)</b>							
<b>Topic 1: Visual Acuity Assessment</b>		<b>Number of Competencies: (05) Number of competencies that require certification : (NIL)</b>					
OP1.1	Describe the physiology of vision, optics of eye and anatomy of visual pathway.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP1.2	Define,classify and describe the types and methods of correcting refractive errors.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP1.3	Demonstrate the steps in performing the visualacuity assessment for distance vision ,near vision, colour vision,the pinhole test and the menace and blink reflexes	S	SH	Y	DOAP, LGT	Skillassessment / Logbook	
OP1.4	Enumerate the indications and describe the principlesofrefractive surgery	K	KH	Y	LGT,SGT	Written/Viva voce	
OP1.5	Define Amblyopia, enumerate the types of Amblyopia and describe the prevention and treatment of refractive Amblyopia.	K	KH	Y	LGT,SGT	Written/Viva voce	
<b>Topic 2: Lids and Adnexa, Orbit</b>		<b>Number of Competencies: (08) Number of competencies that require certification: (NIL)</b>					
OP2.1	Describe and discuss the aetiology and clinical features, investigations and treatment of HordeolumexternumHordeoluminternum, Ectropion, Entropion, Lagophthalmos, Blepharitis, Preseptal cellulitis.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP2.2	Demonstrate under supervision, the clinical procedure performed- Bell's phenomenon, Ptosis evaluation, Massage technique in Congenital Dacryocystitis, Epilation.	S	SH	Y	DOAP	Skillassessment	
OP2.3	Describe the aetiology, clinical presentation, complications and management of Thyroid eye disease	K	KH	Y	DOAP, LGT	Skillassessment	
OP2.4	Describe the aetiology, clinical presentation. Discuss the complications and management of orbital cellulitis	K	KH	Y	LGT,SGT	Written/Viva voce	
OP2.5	Describe theclinical features onocular examination and management of a patient with cavernous sinus thrombosis	K	KH	Y	LGT,SGT	Written/Viva voce	
OP2.6	Enumerate the causes and describe the differentiating features, and clinical features and management of proptosis	K	KH	Y	LGT,SGT	Written/Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OP2.7	Classification and clinical presentation of various types of orbital tumours	K	KH	Y	LGT,SGT	Written/Viva voce	
OP2.8	Describe the investigations, management, indications for referral of Orbital tumours.	K	KH	Y	LGT,SGT	Written/Viva voce	
<b>Topic 3: Conjunctiva Number of Competencies (07) Number of competencies that require certification: (NIL)</b>							
OP3.1	Demonstrate history taking in a patient with 'Red eye', Enumerate the causes for red eye.	S	SH	Y	DOAP	SkillAssessment	
OP3.2	Describe the etiopathogenesis, clinical features and treatment of acute bacterial and viral conjunctivitis.	K	KH	Y	LGT, SGT	SkillAssessment	
OP3.3	Enumerate the causes for chronic conjunctivitis. Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of trachoma.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP3.4	Enumerate the causes for allergic conjunctivitis. Describe the aetiology pathophysiology, ocular features, complications and management of vernal catarrh.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP3.5	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of pterygium	K	KH	Y	LGT,SGT	Written/Viva voce	
OP3.6	Demonstrate correct technique of removal of foreign body from the eye in a simulated environment	S	SH	Y	DOAP Session	Skill assessment	
OP3.7	Demonstrate under supervision the technique of instillation of eye drops and counselling of patients you put on topical ocular medications	S	SH	Y	DOAP	Skill assessment	
<b>Topic 4: Corneas Number of Competencies: (10) Number of competencies that require certification: (NIL)</b>							
OP4.1	Describe the applied anatomy and physiology of cornea and the factors maintaining corneal transparency	K	KH	Y	LGT,SGT	Written/Viva voce	
OP4.2	Enumerate various congenital anomalies and inflammations of cornea.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP4.3	Enumerate the differential diagnosis of corneal ulcer (infective Keratitis) and describe the etiopathogenesis, clinical features and management of each type of infective keratitis.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP4.4	Identify corneal opacity and different grades of corneal opacity. Enumerate various management modalities of corneal opacity.	K	KH	Y	LGT,SGT	Written/Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OP4.5	Describe tear film. Enumerate the causes of dry eyes and describe the clinical features and management of dry eyes	K	KH	Y	LGT,SGT	Written/Viva voce	
OP4.6	Define blindness. Enumerate the causes of corneal blindness	K	KH	Y	LGT,SGT	Written/Viva voce	
OP4.7	Enumerate the types and the indications of Keratoplasty.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP4.8	Describe the importance of eye donation and eye banking and enumerate the various protocols involved in eye donation and eye banking.	S	SH	Y	DOAP	Skillassessment	
OP4.9	Identify corneal foreign body and demonstrate techniques of removal of corneal foreign body in simulated environment.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP4.10	Counsel patients and family in a simulated environment about eye donation and teach them how to preserve the eye in the deceased till enucleation is done.	A/C	SH	Y	DOAP	Skillassessment	
<b>Topic 5: Sclera</b>		<b>Number of competencies: (02)</b>		<b>Number of competencies that require certification : (NIL)</b>			
OP5.1	Describe the etiopathogenesis, classification, clinical features, complications and management of episcleritis.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP5.2	Enumerate the systemic conditions associated with episcleritis and scleritis, indications for their referral.	K	KH	Y	LGT,SGT	Written/Viva voce	
<b>Topic 6: Iris and Anterior chamber</b>		<b>Number of Competencies (4)</b>		<b>Number of competencies that require certification: (NIL)</b>			
OP6.1	Define Uveitis. Describe the anatomical classification of Uveitis. Describe the clinical features of Iridocyclitis. Distinguish granulomatous iridocyclitis from non-granulomatous iridocyclitis.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP6.2	Describe the complication of iridocyclitis, investigations and treatment of iridocyclitis.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP6.3	Distinguish Hyphema from Hypopyon clinically and enumerate their causes.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP6.4	Enumerate systemic conditions associated with Uveitis. Counsel the patients with uveitis in a simulated environment	K, A/C	KH/SH	Y	LGT,SGT, DOAP	Written/Viva voce	
<b>Topic 7: Glaucoma</b>		<b>Number of Competencies: (05)</b>		<b>Number of competencies that require certification: (NIL)</b>			
OP7.1	Describe the etiopathogenesis, clinical features and management of congenital glaucoma.	K	KH	Y	LGT,SGT	Written/Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OP7.2	Describe the etiopathogenesis , clinical features and management of primary open angle glaucoma.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP7.3	Describe the etiopathogenesis , clinical features and management of primary angle closure glaucoma.	S	SH	Y	DOAP	Skillassessment	
OP7.4	Enumerate the causes of secondary glaucoma.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP7.5	Counsel the patient with glaucoma regarding the treatment modalities complications with treatment and prognosis in a simulated environment.	A/c	SH	Y	DOAP	Skillassessment	
<b>Topic 8: Lens</b>		<b>Number of Competencies (06)</b>		<b>Number of competencies that require certification : (NIL)</b>			
OP8.1	Describe the surgical anatomy of lens	K	KH	Y	LGT,SGT	Written/Viva voce	
OP8.2	Describe the etiopathogenesis, etiological classification, stages of maturation and complications of cataract.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP8.3	Demonstrate the pre operative evaluation and counselling of a patient posted for cataract surgery.	S	SH	Y	DOAP	Skill assessment	
OP8.4	Enumerate the different types of cataract surgery. Enumerate the different ocular anaesthesia techniques. Describe the steps of extra capsular cataract surgery, enumerate the intra operative and post operative complications of ECCE, discuss the post operative treatment.	S	KH	Y	LGT,SGT	Written/Viva voce	
OP8.5	Elicit history and clinical signs in a case of aphakia. Discuss the management of aphakia	K	SH	Y	LGT,SGT, DOAP	Skill Assessment/ Logbook documentation Viva Voce	
OP8.6	Participation of IMG in the team for cataract surgery	S	SH	Y	DOAP	Skill assessment	
<b>Topic 9: Retina&amp;opticNerve</b>		<b>NumberofCompetencies(05)</b>		<b>Numberofcompetenciesthatrequirecertification:(NIL)</b>			
OP9.1	Demonstrate the technique of direct and indirect ophthalmoscopy. Describe the fundoscopic features of normal retina.	S	SH	Y	LGT,SGT,DOAP	Written/Viva voce, Skill assessment	
OP9.2	Describe the etiopathogenesis, clinical features, management and screening protocol for Diabetic Retinopathy.	K	KH	Y	LGT,SGT	Written/Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OP9.3	Discuss the etiopathogenesis, clinical features and management of vascular occlusions of retina.	K	KH	Y	LGT,SGT	Written/ Viva Voce	
OP9.4	Discuss the etiopathogenesis, clinical features and management of Hypertensive retinopathy, retinopathy of prematurity, Eales disease , retinal detachment, central serous retinopathy, cystoid macular edema, age related macular degeneration, retinitis pigmentosa and Retinoblastoma.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP9.5	Describe and discuss the correlative anatomy,aetiology,clinical manifestations, diagnostic tests, imaging and treatment of diseases of the optic nerve and visual pathway	K	KH	Y	LGT,SGT	Written/Viva voce	
<b>Topic 10:Miscellaneous</b>		<b>NumberofCompetencies(07)</b>			<b>Numberofcompetenciesthatrequirecertification:(01)</b>		
OP10.1	Demonstrate the correct technique to examine extraocular movements (Unocular & Binocular)	S	P	Y	DOAP	SkillAssessment	5
OP10.2	Classify, enumerate the types, methods of diagnosis and indications for referral in a patient with heterotropia/ strabismus	K	KH	Y	LGT,SGT	Written/Vivavoce/ skill assessment	
OP10.3	Describe the role of refractive error correction in a patient with headache and enumerate the indications for referral	K	KH	Y	LGT,SGT	Written/Viva voce	
OP10.4	Describe the classifications, causes, ocular manifestations and management of vitamin A deficiency. Indications for referral.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP10.5	Enumerate the indications for enucleation, evisceration and exenteration.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP10.6	Classify ocular injuries, describe their primary management. Indications for referral.	K	KH	Y	LGT,SGT	Written/Viva voce	
OP10.7	Enumerate the causes of Blindness and Vision impairment. Discuss National Program for Control of Blindness (NPCB, including vision 2020)	K	KH	Y	LGT,SGT	Written/Viva voce	

# **OTORHINOLARYNGOLOGY (ENT) (CODE: EN)**

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
<b>OTORHINOLARYNGOLOGY (ENT) (Topics:4, Competencies: 63)</b>							
<b>Topic 1: Anatomy and Physiology of ear, nose, throat, head &amp; neck</b> Number of competencies:(02) Number of competencies that require certification:(Nil)							
EN1.1	Describe the Anatomy & physiology of ear, nose, throat, head & neck	K	KH	Y	LGT, SGT.	Written/ Viva voce	
EN1.2	Describe the pathophysiology of common diseases in ENT like Chronic Otitis Media,,Otosclerosis, Adeno tonsillitis ,Nasal polyposis .	K	KH	Y	LGT, SGT.	Written/ Viva voce	
<b>Topic 2: Clinical Skills</b> Number of competencies: (12) Number of competencies that require certification:(5)							
EN2.1	Elicit document and present an appropriate history in a patient presenting with an ENT complaint	K/S/A/C	SH	Y	LGT, SGT, Demonstration	Skill assessment	
EN2.2	Demonstrate the correct use of conventional methods including head lamp in the examination of ear, nose and throat, the correct technique of examination of the nose & paranasal sinuses including the use of nasal speculum, examination of the throat including the use of a tongue depressor, examination of neck including elicitation of laryngeal crepitus	S	SH	Y	DOAP	Skill assessment/ OSCE	3
EN2.3	Demonstrate the correct technique of examination of the ear including Otoscopy and demonstrate the correct technique of performance and interpretation of tuning fork tests .	K/S/A	SH	Y	DOAP, Bedside clinic	Skill assessment/ OSCE	3
EN 2.4	Describe the correct technique to perform and interpret pure tone audiogram & impedance audiogram	K/S	SH	Y	Clinical demonstration.	Skill assessment	3
EN 2.5	Demonstrate the correct technique of otoscopy , to hold visualize and assess the mobility of the tympanic membrane , interpret and diagrammatically represent the findings.	K/S/A	SH	Y	Clinical, Demonstration	Written/ Viva voce/ Skill assessment	3
EN 2.6	Choose correctly and interpret radiological, microbiological & histological investigations relevant to the ENT disorders	K/S	SH	Y	LGT, SGT, Demonstration.	Written/ Viva voce/ Skill assessment	
EN 2.7	Identify and describe the use of common instruments used in ENT surgery. Nose: FESS, Septoplasty, Nasal Bone Reduction Ear Tympanoplasty, mastoidectomy, Myringotomy Throat: Adenotonsillectomy, Foreign Body Removal from Airway and Food passage, Tracheostomy	K	SH	Y	Demonstration, Bedside clinic .	Skill assessment	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
EN 2.8	Enumerate suspect high-risk patients and risk factors associated with and identify by clinical examination malignant & pre- malignant Ent diseases	K/S	SH	Y	LGT, SGT, Demonstration	Written/ Viva voce/ Skill assessment	
EN 2.9	Counsel and administer informed consent to patients and their families in a simulated environment for Ear: Tympanoplasty, mastoidectomy, Myringotomy Nose: FESS, Septoplasty, Nasal Bone Reduction Throat: Adenotonsillectomy, Foreign Body Removal from Airway and Food passage, Tracheostomy.	S/A/C	SH	Y	DOAP, Bedside clinic	Skill assessment	
EN 2.10	Identify, resuscitate and manage ENT emergencies in a simulated environment (including tracheostomy, anterior nasal packing, removal of foreign bodies in ear, nose, throat, upper respiratory tract and food passages).	K/S/A	SH	Y	DOAP, Bedside clinic	Skill assessment	3
EN 2.11	Demonstrate the correct technique to instill topical medications into the ear, nose and throat in a simulated environment.	K/S	SH	Y	DOAP, Bedside clinic	Skill assessment.	
EN 2.12	Describe the national programs for prevention of deafness, cancer, noise & environmental pollution and participate actively in deafness week and world hearing day	K	KH	Y	LGT, SGT	Written/ Viva voce	
<b>Topic 3: Diagnostic and Therapeutic competencies in ENT</b>		<b>Number of competencies:(01) Number of competencies that require certification:(Nil)</b>					
EN3.1	Observe and describe the indications for and steps involved in the performance of Oto-microscopic examination.	S	KH	N	LGT, SGT, Demonstration	Written/ Viva voce	
EN3.2	Observe and describe the indications for and steps involved in the performance of Diagnostic Nasal Endoscopy.	S	KH	N	LGT, SGT, Demonstration	Written/ Viva voce	
EN3.3	Observe and describe the indications for and steps involved in the performance of Rigid/Flexible Laryngoscopy	K/S	KH	N	LGT, SGT, Demonstration	Written/ Viva voce	
<b>Topic 4: Management of Diseases of Ear, nose and throat</b>		<b>Number of competencies:(46) Number of procedures that require certification:(01)</b>					
EN 4.1	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Otagia.	K/S	SH	Y	LGT, SGT,DOAP, Bedside clinic	Written/ Viva voce/ Skill assessment	

EN 4.2	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of diseases of the external Ear.	K/S	SH	Y	LGT, SGT, DOAP, Bedside clinic	Written/ Viva voce/ Skill assessment	
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Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
EN 4.3	Elicit document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of ASOM	K/S	SH	Y	LGT, SGT	Written/ Viva voce	
EN 4.4	Elicit document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of OME	K/S	SH	Y	LGT, SGT	Written/ Viva voce	
EN 4.5	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of ear discharge.	K/S	SH	Y	LGT, SGT, DOAP, Bedside clinic	Written/ Viva voce/ Skill assessment	
EN 4.6	Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of mucosal type of CSOM.	K/S	SH	Y	LGT, SGT, DOAP, Bedside clinic	Written/ Viva voce/ Skill assessment	
EN 4.7	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of squamosal type of CSOM.	K/S	SH	Y	LGT, SGT, DOAP, Bedside clinic	Written/ Viva voce/ Skill assessment	
EN 4.8	Describe the clinical features, choose the correct investigations and the principles of management of complications of CSOM.	K/S	SH	Y	LGT, SGT	Written/ Viva voce	
EN 4.9	Demonstrate the correct technique for wax removal from the ear in a simulated environment	S	SH	Y	Clinical demonstration / DOAP	Skill assessment	3
EN 4.10	Observe and describe the indications for and steps involved in myringotomy and tympanoplasty	S	KH	Y	Clinical , demonstration	Written/ Viva voce	
EN 4.11	Observe and describe the indications for and steps involved in mastoidectomy	S	KH	Y	Clinical, demonstration	Written/ Viva voce	
EN 4.12	Describe the clinical features, investigations and principles of management of Acoustic neuroma	K	KH	Y	LGT, SGT	Written/ Viva voce	

EN 4.13	Describe the clinical features, investigations and principles of management of Otosclerosis	K	KH	Y	LGT, SGT	Written/ Viva voce	
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Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
EN 4.14	Describe the clinical features, investigations, and principles of management of Conductive Hearing Loss and Sensorineural hearing loss including Sudden Sensorineural Hearing Loss and Noise Induced Hearing Loss.	K	KH	Y	LGT, SGT	Written/Viva voce	
EN 4.15	Describe the anatomy of eustachian tube and discuss the clinical features, investigations, and management of Eustachian tube disorders.	K	KH	Y	LGT, SGT /Flipped class room	Written/Viva voce	
EN 4.16	Describe the clinical features, investigations, and principles of management of Facial Nerve palsy	K	KH	Y	LGT, SGT, Demonstration	Written/Viva voce/Skill assessment	
EN 4.17	Describe the clinical features, investigations and management of Vertigo and assessment of vestibular functions.	K	KH	Y	LGT, SGT, Demonstration	Written/Viva voce/Skill assessment	
EN 4.18	Describe the clinical features, investigations, and principles of management of Meniere's Disease	K	KH	N	LGT, SGT	Written/Viva voce	
EN 4.19	Describe the clinical features, investigations, and management of Tinnitus.	K	KH	Y	LGT, SGT	Written/Viva voce	
EN 4.20	Describe the clinical features, investigations, and management of Deaf child.	K/S	KH	Y	LGT, SGT	Written/ Viva voce	
EN 4.21	Elicit document and present a correct history demonstrate and describe the Causes, choose the correct investigations and describe the principles of management of Nasal Obstruction.	K/S	SH	Y	LGT, SGT, Demonstration	Written/ Viva voce/ Skill assessment	
EN 4.22	Describe the clinical features, investigations and management of DNS and observe and discuss the indications for the steps in septoplasty.	K/S	KH	Y	Clinical demonstration	Written/ Viva voce	
EN 4.23	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Adenoids	K/S	SH	Y	LGT, SGT, DOAP, Bedside clinic	Written/ Viva voce/ Skill assessment	

EN 4.24	Elicit document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of Allergic Rhinitis	K/S	SH	Y	LGT, SGT, Demonstration	Written/ Viva voce /skill assessment	
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Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
EN 4.25	Elicit document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of Vasomotor Rhinitis	K/S	SH	Y	LGT, SGT	Written/ Viva voce	
EN 4.26	Elicit, document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of Acute & Chronic Rhinitis	K/S	SH	Y	LGT, SGT	Written/ Viva voce	
EN 4.27	Elicit, document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of Nasal Polyps	K/S	SH	Y	LGT, SGT, Demonstration	Written/ Viva voce /skill assessment	
EN 4.28	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Epistaxis	K/S	SH	Y	LGT, SGT, DOAP, Bedside clinic	Written/ Viva voce/ Skill assessment	
EN 4.29	Describe the clinical features, choose the correct investigations and describe the principles of management of OBSTRUCTIVE SLEEP APNEA.	K/S	SH	N	LGT, SGT	Written/ Viva voce/	
EN 4.30	Describe the clinical features, investigations and principles of management of Head and Neck trauma.	K/S	KH	N	LGT, SGT.	Written/ Viva voce	
EN 4.31	Describe the clinical features, investigations and principles of management of nasopharyngeal Angiofibroma	K	KH	Y	LGT, SGT.	Written/ Viva voce	
EN 4.32	Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Acute & Chronic Sinusitis and its Complications	K/S	SH	Y	LGT, SGT, Demonstration	Written/ Viva voce/ Skill assessment	
EN 4.33	Describe the clinical features, investigations and principles of management of Tumours of Nose, Nasopharynx and para nasal sinus	K	KH	Y	LGT, SGT,	Written/ Viva voce	
EN 4.34	Describe the clinical features, investigation and management of granulomatous diseases of nose	K	KH	N	LGT, SGT	Written/ viva voce	

EN 4.35	Describe the clinical features, investigations and principles of management of diseases of the Salivary glands	K	KH	N	LGT, SGT	Written/ Viva voce	
EN 4.36	Describe the clinical features, investigations and principles of management of Deep Neck space Infection	K	KH	Y	LGT, SGT	Written/ Viva voce.	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
EN 4.37	Elicit document and present a correct history describe the clinical features, choose the correct investigations and describe the principles of management of dysphagia	K/S	SH	Y	LGT, SGT	Written/ Viva voce	
EN 4.38	Elicit document and present a correct history, describe the clinical features, choose the correct investigations , complications and describe the principles of management of Acute & Chronic Tonsillitis	K/S	SH	Y	LGT, SGT, Bedside clinic	Written/ Viva voce/Skill assessment	
EN 4.39	Observe and describe the indications for and steps involved in a tonsillectomy / adenoidectomy and its complications	S	KH	Y	Clinical, demonstration	Written/ Viva voce	
EN 4.40	Elicit, document and present a correct history, describe the clinical features, choose the correct investigations and describe the principles of management of hoarseness of voice	K/S	SH	Y	LGT, SGT	Written/ Viva voce	
EN 4.41	Describe the clinical features, investigations and principles of management of Benign lesion of larynx, Acute & Chronic inflammation of larynx, laryngeal paralysis.	K/S	KH	Y	LGT, SGT	Written/ Viva voce	
EN 4.42	Describe the clinical features, investigations and principles of management of Malignancy of the Larynx & Hypopharynx.	K	KH	Y	LGT, SGT /Flipped classroom	Written/ Viva voce	
EN 4.43	Describe the clinical features, investigations and principles of management of Stridor	K	KH	Y	LGT, SGT	Written/ Viva voce	
EN 4.44	Observe and describe the indications for and steps involved in tracheostomy and the care of the patient with a tracheostomy	K	KH	Y	Clinical, Demonstration	Written/ Viva voce	
EN 4.45	Describe the Clinical features, Investigations and principles of management of diseases of Oesophagus	K	KH	N	LGT, SGT	Written/ Viva voce	
EN 4.46	Describe the clinical features, investigations and principles of management of HIV manifestations of the ENT	K	KH	N	LGT, SGT /Flipped classroom	Written/ Viva voce	

**OBSTETRICS&GYNAECOLOGY(CODE:OG)**

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
<b>OBSTETRICS &amp; GYNAECOLOGY</b> (Topics:38, Competencies: 141)							
<b>Topic 1: Demographic and Vital Statistics</b>		<b>Number of competencies:(05)</b>			<b>Number of competencies that require certification:(NIL)</b>		
OG1.1	Define and discuss birthrate, maternal mortality and morbidity and maternal near miss	K	KH	Y	LGT,SGT	Written	
OG1.2	Define and discuss perinatal mortality and morbidity including perinatal and neonatal mortality and morbidity audit	K	KH	Y	LGT,SGT	Written	
OG1.3	Define and discuss still birth and abortion	K	KH	Y	LGT,SGT	Written	
OG1.4	Define and discuss caesarean audit according to modified Robsons classification	K	KH	Y	LGT,SGT	Written	
OG 1.5	Describe and discuss the national programs relevant to Obstetrics & Gynaecology including JSY, JSSK, birth & death registration, anaemia mukt bharat, SUMAN	K	KH	Y	LGT,SGT	Written	
<b>Topic 2:Anatomy of the female reproductive tract (Basic anatomy and embryology)</b>		<b>Number of competencies:(01)</b>			<b>Number of competencies that require certification:(NIL)</b>		
OG2.1	Describe and discuss the development and anatomy of the female reproductive tract, relationship to other pelvic organs, applied anatomy as related to Obstetrics and Gynaecology.	K	KH	Y	LGT,SGT, SDL	Written/Skill station	
<b>Topic 3:Physiology of conception</b>		<b>Number of competencies:(01)</b>			<b>Numberofcompetenciesthatrequirecertification:(NIL)</b>		
OG3.1	Describe the physiology of ovulation,menstruation,fertilization,implantation and gametogenesis.	K	K	Y	LGT,seminars, SDL	Written	
<b>Topic 4:Development of the fetus and the placenta</b>		<b>Number of competencies:(01)</b>			<b>Number of competencies that require certification:(NIL)</b>		
OG4.1	Describe and discuss the basic embryology of fetus, factors influencing fetal growth and development, anatomy and physiology of placenta	K	K	Y	LGT,SGT, SDL	Written	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
<b>Topic 5:Preconception counselling</b>		<b>Number of competencies:(02)</b>			<b>Number of competencies that require certification:(NIL)</b>		
OG5.1	Describe, discuss and identify pre-existing medical disorders and discuss their management DM, HT, renal disorders, SLE, obesity, epilepsy & heart disease	K/S	SH	Y	LGT, Bedsideclinics	Written/ clinicalassessment	
OG5.2	Determine maternal high risk factors and verify immunization status	K/S	SH	Y	LGT, Bedsideclinics, SDL	Written/ clinicalassessment	
<b>Topic 6:Diagnosis of pregnancy</b>		<b>Number of competencies:(01)</b>			<b>Number of competencies that require certification:(NIL)</b>		
OG6.1	Describe, discuss and demonstrate the clinical features of pregnancy, derive and discuss its differential diagnosis,elaborate the principles underlying and interpret pregnancy tests.	S	SH	Y	LGT,SGT, Bedsideclinics	Written/ Clinical assessment/Vivavoce	
<b>Topic 7:Maternal Changes in pregnancy</b>		<b>Number of competencies:(01)</b>			<b>Number of competencies that require certification:(NIL)</b>		
OG7.1	Describe and discuss the changes in the genital tract, breast, cardiovascular system, respiratory, haematology, renal and gastro intestinal system in pregnancy	K	KH	Y	LGT,seminars, SDL	Written	
<b>Topic 8:Antenatal Care</b>		<b>Number of competencies:(10)</b>			<b>Number of competencies that require certification:(NIL)</b>		
OG8.1	Enumerate, describe and discuss the objectives of antenatal care, assessment of period of gestation; screening for high-risk factors and concept of inverted pyramid of care	K	KH	Y	SGT, Bedsideclinics,LGT	Written/Vivavoce/S killassessment	
OG8.2	Elicit document and present an obstetric history including menstrual history , last menstrual period, previous obstetric history, Comorbid conditions, past medical history and surgical history	K/S	SH	Y	SGT, Bedsideclinics,LGT	Written/Vivavoce/S killassessment	

OG8.3	Describe, demonstrate, document and perform an obstetrical examination including a general and abdominal examination (symphysis- fundal height & abdominal girth) and clinical monitoring of maternal and fetal well-being	K/S	SH	Y	Bed-side clinic, DOAP	Skill assessment	
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Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OG8.4	Describe and demonstrate clinical monitoring of maternal and fetal well- being including weight gain, DFMC, NST & BPP	K/S	SH	Y	Bedside clinic, DOAP, SGT	Skill assessment/Written /Viva voce	
OG8.5	Describe and demonstrate pelvic assessment & evaluation of CPD in a model	K/S	SH	Y	DOAP	Skill assessment	
OG8.6	Assess and counsel a patient in a simulated environment regarding appropriate nutrition in pregnancy	K/S	SH	Y	DOAP, Bedside clinic	Skill assessment	
OG8.7	Enumerate the indications for and types of vaccination in pregnancy	K	KH	Y	LGT,SGT, SDL	Written/Viva voce	
OG8.8	Enumerate the indications and describe the investigations including the use of ultrasound in the initial assessment and monitoring in pregnancy	K	KH	Y	LGT,SGT	Written/Viva voce	
OG 8.9	Describe and discuss causes of still births and their management	K	KH	Y	LGT, small group discussion	Written, viva voce, practical case	
OG8.10	Describe and discuss cases of post caesarean pregnancy and their management	K	KH	Y	LGT, small group discussion	Written, viva voce, practical case	

**Topic 9: Complications in early pregnancy**

**Number of competencies:(06)**

**Number of competencies that require certification:(NIL)**

OG9.1	Classify, define and discusses the aetiology and management of abortions including threatened, incomplete, inevitable, missed and Septic abortion	K	KH	Y	LGT,SGT	Written/Viva voce	
OG 9.2	Classify, define and discusses the aetiology and management of Recurrent pregnancy loss	K	KH	Y	LGT,SGT	Written/Viva voce	
OG9.3	Describe the steps and observe/ assist in the performance of an MTP evacuation (medical abortion, eva& MVA)	S	SH	Y	DOAP, Bedside clinic	Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OG9.4	Discuss the aetiology, clinical features, differential diagnosis of acute abdomen in early pregnancy (with a focus on ectopic pregnancy) and enumerate the principles of medical and surgical management	K	KH	Y	LGT, SGT	Written/Viva voce	
OG9.5	Discuss the clinical features, laboratory investigations, ultrasonography, differential diagnosis, principles of management and follow-up of gestational trophoblastic neoplasms	K	KH	Y	LGT, SGT	Written/Viva voce	
OG9.6	Describe the etiopathology, impact on maternal and fetal health and principles of management of hyperemesis gravidarum	K	KH	Y	LGT,SGT	Written/Viva voce	
<b>Topic 10: Antepartum haemorrhage</b>		<b>Number of competencies:(02)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG10.1	Define, classify and describe the aetiology, pathogenesis, clinical features, ultrasonography, differential diagnosis and management of antepartum haemorrhage in pregnancy	K	KH	Y	LGT,SGT, Bedside clinic	Written/Viva voce, clinical exam	
OG10.2	Enumerate the indications and describe the appropriate use of blood and blood products, their complications and management.	K	KH	Y	LGT,SGT, SDL	Written/Viva voce	
<b>Topic 11: Multiple pregnancies</b>		<b>Number of competencies:(01)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG11.1	Describe the etiopathology, clinical features; diagnosis and investigations, complications, principles of management of multiple pregnancies	K	KH	Y	LGT, SGT, Bedside clinics	Written/ OSCE/Clinical assessment/Viva voce	
<b>Topic 12: Medical Disorders in pregnancy</b>		<b>Number of competencies:(11)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG12.1	Define, classify and describe the etiology and pathophysiology, early detection, investigations; principles of management of hypertensive disorders of pregnancy and eclampsia, complications of eclampsia.	K	KH	Y	LGT,SGT, Bedside clinics	Written/Viva voce/ Skill assessment	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OG12.2	Define, classify and describe the etiology, pathophysiology, diagnosis, investigations, adverse effects on the mother and foetus and management during pregnancy and labor, and complications of anemia in pregnancy	K	KH	Y	LGT,SGT, Bedside clinics	Written/Viva voce/ Skill assessment	
OG12.3	Define, classify and describe the etiology, pathophysiology, diagnosis, investigations, criteria, adverse effects on mother and foetus and the management during pregnancy and labor, and complications of diabetes in pregnancy	K	KH	Y	LGT,SGT, Bedside clinics	Written/Viva voce/ Skill assessment	
OG12.4	Define, classify and describe the etiology, pathophysiology, diagnosis, investigations, criteria, adverse effects on mother and foetus and the management during pregnancy and labor, and complications of heart diseases in pregnancy	K	KH	Y	LGT,SGT, Bedside clinics	Written/Viva voce/ Skill assessment	
OG12.5	Describe the clinical features, detection, effect of pregnancy on the disease and impact of the disease on pregnancy complications and management of urinary tract infections in pregnancy	K	KH	Y	LGT,SGT, Bedside clinics	Skill assessment/ Skill assessment	
OG12.6	Describe the clinical features, detection, effect of pregnancy on disease and impact of the disease on pregnancy complications and management of liver disease in pregnancy	K	KH	Y	LGT,SGT, Bedside clinics	Written/Viva voce/ Skill assessment	
OG12.7	Describe and discuss screening, risk factors, management of mother and new born with HIV	K	KH	Y	LGT,SGT, Bedside clinics, SDL	Skill assessment	
OG12.8	Describe the mechanism, prophylaxis, fetal complications, diagnosis and management of iso-immunization in pregnancy	K	KH	Y	LGT,SGT, Bedside clinics	Written/Viva voce/ Skill assessment	
OG 12.9	Describe the mechanism, prophylaxis, fetal complications, diagnosis and management of thyroid disorders in pregnancy	K	KH	Y	LGT,SGT, Bedside clinics	Written/Viva voce	
OG 12.10	Describe the mechanism, prophylaxis, fetal complications, diagnosis and management of gynaecological & surgical disorders in pregnancy	K	KH	Y	LGT,SGT, Bedside clinics	Written/Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OG12.11	Describe and discuss causes, clinical features, diagnosis, investigations; monitoring of fetal well- being, including ultrasound and fetal Doppler; principles of management; prevention and counselling in intrauterine growth retardation	K,S	KH	Y	LGT,SGT, Bedsideclinics	Written/ skill assessment/ Viva voce	
<b>Topic 13:Labour</b>							
		<b>Number of competencies:(08)</b>			<b>Number of competencies that require certification:(01)</b>		
OG 13.1	Enumerate and discuss the diameters of maternal pelvis and types	K	KH	Y	LGT,SGT, DOAP, Bedside clinic	Written/Viva voce/ Skill assessment	
OG 13.2	Discuss the mechanism of normal labor	K/S	SH	Y	SGT, skill lab	OSCE	
OG13.3	Enumerate and discuss the physiology of normal labor, mechanism of labor in occipito-anterior presentation; monitoring of labor including partogram and labour care guide; conduct of labor, pain relief; principles of induction and acceleration of labor; management of third stage of labor.	K/S	KH	Y	LGT, SGT (with models /videos/AV aids, etc.)	Written/Clinical assessment/viva voce	
OG13.4	Define, describe the causes, pathophysiology, diagnosis, investigations and management of preterm labor, PROM and post-dated pregnancy	K/S	KH	Y	LGT, SGT, Bedside clinics	Written/ OSCE/ Clinical assessment /Viva voce	
OG13.5	Observe/assist in the performance of an artificial rupture of membranes	S	SH	N	DOAP, Bedside clinic	Skill assessment	
OG13.6	Demonstrate the stages of normal labor in a simulated environment /mannequin	S	SH	Y	DOAP	Skillassessment	
OG13.7	Observe and assist the conduct of a normal vaginal delivery	S	P	Y	DOAP	Logbook	10
OG 13.8	Discuss and describe components of respectful maternity care	K/S	KH	Y	LGT, SGT, Bedsideclinics	Written/ OSCE/Clinical assessment/Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
<b>Topic 14: Abnormal Labour</b>		<b>Number of competencies:(03)</b>		<b>Number of competencies that need certification:(NIL)</b>			
OG14.1	Define and describe obstructed labor, its clinical features; prevention; and management	K	KH	Y	LGT,SGT, DOAP, Bedside clinic	Written/Viva voce/ Skill assessment	
OG14.2	Describe and discuss rupture uterus, causes, diagnosis and management.	K	KH	Y	LGT,SGT, DOAP, Bedside clinic	Written/Viva voce/ Skill assessment	
OG14.3	Describe and discuss the classification; diagnosis; management of abnormal labor (occipitoposterior position, breech, face, transverse lie)	K	KH	Y	LGT, SGT, Bedside clinics	Written/ skill assessment	
<b>Topic 15: Operative obstetrics</b>		<b>Number of competencies:(02)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG15.1	Enumerate and describe the indications and steps of common obstetric competencies, technique and complications: Episiotomy, vacuum extraction; low forceps; Caesarean section, assisted breech delivery; external cephalic version; cervical cerclage	S	KH	Y	LGT, SGT, seminars	Written/ skill assessment	
OG15.2	Observe and assist in the performance of an episiotomy and demonstrate the correct suturing technique of an episiotomy in a simulated environment. Observe /Assist in operative obstetrics cases –including-CS, Forceps, vacuum extraction, and breech delivery	S	SH	Y	DOAP, Bedside clinic	Skill assessment	
<b>Topic 16: Complications of the third stage</b>		<b>Number of competencies:(04)</b>		<b>Number of competencies that require certification: (01)</b>			
OG16.1	Enumerate and discuss causes, prevention, diagnosis, management, appropriate use of blood and blood products in post-partum haemorrhage	K/S	KH SH	Y	LGT,SGT, Bedside clinics	Written/ skill assessment	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OG 16.2	Describe and demonstrate different techniques used to manage PPH including bimanual and aortic compression, intrauterine balloon tamponade, non-pneumatic anti shock garment Application	K/S	P	Y	SGT, skill lab	Written/ skill assessment	3
OG16.3	Describe and discuss uterine inversion– causes, prevention, diagnosis and management.	K	KH	Y	LGT, SGT, Bedside clinics	Written/Viva voce	
OG16.4	Describe and discuss causes, clinical features, diagnosis, investigations; monitoring of fetal well- being, including ultrasound and fetal Doppler; principles of management; prevention and counselling in intrauterine growth retardation	K/S	KH	Y	LGT,SGT, Bedside clinics, SDL	Written/ skill assessment/ Viva voce	
<b>Topic 17: Lactation</b> <span style="float: right;">Number of competencies:(03)</span> <span style="float: right;">Number of competencies that require certification:(NIL)</span>							
OG17.1	Describe and discuss the physiology of lactation & discuss baby friendly hospital initiatives	K	KH	Y	LGT,SGT	Written/Viva voce	
OG17.2	Counsel in a simulated environment, care of the breast, importance and the technique of breast-feeding	S/A/C	SH	Y	DOAP	Skill assessment	
OG17.3	Describe and discuss the clinical features, diagnosis and management of mastitis and breast abscess	K	KH	Y	LGT,SGT	Written/Viva voce	
<b>Topic 18:Care of the newborn</b> <span style="float: right;">Number of competencies:(04)</span> <span style="float: right;">Number of competencies that require certification:(NIL)</span>							
OG18.1	Describe and discuss the assessment of maturity of the newborn, diagnosis of birth asphyxia, principles of resuscitation, common problems.	K	KH	Y	LGT, SGT	Written/Viva voce	
OG18.2	Demonstrate the steps of neonatal resuscitation in a simulated environment	S	SH	Y	DOAP	Skill assessment	
OG18.3	Describe and discuss the diagnosis of birth asphyxia	K	KH	Y	LGT, SGT	Written/Viva voce	
OG18.4	Describe the principles of resuscitation of the new-born and enumerate the common problems encountered	K	KH	Y	LGT, SGT	Written/Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
<b>Topic 19: Normal and abnormal puerperium</b>		<b>Number of competencies: (04)</b>		<b>Number of competencies that require certification:(01)</b>			
OG19.1	Describe and discuss the physiology of puerperium, its complications, diagnosis and management; counselling for contraception, puerperal sterilization	K	KH	Y	LGT,SGT, Bedside clinics	Written/Viva voce	
OG19.2	Counsel in a simulated environment, contraception and puerperal Sterilisation	S/A/C	SH	Y	DOAP	Skill assessment	2
OG19.3	Observe/assist in the performance of tubal ligation	S	KH	Y	DOAP, intraoperative	Skill assessment	
OG19.4	Describe & discuss PPIUCD programme	K	K/KH	Y	LGT, SGT	Written/Viva voce	
<b>Topic 20: Medical termination of pregnancy</b>		<b>Number of competencies:(03)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG20.1	Enumerate the indications and describe and discuss the legal aspects, indications, methods for first and second trimester MTP; complications and management of complications of Medical Termination of Pregnancy	K	KH	Y	LGT, SGT, SDL	Written/Viva voce	
OG20.2	In a simulated environment administer informed consent to a person wishing to undergo Medical Termination of Pregnancy	S/A/C	SH	Y	DOAP	Skill assessment	
OG20.3	DiscussPre- conception and PreNatal Diagnostic Techniques (PC & PNNT) Act 1994 & its amendments	K	K/KH	Y	LGT, SGT, SDL	Written/Viva voce	
<b>Topic 21: Contraception</b>		<b>Number of competencies:(02)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG21.1	Describe and discuss the temporary and permanent methods of contraception, indications, technique and complications; selection of patients, side effects and failure rate including OCs, male contraception, emergency contraception and IUCD	K	KH	Y	LGT,SGT, Bedside clinics	Written/Viva voce/ Skill assessment	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OG21.2	Enumerate the indications for, describe the steps in and insert and remove an intrauterine device in a simulated environment	S	SH	Y	DOAP	Skill assessment	
<b>Topic: Vaginal discharge</b>		<b>Number of competencies:(02)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG22.1	Describe the clinical characteristics of physiological vaginal discharge.	K	KH	Y	LGT, SDL	Written	
OG22.2	Describe and discuss the etiology (with special emphasis on Candida, T. vaginalis, bacterial vaginosis), characteristics, clinical diagnosis, investigations, genital hygiene, management of common causes and the syndromic management	K	KH	Y	LGT, Bedside clinics, SDL	Written/Viva voce/ Skill assessment	
<b>Topic 23: Normal and abnormal puberty</b>		<b>Number of competencies:(03)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG23.1	Describe and discuss the physiology of puberty, features of abnormal puberty, common problems and their management	K	KH	Y	LGT, SGT, Bedside clinics, SDL	Written/Viva voce	
OG23.2	Enumerate the causes of delayed puberty. Describe the investigation and management of common causes	K	KH	Y	LGT, SGT	Written/Viva voce	
OG23.3	Enumerate the causes of precocious puberty	K	K	N	LGT, SGT	Written/Viva voce	
<b>Topic 24: Abnormal uterine bleeding</b>		<b>Number of competencies:(01)</b>		<b>Number of competencies that require certification: (NIL)</b>			
OG24.1	Define, classify and discuss abnormal uterine bleeding, its aetiology, clinical features, investigations, diagnosis and management	K	KH	Y	LGT, SGT	Written/Viva voce	
<b>Topic 25: Amenorrhea</b>		<b>Number of competencies: (01)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG25.1	Describe and discuss the causes of primary and secondary amenorrhea, its investigation and the principles of management.	K	KH	Y	LGT, SGT	Written/Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
<b>Topic 26: Genital injuries and fistulae</b>		<b>Number of competencies:(02)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG26.1	Describe the causes, prevention, clinical features, principles of management of genital injuries and fistulae	K	KH	N	LGT, SGT	Written/Viva voce	
OG26.2	Describe the causes, prevention, clinical features, principles of management of genital injuries and fistulae	K	KH	N	LGT, SGT	Written/Viva voce	
<b>Topic 27: Genital infections</b>		<b>Number of competencies:(03)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG27.1	Describe and discuss the etiology, pathology, clinical features, differential diagnosis, investigations, management and long term implications of sexually transmitted infections (concept of syndromic management)	K	KH	Y	LGT, SGT, SDL	Written/Viva voce	
OG27.2	Describe and discuss the etiology, pathology, clinical features, differential diagnosis, investigations, management and long-term implications of genital tuberculosis	K	KH	Y	LGT, SGT	Written/Viva voce	
OG27.3	Describe and discuss the etiology, pathology, clinical features, differential diagnosis, investigations, management and long term implications of Pelvic Inflammatory Disease	K	KH	Y	LGT, SGT	Written/Viva voce	
<b>Topic 28: Infertility</b>		<b>Number of competencies:(04)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG28.1	Describe and discuss the common causes, pathogenesis, clinical features, differential diagnosis; investigations; principles of management of infertility – methods of tubal patency, Ovulation induction, assisted reproductive techniques	K	KH	Y	LGT, seminars, Bedside clinics, SDL	Written/Viva voce	
OG28.2	Enumerate the assessment and restoration of tubal patency	K	K	N	LGT, seminars, Bedside clinics, SDL	Written/Viva voce	
OG28.3	Describe the principles of ovulation induction	K	KH	Y	LGT, seminars, Bedside clinics, SDL	Written/Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OG28.4	Enumerate the various Assisted Reproduction Techniques	K	K	N	LGT, seminars, Bedside clinics, SDL	Written/Viva voce	
<b>Topic 29: Uterine fibroids</b>		<b>Number of competencies: (01)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG29.1	Describe and discuss the etiology; pathology; clinical features; differential diagnosis; investigations; principles of management, complications of fibroid uterus	K	KH	Y	LGT, Bedside clinics	Written/ O SCE/ Clinical Assessment /Viva voce	
<b>Topic 30: PCOS and hirsutism</b>		<b>Number of competencies:(02)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG 30.1	Describe and discuss the etiopathogenesis; clinical features; differential diagnosis; investigations; management, complications of PCOS	K/A/C	KH	Y	LGT, bedside clinic, SDL	Written/ OSCE / Clinical Assessment /Viva voce	
OG30.2	Enumerate the causes and describe the investigations and management of hyper-androgenism	K	KH	N	LGT	Written/ OSCE/ Clinical Assessment/Viva voce	
<b>Topic 31: Uterine prolapse</b>		<b>Number of competencies: (01)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG31.1	Describe and discuss the etiology, classification, clinical features, diagnosis, investigations, principles of management and preventive aspects of prolapse of uterus	K/S	KH	Y	LGT, small group discussion, Bedside clinics	Written/Viva voce/ Skill assessment	
<b>Topic 32: Menopause</b>		<b>Number of competencies:(02)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG32.1	Describe and discuss the physiology of menopause, symptoms, prevention, management and the role of hormone replacement therapy.	K	KH	Y	LGT, small group discussion, Bedside clinics	Written/Viva voce	
OG32.2	Enumerate the causes of post-menopausal bleeding and describe its management	K	KH	Y	LGT, small group discussion Bedside clinics	Written/Viva voce/ clinical assessment	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
<b>Topic 33: Benign, Pre-malignant (CIN) and Malignant Lesions of the Cervix</b>		<b>Number of competencies that require certification: ( 0 1)</b>					
<b>Number of competencies:(05)</b>							
OG33.1	Classify, describe and discuss the etiology, pathology, clinical features, differential diagnosis, investigations and staging of cervical cancer	K/S	KH	Y	LGT,SGT, Bedside clinics	Written/Viva voce/ Skill assessment	
OG33.2	Describe the principles of management including surgery and radiotherapy of and Malignant Lesions of the Cervix	K	KH	Y	LGT, SGT, Bedside clinics, SDL	Written/Viva voce/ Skill assessment	
OG33.3	Describe and demonstrate the screening for cervical cancer in a simulated environment	K/S	SH	Y	DOAP, SDL	Skill assessment	
OG33.4	Enumerate the methods to prevent cancer of cervix including visual inspection with acetic acid (VIA), visual inspection of cervix with Lugol's iodine(VILI),pap smear and colposcopy	K/S	K SH	Y	LGT, SGT, Bedside clinics, SDL	Vivavoce/Written/Skill assessment	3
OG 33.5	Describe the principles of management of benign and premalignant lesions of cervix (Cryotherapy, thermal ablation & LEEP)	K	KH	Y	LGT, small group discussion	Written, viva voce, OSCE	
<b>Topic 34: Benign and malignant diseases of uterus and ovaries.</b>		<b>Number of competencies:(06)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OG34.1	Describe and discuss aetiology, pathology, staging clinical features, differential diagnosis, investigations, staging laparotomy and principles of management of endometrial cancer	K	KH	Y	LGT, Bedside clinics	Viva voce/Written	
OG34.2	Describe and discuss etiology, pathology, classification, staging of ovarian cancer, clinical features, differential diagnosis, investigations, principal of management including staging laparotomy	K/S	KH	Y	LGT, bedside clinic	Written/OSCE/clinical assessment/ Viva voce	
OG34.3	Describe and discuss etiology, pathology, classification, staging, clinical features, differential diagnosis, investigations and management of gestational trophoblastic disease	K	KH	Y	LGT	Written/OSCE/clinical Assessment/	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OG34.4	Operative Gynaecology : Understand and describe the technique and complications:Dilatation & Curettage (D&C); EA- ECC;cervical biopsy;	K/S	SH	Y	Videos on manikins, observe competencies and surgeries in OR	Viva voce/ OSCE	
OG34.5	Operative Gynaecology : Understand and describe the technique and complications of abdominal hysterectomy; myomectomy; surgery for ovarian tumours; staging laparotomy;vaginal hysterectomy including pelvic floor repair; Fothergill's operation, Laparoscopy; hysteroscopy; management of postoperative complications	K/S	KH	Y	Videos on manikins, observe competencies and surgeries in OR	Viva voce, theory	
OG 34.6	Describe and discuss the etiopathogenesis, clinical features; investigation and implications on health and fertility and management of endometriosis and adenomyosis	K/S	KH	Y	LGT,SGT	Written/Viva voce	
<b>Topic 35: Obstetrics &amp; Gynecological skills-I</b> <span style="float: right;">Number of competencies:(20)</span> <span style="float: right;">Number of competencies that require certification:(12)</span>							
OG35.1	Obtain a logical sequence of history, and perform a humane and thorough clinical examination, excluding internal examinations (per-rectal and per-vaginal)	K/S	SH	Y	Bedside clinics	Clinical assessment / Viva voce	5
OG35.2	Arrive at a logical provisional diagnosis after examination.	K/S	SH	Y	Bedside clinics	Clinical assessment / Viva voce	5
OG35.3	Recognize situations, which call for urgent or early treatment at secondary and tertiary centres and make a prompt referral of such patients after giving first aid or emergency treatment.	K/S	SH	Y	Bedside clinics	Clinical assessment/ Viva voce	
OG35.4	Describe, discuss and demonstrate examination, differential diagnosis and management of a case of suprapubic lump in abdomen	K/S	SH	Y	Bedside clinics	Clinical assessment/ Viva voce	
OG 35.5	Describe, discuss and demonstrate examination, differential diagnosis and management of a case of vaginal discharge	K/S	SH	Y	Bedside clinics	Clinical assessment / Viva voce	
OG35.6	Describe, discuss and demonstrate examination, differential diagnosis and management of a case of genital ulcers	K/S	SH	Y	Bedside clinics	Clinical assessment/ Viva voce	
OG35.7	Demonstrate inter-personal and communication skills befitting a physician in order to discuss illness and its outcome with patient and family	A/C	SH	Y	Bedside clinics	Clinical assessment/ Viva voce/ OSCE	2

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OG35.8	Determine gestational age, EDD and obstetric formula	K/S	SH	Y	Bedside clinics	Clinical assessment/ Viva voce, OSCE	5
OG35.9	Demonstrate ethical behavior in all aspects of medical practice.	A/C	SH	Y	Bedside clinics	Clinical assessment / Viva voce	
OG35.10	Obtain informed consent for any examination /procedure	S	SH	Y	Bedside clinics	Clinical assessment / Viva voce	
OG35.11	Write a complete case record with all necessary details	S	SH	Y	Bedside clinics	Clinical assessment / Viva voce	5
OG35.12	Write a proper discharge summary with all relevant information	S	SH	Y	Bedside clinics	Clinical assessment	2
OG35.13	Write a proper referral note to secondary or tertiary centres or to other physicians with all necessary details.	S	SH	Y	Bedside clinics	Clinical assessment / Viva voce	2
OG35.14	Demonstrate the correct use of appropriate universal precautions for self-protection against HIV and hepatitis and counsel patients	S	SH	Y	DOAP	Skill assessment	2
OG35.15	Obtain a PAP smear in a stimulated environment	S	SH	Y	DOAP	Skill assessment	3
OG35.16	Demonstrate the correct technique to perform artificial rupture of membranes In a simulated/ supervised environment	S	SH	Y	DOAP	Skill assessment	2
OG35.17	Demonstrate the correct technique to perform and suture episiotomies in a simulated/ supervised environment	S	SH	Y	DOAP	Skill assessment	2
OG35.18	Demonstrate the correct technique to insert and remove an IUD in a simulated /supervised environment	S	SH	Y	DOAP	Skill assessment	
OG35.19	Diagnose and provide emergency management of antepartum and postpartum hemorrhage in a simulated /guided environment	K/S	SH	Y	DOAP	Skill assessment	
OG35.20	Demonstrate the correct technique of urinary catheterisation in a simulated/ supervised environment	S	SH	Y	DOAP	Skill assessment	3
<b>Topic 36: Obstetrics &amp; Gynecological skills-II</b>							
		<b>Number of competencies:(03)</b>			<b>Number of competencies that require certification:(NIL)</b>		
OG36.1	Plan and institute a line of treatment, which is need based, cost-effective and appropriate for common conditions taking in to consideration (a) Patient (b) Disease (c) Socio-economic status (d) Institution/ Governmental guidelines.	K/S	SH	Y	Bedside clinics,SGT	Clinical assessment/ Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OG36.2	Organise antenatal, post-natal, and family welfare clinics	K/S	KH	Y	Bedsideclinics	Clinical Assessment/ Viva voce	
OG36.3	Demonstrate the correct technique of punch biopsy of cervix in a simulated /supervised environment	S	SH	Y	Bedsideclinics	Clinical assessment/ Viva voce	
<b>Topic 37: Obstetrics &amp; Gynecological skills-III</b>							
		<b>Number of competencies:(07)</b>			<b>Number of competencies that require certification:(NIL)</b>		
OG37.1	Observe and assist in the performance of a Caesarean section	K/S/A/C	SH	Y	Bedside clinics,SGT	Logbook	
OG37.2	Observe and assist in the performance of Laparotomy	K/S/A/C	SH	Y	Bedside clinics,SGT	Clinical assessment / Vivavoce	
OG37.3	Observe and assist in the performance of Hysterectomy– abdominal/ vaginal	K/S/A/C	SH	Y	Bedside clinics,SGT	Clinical assessment/ Viva voce	
OG37.4	Observe and assist in the performance of Dilatation & Curettage (D&C)	K/S/A/C	SH	Y	Bedside clinics,SGT	Clinical assessment/ Viva voce	
OG37.5	Observe and assist in the performance of Endometrial aspiration- endocervical curettage (EA-ECC)	K/S/A/C	SH	Y	Bedside clinics, SGT	Viva voce	
OG37.6	Observe and assist in the performance of outlet forceps application of vacuum and breech delivery	K/S/A/C	SH	Y	Bedside clinics, SGT	Log book	
OG37.7	Observe and assist in the performance of MTP in the first trimester and evacuation in incomplete abortion	K/S/A/C	SH	Y	Bedside clinics, SGT	Clinical assessment / Viva voce	
<b>Topic 38:Should observe</b>							
		<b>Number of competencies:(04)</b>			<b>Number of competencies that require certification:(NIL)</b>		
OG38.1	Laparoscopy	K/S/A/C	KH	Y	Bedside clinic, SGT	Clinical assessment/ Viva voce	
OG38.2	Hysteroscopy	K/S/A/C	KH	Y	Bedside clinics, SGT	Clinical assessment/ Viva voce	
OG38.3	Lap sterilization	K/S/A/C	KH	Y	Bedside clinics, SGT	Clinical assessment/ Viva voce	
OG38.4	Assess the need for And issue proper medical certificates to patients for various purposes	K/S/A/C	KH	Y	Bedside clinics, SGT	Clinical assessment/ Viva voce	

# **ORTHOPEDICS(CODE:OR)**

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
<b>ORTHOPEDICS</b> (Topics:14, Competencies: 40)							
<b>Topic 1: Skeletal Trauma, Poly trauma</b>		<b>Number of competencies : (06) Number of competencies that require certification: (NIL)</b>					
OR1.1	Describe and discuss the Principles of pre-hospital care and Emergency room management of a trauma victim including principles of triage and advance trauma life support.	K/S/A/C	K/KH	Y	LGT with video, SGT	Written/Vivavoce/ OSCE/ Simulation	
OR1.2	Describe and discuss the etiopathogenesis, clinical features, investigations, and principles of management of shock	K/S	K/KH	Y	LGT	Written/Vivavoce/ OSCE/ Simulation	
OR1.3	Describe and discuss the etiopathogenesis, clinical features, investigations, and principles of management of soft tissue injuries	K	KH/SH	Y	LGT,SGT	Written/OSCE	
OR1.4	Describe and discuss the etiopathogenesis, clinical features, investigations, and principles of management of dislocation of common joints, shoulder, knee, hip and fingers.	K	K/KH	Y	LGT,SGT,Bedside clinic	Written/Vivavoce/ OSCE/ Simulation	
OR1.5	Participate as a member in the team for closed reduction of shoulder dislocation / hip dislocation / knee dislocation and dislocation of finger joints,	K/S/A/C	SH	Y	Simulation,DOAP	OSCE/Simulation	
OR1.6	Discuss the recent advances in the management of various orthopaedic conditions like trauma, sports injuries, arthroplasty and spine pathologies.	K	K/KH	N	SGT,bedside clinic	Viva voce/OSCE	
<b>Topic 2: Fractures</b>		<b>Number of competencies : (16) Number of competencies that require certification: (NIL)</b>					
OR2.1	Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fracture of clavicle	K/S	KH/SH	Y	LGT,SGT,Bedside clinic	Written/Viva voce/ OSCE	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OR2.2	Describe and discuss the mechanism of Injury, clinical features, investigations and plan management of fractures of proximal humerus	K	K/KH/SH	Y	LGT,SGT,Bedside clinic	Written/Vivavoce/ OSCE	
OR2.3	Select, prescribe and communicate appropriate medications for relief of joint pain	K	KH/SH	Y	LGT,SGT,Bedside clinic	Written/Vivavoce/ OSCE	
OR2.4	Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of fracture of shaft of humerus and intercondylar fracture humerus with emphasis on neurovascular deficit	K/S	K/KH	Y	LGT,SGT,Bedside clinic	Written/Vivavoce/ OSCE	
OR2.5	Describe and discuss the aetiopathogenesis, clinical features, mechanism of injury, investigation & principles of management of fractures of both bones forearm and Galeazzi and Monteggia injury	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.6	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of distal radius	K	KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.7	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of pelvic Pelvi-Acetabular injuries with emphasis on hemodynamic instability	K	K/KH/SH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.8	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of spine injuries with emphasis on mobilisation of the patient	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.2.9	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of fractures of proximal femur including neck of femur and intertrochanteric fractures.	K/S/A/C	KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OR2.10	Describe and discuss the aetiopathogenesis, mechanism of injury, clinical features, investigations and principles of management of (a) Fracture patella (b)Fracture distal femur(c)Fracture proximal tibia with special focus on neurovascular injury and compartment syndrome	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.11	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Fracture shaft of femur in all age groups and the recognition and management of fat embolism as a complication	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR 2.12	Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of: (a) Fracture both bones leg (b) Calcaneus (c) Small bones of foot (d) Lisfranc fracture dislocation	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.13	Describe and discuss the aetiopathogenesis, clinical features, Investigation and principles of management of ankle fractures	K/S/C	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR 2.14	Plan and interpret the investigations to diagnose complications of fractures like malunion, non-union and infection.	K/S	SH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR 2.15	Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of open fractures with focus on secondary infection prevention and management.	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
OR2.16	Describe and discuss the mechanism of injury, clinical features, investigations and principles of management of following orthopaedic injuries in children: a) Fracture supracondylar humerus with emphasis on neurovascular injury and compartment syndrome. b) Forearm and distal end radius fractures, pulled elbow. c) Epiphyseal injuries	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
	d) Fracture shaft femur, tibia/ both bones of the leg e) Non-accidental injuries / child abuse						
<b>Topic 3: Musculoskeletal Infection</b>		<b>Number of competencies:(03)</b>		<b>Number of Procedures that require certification:(NIL)</b>			
OR3.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of Bone and Joint infections a) Acute Osteomyelitis b) Subacute osteomyelitis c) Septic arthritis & HIV infection d) Chronic osteomyelitis	K/S	K/KH/ SH	Y	LGT,SGT,Video assistedlecture	Written/Vivavoce/ OSCE	
OR3.2	Participate as a member in team for aspiration of joints under supervision	K/S/A/C	SH	Y	Small group Discussion.DOAP	Vivavoce/OSCE/ Skills assessment	
OR3.3	Participateasamemberinteamforcompetencieslikedrainageof abscess, sequestrectomy/ saucerisation and arthrotomy	K/S/A/C	SH	Y	DOAP,Video demonstration	Vivavoce/OSCE/ Skills assessment	
<b>Topic 4: Skeletal Tuberculosis</b>		<b>Number of competencies : (01)</b>		<b>Number of competencies that require certification: NIL</b>			
OR4.1	Describe and discuss the clinical features, Investigation and principlesofmanagementofTuberculosisaffectingmajorjoints (Hip, Knee) including cold abscess and caries spine	K	K/KH	Y	LGT,SGT,Case discussion	Written/Vivavoce/ OSCE	
<b>Topic 5:Rheumatoid Arthritis and associated inflammatory disorders</b>		<b>Number of competencies:(01)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OR5.1	Describe how to approach to a case of poly arthritis discuss the aetiopathogenesis, clinical features, investigations and principles of management of various inflammatory disorder of joints like rheumatoid arthritis, ankylosing spondylitis and psoriatic arthritis.	K	K/KH	Y	LGT,SGT, Bedside clinic	Written/Vivavoce/ OSCE	
<b>Topic 6: Degenerative disorders</b>		<b>Number of competencies:(01)</b>		<b>Number of competencies that require certification:(NIL)</b>			

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OR6.1	Enumerate the causes of low back pain, Describe and discuss the clinical features, investigations and principles of management of degenerative condition of spine (Cervical Spondylosis, Lumbar Spondylosis, PID)	K	K/KH	Y	LGT,SGT,Case discussion	Written/Vivavoce/ OSCE	
<b>Topic 7: Metabolic bone disorders</b>		<b>Number of competencies:(01)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OR7.1	Describe and discuss the aetiopathogenesis, clinical features, investigation and principles of management of metabolic bone disorders in particular osteoporosis, osteomalacia, rickets, Paget's disease. Discuss the deformities in rickets and their management.	K	K/KH	Y	LGT,SGT, Case discussion	Written/Vivavoce/ OSCE	
<b>Topic 8: Poliomyelitis</b>		<b>Number of competencies:(01)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OR8.1	Describe and discuss the aetiopathogenesis, clinical features, assessment and principles of management a patient with Post-Polio Residual Paralysis	K	K/KH	Y	LGT,SGT, Case discussion	Written/Vivavoce/ OSCE	
<b>Topic 9: Cerebral Palsy</b>		<b>Number of competencies:(01)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OR9.1	Describe and discuss the aetiopathogenesis, clinical features, assessment and principles of management of Cerebral palsy patient	K	K/KH	Y	LGT,SGT	Written/Vivavoce/ OSCE	
<b>Topic 10: Bone Tumors</b>		<b>Number of competencies:(01)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OR10.1	Describe and discuss the aetiopathogenesis, clinical features, investigations and principles of management of benign and malignant bone tumors and pathological fractures	K	K/KH	Y	LGT,SGT, Video assisted interactive lecture	Written/Vivavoce/ OSCE	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
<b>Topic 11:Peripheral nerve injuries</b>		<b>Number of competencies:(01)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OR11.1	Describe the aetiopathogenesis, clinical features, investigations and principles of management of peripheral nerve injuries. Discuss the management of Radial, Ulnar, Median, Lateral Popliteal and Sciatic Nerve injuries. Demonstrate splints used in footdrop, wristdrop and clawhand.	K	K/H	Y	LGT,SGT, case discussion	Written/Vivavoce/ OSCE	
<b>Topic 12: Congenital lesions</b>		<b>Number of competencies:(01)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OR12.1	Describe and discuss the clinical features, investigations and principles of management of Congenital and acquired malformations and deformities of: a. Limbs and spine-Scoliosis and spinal bifida b. Congenital dislocation of Hip, Torticollis, c. Congenital talipes equinovarus	K	KH	Y	LGT,SGT	Written/Vivavoce/ OSCE	
<b>Topic 13:Procedural Skills</b>		<b>Number of competencies:(02)</b>		<b>Number of competencies that require certification:(NIL)</b>			
OR13.1	Participate in a team for competencies in patients and demonstrating the ability to perform on mannequins / simulated patients in the following: i. Above elbow plaster ii. Below knee plaster iii. Above knee plaster iv. Thomas splint v. Splinting for long bone fractures vi. Strapping for shoulder and clavicle trauma	S/A	KH/ SH	Y	Case discussion,Video assisted LGT,SGT, Teaching, Skill lab sessions	OSCE withSimulation based assessment	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
OR13.2	Participate as a member in team for Resuscitation of Polytrauma victim by doing all of the following: (a) I.V. access central-peripheral (b) Bladder catheterization (c) Endotracheal intubation (d) Splintage	S/A	KH/ SH	Y	Case discussion, Video assisted LGT,SGT, Teaching, Skill lab sessions	OSCE with Simulation based assessment	
<b>Topic 14: CounsellingSkills</b> <span style="float:right">Number of competencies:(03) Number of competencies that require certification:(NIL)</span>							
OR14.1	Demonstrate the ability to counsel patients regarding prognosis in patients with various orthopedic illnesses like a. Fractures with disabilities b. Fractures that require prolonged bed stay c. Bone tumors d. Congenital disabilities	K/S/A/C	KH/ SH	Y	Case discussion, Video assisted lecture, SGT, Teaching, Skills lab sessions	OSCE withSimulation based assessment	
OR14.2	Demonstrate the ability to counsel patients to obtain consent for various orthopedic competencies like limb amputation, permanent fixations etc..	K/S/A/C	KH/ SH	Y	Case discussion, Video assisted LGT,SGT, Teaching, Skills lab sessions	OSCE with Simulation based assessment	
OR14.3	Demonstrate the ability to convince the patient for referral to a higher center in various orthopedic illnesses like acute osteomyelitis, septic arthritis, neurovascular injuries and low back pain with red flags, based on the detection of warning signals and need for appropriate management	K/S/A/C	KH/ SH	Y	Case discussion, Video assistedLGT,SGT, Teaching, Skills lab sessions	OSCE with Simulation based assessment	
OR14.4	Describe various amputations of the lower limb. Discuss the ideal stump and various prosthesis used in rehabilitation of patient with below knee amputation.	K/A	K/KH	Y	LGT, small group discussion/bed side clinic	OSCE, Clinical case presentation	

# **ANAESTHESIOLOGY (CODE: AS)**

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
<b>ANAESTHESIOLOGY</b> (Topics:11, Competencies: 52)							
<b>Topic 1: Anaesthesiology as a specialty</b>		<b>Number of competencies: (04)</b>		<b>Number of competencies that require certification: (NIL)</b>			
AS1.1	Describe the evolution of Anaesthesiology as a modern specialty	K	K	N	LGT	Written/ Viva voce	
AS1.2	Describe the roles of Anaesthesiologist in the medical profession (including as a peri-operative physician, in the intensive care and high dependency units, in the management of acute and chronic pain, including labour analgesia, in the resuscitation of acutely ill)	K	K	N	LGT	Written/ Viva voce	
AS1.3	Enumerate and describe the principle of ethics as it relates to Anaesthesiology	K	K	N	LGT	Written/ Viva voce	
AS1.4	Describe the prospects of Anaesthesiology as a career	K	K	N	LGT	Written/ Viva voce	
<b>Topic 2: Cardiopulmonary resuscitation</b>		<b>Number of competencies: (02)</b>		<b>Number of competencies that require certification : (02)</b>			
AS2.1	Enumerate the indications, describe the steps and demonstrate in a simulated environment, Basic Life Support in adults, children and neonates	K/S	SH	N	DOAP	Skill assessment	2
AS2.2	Enumerate the indications, describe the steps and demonstrate in a simulated environment, Advanced Life Support in adults and children	S	SH	N	DOAP	Skill assessment	2
<b>Topic 3: Preoperative evaluation and medication</b>		<b>Number of competencies: (06)</b>		<b>Number of competencies that require certification : (02)</b>			
AS3.1	Describe the principles of preoperative evaluation	K	KH	Y	LGT, SGT	Written/ Viva voce	
AS3.2	Elicit, present and document an appropriate history including medication history in a patient undergoing Surgery as it pertains to a preoperative anaesthetic evaluation	S	SH	Y	DOAP, Bedside clinic	Skill station	2
AS3.3	Demonstrate and document an appropriate clinical examination in a patient undergoing General Surgery	S	SH	Y	DOAP, Bedside clinic	Skill station	2

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
AS3.4	Choose and interpret appropriate testing for patients undergoing Surgery	S	SH	Y	DOAP, Bedside clinic	Skill station	
AS3.5	Determine the readiness for General Surgery in a patient based on the preoperative evaluation	S	SH	Y	DOAP, Bedside clinic	Skill station	
AS3.6	Choose and write a prescription for appropriate premedications for patients undergoing surgery	S	SH	Y	DOAP, Bedside clinic	Skill station	
<b>Topic 4: General Anaesthesia</b>		<b>Number of competencies:(07)</b>		<b>Number of competencies that require certification : (NIL)</b>			
AS4.1	Describe and discuss the pharmacology of drugs used in induction and maintenance of general anaesthesia (including intravenous and inhalation induction agents, opiate and non-opiate analgesics, depolarising and non depolarising muscle relaxants, anticholinesterases)	K	KH	Y	LGT, SGT	Written/ Viva voce	
AS4.2	Describe the anatomy of the airway and its implications for general Anaesthesia	K	KH	Y	LGT, SGT	Written/ Viva voce	
AS4.3	Observe and describe the principles and the practical aspects of induction and maintenance of anaesthesia	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS4.4	Observe and describe the principles and the steps/ techniques in maintenance of vital organ functions in patients undergoing surgical competencies	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS4.5	Observe and describe the principles and the steps/ techniques in monitoring patients during anaesthesia	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS4.6	Observe and describe the principles and the steps/ techniques involved in day care anaesthesia	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS4.7	Observe and describe the principles and the steps/ techniques involved in anaesthesia outside the operating room	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
<b>Topic 5: Regional anaesthesia</b>		<b>Numberof competencies:(06)</b>		<b>Number of competencies that require certification: (NIL)</b>			
AS5.1	Enumerate the indications for and describe the principles of regional anaesthesia (including spinal, epidural and combined)	K	KH	Y	LGT, SGT	Written/ Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
AS5.2	Describe the correlative anatomy of the brachial plexus, subarachnoid and epidural spaces	K	KH	Y	LGT, SGT	Written/ Viva voce	
AS5.3	Observe and describe the principles and steps/ techniques involved in peripheral nerve blocks	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS5.4	Observe and describe the pharmacology and correct use of commonly used drugs and adjuvant agents in regional anesthesia	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS5.5	Observe and describe the principles and steps/ techniques involved in caudal epidural in adults and children	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS5.6	Observe and describe the principles and steps/ techniques involved in common blocks used in surgery (including brachial plexus blocks)	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
<b>Topic 6: Post-anaesthesia recovery</b>		<b>Number of competencies: (03)</b>		<b>Number of competencies that require certification: (NIL)</b>			
AS6.1	Describe the principles of monitoring and resuscitation in the recovery room	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS6.2	Observe and enumerate the contents of the crash cart and describe the equipment used in the recovery room	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS6.3	Describe the common complications encountered by patients in the recovery room, their recognition and principles of management	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
<b>Topic 7: Intensive Care Management</b>		<b>Number of competencies: (05)</b>		<b>Number of competencies that require certification: (NIL)</b>			
AS7.1	Visit, enumerate and describe the functions of an Intensive Care Unit	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS7.2	Enumerate and describe the criteria for admission and discharge of a patient to an ICU	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS7.3	Observe and describe the management of an unconscious patient	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS7.4	Observe and describe the basic setup process of a ventilator	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS7.5	Observe and describe the principles of monitoring in an ICU	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
<b>Topic 8: Pain and its management</b>		<b>Number of competencies: (05)</b>		<b>Number of competencies that require certification: (NIL)</b>			
AS8.1	Describe the anatomical correlates and physiologic principles of Pain	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS8.2	Elicit and determine the level, quality and quantity of pain and its tolerance in patient or surrogate	S	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
AS8.3	Describe the pharmacology and use of drugs in the management of pain	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS8.4	Describe the principles of pain management in palliative care	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS8.5	Describe the principles of pain management in the terminally ill	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
<b>Topic 9: Fluids</b>		<b>Number of competencies: (04)</b>		<b>Number of competencies that require certification: (NIL)</b>			
AS9.1	Establish intravenous access in a simulated environment	S	KH	Y	SGT, DOAP	Skill assessment	
AS9.2	Establish central venous access in a simulated environment	S	KH	Y	SGT, DOAP	Skill assessment	
AS9.3	Describe the principles of fluid therapy in the preoperative period	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS9.4	Enumerate blood products and describe the use of blood products in the preoperative period	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
<b>Topic 10: Patient safety</b>		<b>Number of competencies:(04)</b>		<b>Number of competencies that require certification: (NIL)</b>			
AS10.1	Enumerate the hazards of incorrect patient positioning	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS10.2	Enumerate the hazards encountered in the perioperative period and steps/techniques taken to prevent them	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS10.3	Describe the role of communication in patient safety	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
AS10.4	Define and describe common medical and medication errors in anaesthesia	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce	
<b>Topic 11: Oxygen Delivery Devices, Oxygen Therapy and Airway Management</b>		<b>Number of Competencies: 06</b>		<b>Number of competencies that require certification:0 6</b>			
AS11.1	Describe oxygen delivery devices - nasal cannulas, simple face masks, Venturi masks non-rebreathing masks, BVM, and HFNC. Understand the indications in accordance with clinical scenarios. Demonstrate correct setup and usage of oxygen delivery devices ensuring patient safety and device efficiency.	K	KH	Y	LGT, SGT, DOAP	Written/ Viva voce, OSCE	
AS11.2	Describe the principles of oxygen therapy, importance of FiO2, flow rate adjustment, monitoring and safety precautions during oxygen therapy.	S	SH	Y	LGT, SGT, DOAP	Written/ Viva voce OSCE	
AS11.3	Describe and demonstrate the techniques of opening the airway (head tilt, chin lift, jaw thrust) in a simulated environment.	S	SH	Y	LGT, SGT, DOAP	Written/ Viva voce OSCE	
AS11.4	Observe and demonstrate correct insertion of oropharyngeal and nasopharyngeal airways.	S	SH	Y	LGT, SGT, DOAP	Written/ Viva voce OSCE	
AS11.5	Enumerate the indications of advanced airway management. Describe the steps and demonstrate in a simulated environment -	S	SH	Y	LGT, SGT, DOAP	Written/ Viva voce, OSCE	

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P
	manual ventilation by BVM, Endotracheal intubation, and LMA insertion.						
AS11.6	Ventilation Techniques Explain the principle and settings of mechanical ventilation.	S	SH	Y	LGT, SGT, DOAP	Written/ Viva voce, OSCE	

## **RADIODIAGNOSIS (CODE: RD)**

Number	COMPETENCY The student should be able to	Predominant Domain K/S/A/C	Level K/KH/S H/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number Required to certify P				
<b>RADIODIAGNOSIS (Topics:7, Competencies: 21)</b>											
<b>Topic 1: General principles of imaging equipment</b>				<b>Number of competencies:(01)</b>				<b>Number of competencies that require certification: (NIL)</b>			
RD1.1	Knowledgeable about the general principles of functioning of imaging modalities such as Plain Xray, Fluoroscopy, CT, Ultrasound, Nuclear medicine modalities (bone scan, PET) and MRI, to the extent that they would be able to (a) exhibit mindful behavior regarding the potential hazards associated with each imaging modality (b) make rational choices about the appropriateness of the modality for a particular purpose, such as what will be seen better in which modality (E.g.: air containing structures would be imaged better in x-ray than in ultrasound)	K,A	SH	Y	Hospital rounds demonstrating equipment and signages, Case based interactive lecture or case-based discussion for modality selection	Written, viva voce					
<b>Topic 2: Rational choice of modality for a patient</b>				<b>Number of competencies:(02)</b>				<b>Number of competencies that require certification: (NIL)</b>			
RD2.1	Obtain relevant clinical history to select patients for imaging modalities, in order to determine suitability for radiation exposure/contrast administration/exposure to magnetic fields (including allergies, renal function, pregnancy, implanted devices)	K,C	SH	Y	Case scenario-based discussions in lecture, SGT for history taking	Direct observation, OSCE					
RD2.2	Select the correct imaging modality and procedure for broad pathology type (infections, tumour, trauma, congenital), body part/system (CNS, head and neck, chest, abdomen and extremities) in adults, children and pregnancy women, mindful of unique needs of pediatric patients with respect to radiation and sedation.	K,A	SH	Y	Case scenario-based discussion in lecture, SGT	Written, viva voce					
<b>Topic 3: Safety and legal requirements</b>				<b>Number of competencies:(04)</b>				<b>Number of competencies that require certification: (NIL)</b>			
RD3.1	Awareness of different types of radiation and the stochastic and	K,A	K	Y	Flipped classroom, SDL	Written, viva voce					

	non-stochastic hazards of radiation in human beings (acute and long-term)						
RD3.2	Knowledgeable about best practices (time, distance and shielding) and provisions to keep x-ray exposure ALARA (as low as reasonably achievable) in clinical practice of radiology and general principles to be followed as per AERB regulatory guidelines	K,A	KH	Y	LGT	Written, viva voce	
RD3.3	Knowledgeable about monitoring radiation exposure in health care workers with dosimeter such as thermoluminescent dosimeter and awareness of the units to measure radiation exposure in human Beings	K,A	K	N	Demonstration of TLD badge, SDL	Written, viva voce	
RD3.4	Knowledgeable about the purpose and components of the PC-PNDT act relevant to a primary care physician	K,A	K	Y	LGT	Viva voce	
<b>Topic 4: Interdisciplinary communication and interaction</b>		<b>Number of competencies:(03)</b>			<b>Number of competencies that require certification: (NIL)</b>		
RD4.1	Collaborate with imaging specialists for optimum patient care - provide relevant and clear clinical information in requisitions for imaging, convey appropriate clinical urgency to facilitate correct scheduling of patients for imaging, clarify from imaging specialists when in doubt about appropriateness of imaging procedure	K,A,C	SH	Y	SGT	Written, viva voce	
RD4.2	Apply appropriate safety measures when transporting critically ill patients for imaging competencies such as checking adequacy of oxygen cylinder, following correct precautions in MRI room.	K,A	SH	Y	SGT	Viva voce, Written	
RD4.3	For diseases that can be encountered by primary care physician such as osteoarthritis (x-ray), deep vein thrombosis, cholecystitis, apply anatomical-radiological-pathophysiology correlations as a basis of clinical reasoning and inter-disciplinary communication	K,C	KH	N	SGT	Viva voce	
<b>Topic 5: Image interpretation</b>		<b>Number of competencies:(04)</b>			<b>Number of competencies that require certification: (NIL)</b>		
RD5.1	Interpretation of normal X-ray images of the Chest, Abdomen, Musculoskeletal system by identifying normal structures in Chest X-ray, Abdominal X-ray, Musculoskeletal X-ray (upper limbs, lower limbs, spine), PNS – Water’s view in adults; normal neonatal Chest x-ray (thymic shadow identification); normal joint x-ray in children (epiphysis and growth plate identification)	K	P	Y	Image based LGT	Written, OSCE	
RD5.2	Age estimation from X-rays by selecting and using appropriate reference standards	K	SH	Y	SDL	Written, OSCE	
RD5.3	Image interpretation of emergency conditions in Chest Xray, Abdominal Xray and skeletal X-rays such as pneumoperitoneum,	K	P	Y	SGT, Clinics	Written, viva voce, OSCE	

	acute fracture, differentiating acute from chronic fracture etc.						
RD5.4	Image interpretation of normal/abnormal position of devices in the Chest X-ray of adult and pediatric ICU patients	K	P	Y	SGT, Clinics	Written, OSCE/OSPE	
<b>Topic 6: Patient preparation for imaging competencies</b>		<b>Number of competencies (01)</b>		<b>Number of competencies that require certification: (NIL)</b>			
RD6.1	Ability to provide written and verbal instructions tailored to the patient and imaging procedure such as fasting requirement, medication adjustments, bowel preparation	K,C,A	SH	Y	LGT, SGT	Viva voce, case-based questions	
<b>Topic 7: Role of imaging in hospital specialties</b>		<b>Number of competencies:(06)</b>		<b>Number of competencies that require certification: (NIL)</b>			
RD7.1	Integrate provided imaging findings and description of appearances in the management of PCOD, ectopic pregnancy, evaluation of infertility in the Obstetrics and Gynecology Department	K	KH	Y	SGT with images, Clinics	Written, OSCE/OSPE	
RD7.2	Integrate provided imaging findings and description of appearances in the management of ASOM/CSOM, evaluation of sensorineural hearing loss in the ENT Department	K	KH	Y	SGT with images, Clinics	Written, OSCE/OSPE	
RD7.3	Integrate provided imaging findings and description of appearances in the management of stroke (CT brain), pulmonary embolism, findings associated with cardiac failure and liver parenchymal diseases in the Internal Medicine Department	K	KH	Y	SGT with images, Clinics	Written, OSCE/OSPE	
RD7.4	Integrate provided imaging findings and description of appearances in the management of head injuries, hernia with strangulation, appendicitis and intestinal obstruction in the Surgery Department	K	KH	Y	SGT with images, Clinics	Written, OSCE/OSPE	
RD7.5	Integrate provided imaging findings and description of appearances in the management chest infections, foreign body aspiration, Urinary Tract Infection in the Paediatrics Department	K	KH	Y	SGT with images, Clinics	Written, OSCE/OSPE	
RD7.6	Integrate provided imaging findings and description of appearances in the screening for breast cancer and management of breast cancer patients.	K	KH	Y	SGT with images, Clinics	Written, OSCE/OSPE	

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