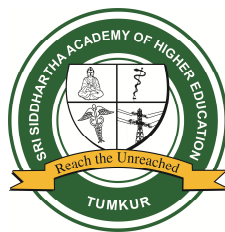


**Revised Ordinance Governing  
MBBS Degree Course and Curriculum of  
Phase-III Part-I Subjects – RS3**



**SRI SIDDHARTHA  
ACADEMY OF HIGHER EDUCATION**

*(Deemed to be University, declared u/s 3 of the UGC Act, 1956)*

**Agalakote, B.H. Road, Tumkur – 572107, Karnataka, India**

## SECTION I

### Introduction to CBME based curriculum

The Medical Council of India has revised the undergraduate medical education curriculum so that the Indian Medical Graduate is able to recognize "health for all" as a national goal and should be able to fulfill his/her societal obligations. The revised curriculum has attempted to enunciate the competencies the student must be imparted and should have learnt, with clearly defined teaching-learning strategies and effective methods of assessment. Communicating effectively and sympathetically with patients and their relatives has been visualized as a core area of the revised curriculum. These and other goals identified in the curriculum are to be implemented in all medical colleges under the ambit of Medical Council of India from August 2019 and to smoothen this process Guidelines have been prepared for its effective implementation. In response to the need for a seamless introduction of the curriculum into the Undergraduate system, all medical colleges need to upgrade the teaching-learning skills of their faculty. Earlier experience with implementation of curricular changes suggests that a carefully managed, sustainable approach is necessary to ensure that every college has access to the new skills and knowledge enunciated in the new curriculum. Faculty training and development thus assumes a key role in the effective implementation and sustenance of the envisaged curricular reforms.

Curriculum Committees along with Medical Education Units/ Departments of Medical Colleges would help the colleges to implement the new UG curriculum including the AETCOM (Attitude, Ethics & Communication) program. Each college should develop the framework for the Foundation Course. The Foundation course which will be of 1-month duration after admission, aims to orient the students to national health scenarios, medical ethics, health economics, learning skills & communication, Basic Life Support, computer learning, sociology & demographics, biohazard safety, environmental issues and community orientation. Foundation course may also include 1) Orientation program 2) language and computer skills 3) communication skills and 4) time management skills and 5) Professional development program highlighting ethical and humanities issues. Each College should select elements of Foundation course as per local needs and develop faculty expertise from initial years. However, experts and other teachers may be invited as per need. It is emphasized that interactive case scenarios, movies, videos, and small group discussions may be used for each concept along with the principles of reflective learning.

Four of the many new key areas recommended in the Vision 2015, were identified for implementation across the entire duration of the course at Phase I. The areas identified were such that they would be helpful to initiate the process of curricular reforms from first year of the undergraduate course. These areas are Foundation course, Early Clinical Exposure, Integrated teaching & Learning & Skill development & training.

a. **Foundation Course:** This is a one month to orient medical learners to MBBS program and provide them with requisite knowledge, communication (including electronic), technical and language skills.

b. **Early clinical exposure:** The clinical training would start in the first year, focusing on communication, basic clinical skills and professionalism. There would be sufficient clinical exposure at the primary care level and this would be integrated with the learning of basic and laboratory sciences. Introduction of case scenarios for classroom discussion/case-based learning would be emphasized. It will be done as a coordinated effort by the pre-clinical, para-clinical and clinical faculty.

c. **Integrated teaching and learning:** The innovative new curriculum have been structured to facilitate horizontal and vertical integration between and among disciplines, bridge the gaps between theory & practice, between hospital-based medicine and community medicine. Basic and laboratory sciences (integrated with their clinical relevance) would be maximum in the first year and will progressively decrease in the second and third year of the training when clinical exposure and learning would be dominant.

d. **Skill development and learning** (throughout curriculum): A mandatory & desirable comprehensive list of skills has been planned and would be recommended for the Indian Medical Graduate. Certification of skills would be necessary before licensure.

e. **Electives:** The aim of adding electives is to allow flexible learning options in the curriculum and may offer a variety of options including clinical electives, laboratory postings or community exposure in areas that students are not normally exposed as a part of regular curriculum. This will also provide opportunity for students to do a project, enhance self-directed learning, critical thinking and research abilities. Examples: Bio-Informatics, Tissue Culture, Tissue Engineering/Processing, Computer and Computer applications, Immunology, Genetics, Human Nutrition, Sports Medicine, Laboratory Sciences, Research Methodology, Ethics, Accident and Emergencies (A&E), Community Projects, HIV Medicine, Pharmacokinetics/ Pharmacodynamics/ Pharmacoeconomics, Assisted Reproductive Technology, Ethics & Medical Education.

## PREAMBLE

The undergraduate medical curriculum of the medical council of India is created to ensure that the medical doctor who emerges from the MBBS training program is capable of assisting the nation to achieve its goal of health for all. In addition, it aspires to ensure that the “graduate” meets or exceeds global bench-mark in knowledge, attitude, skills and communication. This intent is at the core of the Graduate Medical Regulations, 2019.

The Graduate Medical Regulations, 2019 represents the first major revision to the medical curriculum since 1997 and hence incorporates changes in science and thought over two decades. A significant advance is the development of global competencies and subject-wise outcomes that define the roles of the “Indian Medical Graduate”. Learning and assessment strategies have been outlined that will allow the learner to achieve these competencies/outcomes. Effective appropriate and empathetic communication, skill acquisition, student-doctor method of learning, aligned and integrated learning and assessment are features that have been given additional emphasis in the revised curriculum.

The revised curriculum is to be implemented by all medical colleges under the ambit of Medical Council of India from August 2019. The roll out will be progressive over the duration of the MBBS course.

This document represents a compilation of the resource material that was used in the Curricular Implementation Support Program (CISP) and has attempted to provide a stepwise and comprehensive approach to implement the curriculum. It details the philosophy and the steps required in a simple and richly illustrated manner. Teaching slide decks, faculty guides and online resource material supplement this document. The document is to be used in conjunction with the Competency document, AETCOM module and the GMR document.

This draft syllabus has been created from the list of competencies mentioned in the Competency Based Curriculum (CBC) developed by the Medical Council of India for the First MBBS Batch of 2019-20.

The content to be covered under each topic has been mentioned as bulleted points. For each topic, competency numbers have been mentioned as per the competency list mentioned above. The content that is related to non-core competencies (these competencies need not be assessed in the summative examination) have been marked by an asterisk (\*).

Guidelines have been suggested for the various teaching and learning (TL) methods along with the time allotted for them in the curriculum. Relevant information has also been provided about the recent additions in the CBC, namely integration, early clinical exposure (ECE), self-directed learning (SDL), the AETCOM (attitude ethics and communication skills) modules and electives. Regardless of the TL methods that are used, it is expected that they follow adult learning principles. The regulations related to the internal examination and university examination have been mentioned along with detailed suggestions for the conduct of the theory, practical and viva-voce

examinations. The document ends with a list of learning resources that both the students and teachers can utilize.

## **INTEGRATION**

Integration is a learning experience that allows the learner to perceive relationships from blocks of knowledge and develop a unified view of its basis and its application. It is recommended that the principles of integration be applied to such an extent that the curriculum retains the strengths of subject based education and assessment, while also providing experiences that will allow learners to integrate concepts. Integration must be horizontal (i.e. across disciplines in a given phase of the course) and vertical (across different phases of the course). As far as possible, it is desirable that teaching/learning occurs in each phase through study of organ systems or disease blocks in order to align the learning process. Clinical cases must be used to integrate and link learning across disciplines.

Alignment implies the teaching of subject material that occurs under a particular organ system / disease concept from the same phase in the same time frame i.e., temporally. It is recommended that alignment be the major method to be followed, allowing similar topics in different subjects to be learnt separately but during the same time frame.

Integration implies that concepts in a topic / organ system that are similar, overlapping or redundant are merged into a single teaching session in which subject based demarcations are removed. For the purpose of this document, topics from other phases that are brought into a particular phase for the purpose of reinforcement or introduction will also be considered as integrated topics. A linker is a session that allows the learner to link the concepts presented in an aligned topic. In a small proportion (not to exceed 20% of the total curriculum) an attempt can be made to share topics or correlate topics by using an integration or linker session. The integration session most preferred will be a case-based discussion in an appropriate format ensuring that elements in the same phase (horizontal) and from other phases are addressed.

Care must be taken to ensure that achievement of phase-based objectives is given primacy - the integrative elements from other phases are used only to provide adequate recall and understand the clinical application of concepts. It must be emphasized that integration does not necessarily require multiple teachers in each class. Experts from each phase and subject may be involved in the lesson planning but not in its delivery unless deemed necessary. As much as possible, the necessary correlates from other phases must also be introduced while discussing a topic in a given subject. Topics that cannot be aligned and integrated must be provided adequate time in the curriculum throughout the year. Assessment will continue to be subject based. However, efforts must be made to ensure that phase appropriate correlates are tested to determine if the learner has internalized and integrated the concept and its application.

**In summary:**

Horizontal integration can be facilitated by the following methods.

- Alignment of timetables of the three first year subjects wherever possible
- Consciously connecting what is learned in one subject with the other subjects during teaching and learning activities
- Joint sessions by all the three departments which may be in the form of lectures, case-based learning or seminars

Vertical integration can be facilitated by the following methods

- Discussing relevant clinical case scenarios during teaching and learning sessions
- Guest lectures by clinicians or para-clinical faculty
- Hospital visits to see relevant patient presentations, radiological imaging and operative procedures.

**EARLY CLINICAL EXPOSURE**

**Objectives:** The objectives of early clinical exposure of the first-year medical learners are to enable the learner to:

- a. Recognize the relevance of basic sciences in diagnosis, patient care and treatment
- b. Provide a context that will enhance basic science learning
- c. Relate to experience of patients as a motivation to learn
- d. Recognize attitude, ethics and professionalism as integral to the doctor-patient relationship
- e. Understand the socio-cultural context of disease through the study of humanities

**Elements**

- a. Basic science correlation: i.e. apply and correlate principles of basic sciences as they relate to the care of the patient (this will be part of integrated modules).
- b. Clinical skills: to include basic skills in interviewing patients, doctor-patient communication, ethics and professionalism, critical thinking and analysis and self-learning (this training will be imparted in the time allotted for early clinical exposure).
- c. Humanities: To introduce learners to a broader understanding of the socio-economic framework and cultural context within which health is delivered through the study of humanities and social sciences.

**Planning of activities & its distribution:**

ECE has to be done in practically each of the sessions of basic sciences, preferably for first 10-15 minutes as we do not want it to happen in isolation but want it as an integral part of the basic science curriculum. Total allotted hours in first year (as per GMR, 2019) is 90 hours which has to be equally divided among the three preclinical subjects. Therefore, the time available for each subject is 30 hours, which can be further divided as follows:

- a. Basic sciences correlation - 18 hours - 3-hour session per month for 6 months which can take place with charts, graphics, videos, reports, field visits etc. in classrooms / hospital labs.
- b. Clinical Skills - 12 hours - one 3-hour session per month for four months per department. Students accompanied by preclinical faculty in small groups equipped with observation guides are introduced to specified cases being demonstrated by clinicians. Each 3-hour session of clinical skills will have:
  - i. Introduction & instruction: 30 minutes
  - ii. Hospital visit: 1 hour 30 minutes
  - iii. Summary & conclusion: 30 minutes
  - d. Reflection: 30 minutes
- c. Humanities - will be merged with AETCOM (no additional time)

Some methods that may be utilized for ECE are as follows:

- Clinical case scenarios during lectures and dissections
- Guest lectures delivered by clinicians
- Videos of clinical presentations and procedures
- Performance of simple clinical procedures on cadavers or simulators
- Hospital / laboratory visits to see carefully selected patients and relevant procedure
- Demonstrations on peers after taking their consent

### **SELF-DIRECTED LEARNING**

Self-Directed Learning (SDL) is defined as the “preparedness of a student to engage in learning activities defined by himself rather than a teacher”. The Graduate Medical Education 2019 document brought out by the MCI lists life-long learning as one of the roles of the Indian Medical Graduate (IMG). One of the methods suggested achieving this is SDL. Seven key components of SDL have been described. These include the identification of learning needs, formulation of learning objectives, utilization of appropriate learning resources, employing suitable learning strategies, commitment to a learning contract, evaluating learning outcomes and the teacher as a facilitator. Dedicated time for SDL is provided for each subject in the first phase.

### **AETCOM MODULE:**

The overall goal of undergraduate medical education program as envisaged in the revised Graduate Medical Education Regulations - 2019 is 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. In order to fulfill this goal, the IMG must be able to function appropriately, ethically and effectively in her/his roles as clinician, leader and member of the health care team and system, communicator, lifelong learner and as a professional. In order to effectively fulfill the above-mentioned roles, the IMG must obtain a set of competencies at the time of graduation. In order to ensure that training is in alignment with the goals and

competencies, Medical Council of India has proposed new teaching learning approaches including a structured longitudinal programme on attitude, ethics and communication

**Five AETCOM modules will be taught in first phase and following departments will be responsible for implementation and assessment of these modules**

- **MODULE 1.1 AND MODULE 1.5 ANATOMY**
- **MODULE 1.2 AND MODULE 1.3 PHYSIOLOGY**
- **MODULE 1.4 BIOCHEMISTRY**

**GUIDELINES: Reflection writing to be recorded in practical record/log book in each subject**

## **ELECTIVES**

An elective can be defined as a brief course made available to the learner during his/her undergraduate study period, where she/he can choose from the available options depending upon their interest and career preferences. Introduction of electives in undergraduate medical curriculum is an important step for providing flexible choices in student's areas of interest, direct individual experience and this will help in developing self-directed learning skills. The range of electives that can be offered to the students will depend upon the local logistics and resources available for the medical institutions (within or nearby). These can be in a wide range that can include electives from educational, community and research-project related, directly or indirectly with health care, super-specialty clinical electives and specific laboratory electives.

### **Method:**

- Two months are allotted for elective rotations after completion of the exam at end of the third MBBS Part I examination and before commencement of third MBBS Part II.
- It is compulsory for learners to do an elective. The protected time for electives should not be used to make up for missed clinical postings, shortage of attendance or any other purpose.
- The learner shall rotate through two elective blocks of 04 weeks each.
- Block 1 shall be done in a pre-selected preclinical or para-clinical or other basic sciences laboratory OR under a faculty researcher in an ongoing research project. During the electives regular clinical postings shall continue.
- Block 2 shall be done in a clinical department (including specialties, super-specialties, ICUs, blood bank and casualty) from a list of electives developed and available in the institution OR as a supervised learning experience at a rural or urban community clinic.
- Institutions will determine the number and nature of electives beforehand, names of the supervisors, and the number of learners in each elective based on the local logistics, available resources and faculty.
- Each institution will develop its own mechanism for allocation of electives.
- It is preferable that electives are made available to the learners in the beginning of the academic year.
- The learner must submit a learning logbook based on both blocks of the elective.



- 75% attendance in the electives and submission of logbook maintained during elective is mandatory for eligibility to appear in the final MBBS examination.
- Students will be assessed in between and at the end of each elective posting.
- Feedback, comments and /or grades about the student's performance by the faculty mentor can be documented with the help of a checklist where both professional and academic attributes can be included.
- The performance of the students in the electives will also contribute towards internal marks.
- Student's feedback about the elective also needs to be documented in a structured format. This will help in gathering student's perceptions about various aspects of elective posting and help in program evaluation.
- Institutions may use part of this time for strengthening basic skill certification. The list of electives offered by the institution must be displayed for students.
- Each elective should have well defined objectives, expected outcomes, expectations from the students, their assessment mechanism and faculty guide or mentors.
- A faculty mentor should guide the student, monitor their learning activities and assess the students' performance with regular feedback.
- Examples of general electives include bioinformatics, tissue engineering / processing, computer and computer applications, genetics, human nutrition, laboratory sciences, research methodology, ethics and medical education.

## REGULATIONS GOVERNING MBBS DEGREE COURSE

[Eligibility for Admission, Duration, Attendance and Scheme of Examination]

## 1. ELIGIBILITY

As per guidelines of Medical Council of India

## 2. DURATION OF THE COURSE

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
							Foundation course	I MBBS			
I MBBS								Phase I exam	II MBBS		
II MBBS								Phase II exam	III MBBS PART 1		
III MBBS PART 1									Phase III part 1 exam	Electives and skills	
III MBBS PART 2											
Phase III part 2 exam		Internship									
Internship											

### DISTRIBUTION OF SUBJECTS BY PROFESSIONAL PHASE

Phase and Year of MBBS Training	Subjects and new teaching elements	Duration	University examination
<b>First professional MBBS</b>	<ul style="list-style-type: none"> <li>• Foundation course (1month)</li> <li>• Human Anatomy, Physiology &amp; Biochemistry</li> <li>• Introduction of Community Medicine, Humanities</li> <li>• Early Clinical Exposure</li> <li>• Attitude, Ethics and Communication Module (AETCOM)</li> </ul>	1+13 months	I Professional
<b>Second professional MBBS</b>	<ul style="list-style-type: none"> <li>• Pathology, Microbiology, Pharmacology, Forensic Medicine And Toxicology</li> <li>• Introduction to clinical subjects including community Medicine</li> <li>• Clinical postings</li> <li>• AETCOM</li> </ul>	12 months	II Professional
<b>Third professional MBBS-part I</b>	<ul style="list-style-type: none"> <li>• General Medicine, General Surgery, OBG, Paediatrics, Orthopaedics, Dermatology, Psychiatry, Otorhinolaryngology, Ophthalmology, Community Medicine, Forensic Medicine and Toxicology, Respiratory Medicine, Radiodiagnosis &amp; Radiotherapy, Anaesthesiology</li> <li>• Clinical Subjects /postings</li> <li>• AETCOM</li> </ul>	12 months	III Professional-part I
<b>Electives</b>	<ul style="list-style-type: none"> <li>• Electives, skills and assessment</li> </ul>	2 months	
<b>Third professional MBBS-part II</b>	<ul style="list-style-type: none"> <li>• General Medicine, Paediatrics, General Surgery, Orthopaedics, Obstetrics and Gynaecology, including Family welfare and allied specialties</li> <li>• Clinical Postings /subjects</li> <li>• AETCOM</li> </ul>	13 months	III Professional-part II

1. **TEACHING HOURS: Third Professional Part 1**

<b>Subjects</b>	<b>Lecture (hours)</b>	<b>Small group learning (Tutorials / Seminars) /Integrated learning (hours)</b>	<b>Self - Directed Learning (hours)</b>	<b>Total (hours)</b>
General Medicine	25	35	5	65
General Surgery	25	35	5	65
Obstetrics and Gynecology	25	35	5	65
Pediatrics	20	30	5	55
Orthopaedics	15	20	5	40
Forensic Medicine and Toxicology	25	45	5	75
Community Medicine	40	60	5	105
Otorhinolaryngology	25	40	5	70
Ophthalmology	30	60	10	100
Dermatology	20	5	5	30
Psychiatry	25	10	5	40
Respiratory Medicine	10	8	2	20
Radiodiagnosis and Radiotherapy	10	8	2	20
Anesthesiology	8	10	2	20
Clinical postings		-		756
Attitude, Ethics & Communication Module (AETCOM)		19	6	25
<b>Total</b>	<b>303</b>	<b>401</b>	<b>66</b>	<b>1551</b>

- Teaching and learning shall be aligned and integrated across specialties both vertically and horizontally for better learner comprehension. Learner centered learning methods should include problem oriented learning, case studies, community oriented learning, self- directed and experiential learning.
- Didactic lectures shall not exceed one third of the schedule; two third of the schedule shall include interactive sessions, practicals, clinical or/and group discussions. The learning process should include clinical experiences, problem oriented approach, case studies and community health care activities.

Table : Clinical postings for all clinical Subjects

Subjects	Period of training in weeks			Total (weeks)
	II MBBS	III MBBS Part 1	III MBBS Part 2	
Electives			8(4weeks clinical postings to continue)	
General Medicine	4	4	8+4	20
General Surgery	4	4	8+4	20
Obstetrics and Gynecology	4	4	8+4	20
Pediatrics	2	4	4	10
Orthopaedics including Trauma	2	4	2	8
Community Medicine	4	6	-	10
Otorhinolaryngology	4	4	-	8
Ophthalmology	4	4	-	8
Dermatology	2	2	2	6
Psychiatry	2	2	-	4
Respiratory Medicine	2	-	-	2
Radiodiagnosis	2	-	-	2
Dentistry & Anesthesiology	-	2	-	2
Casualty	-	2	-	2
Total	36	42	44	126

## SCHEME OF EXAMINATION

### 2. INTERNAL ASSESSMENT:

#### General guidelines

- Regular periodic examinations shall be conducted throughout the course.
- There shall be **minimum three internal assessment examinations** in each 3<sup>rd</sup> MBBS Part 1 subjects which includes ENT, Ophthalmology, Community Medicine and Forensic medicine and one internal assessment examination in each of the other clinical subject in a professional year.
- An end of posting clinical assessment shall be conducted for each clinical posting in each professional year
- The **third internal examination** should be conducted on the lines of the university examination (Preliminary examination).
  - When subjects are taught in more than one phase, the internal assessment must be done in each phase and must contribute proportionately to final assessment. For example, General Medicine must be assessed in second Professional, third Professional Part I and third Professional Part II, independently.
- An **average of the marks scored in the three internal assessment examinations** will be considered as the final internal assessment marks.
- Learners **must secure not less than 40 % marks in theory and practical separately and not less than 50% marks of the total marks (combined in theory and practical)** assigned for internal assessment in a particular subject in order to be eligible for appearing at the final University examination of that subject.
- A candidate who has not secured requisite aggregate in the internal assessment may be subjected to remedial measures by the institution. If he/she successfully completes the remediation measures, he/she is eligible to appear for University Examination. Remedial measures shall be completed before submitting the internal assessment marks online to the university.
- **Internal assessment marks will reflect under separate head in the marks card of the university examination. The internal assessment marks (theory/practical) will not be added to the marks secured (theory/practical) in the university examination for consideration of pass criteria.**
- **The results of IA should be displayed on the notice board within a 1-2 week of the test.**
- Learners must have completed the required certifiable competencies for that phase of training and completed the logbook appropriate for that phase of training to be eligible for appearing at the final university examination of that subject.

# UNIVERSITY EXAMINATION

## Examination schedule

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
							Foundation course	I MBBS			
I MBBS								Phase I exam	II MBBS		
II MBBS								Phase II exam	III MBBS PART 1		
III MBBS PART 1								Phase III part 1 exam	Electives and skills		
III MBBS PART 2											
Phase III part 2 exam		Internship									
Internship											

### General guidelines

- University examinations are to be designed with a view to ascertain whether the candidate has acquired the necessary knowledge, minimal level of skills, ethical and professional values with clear concepts of the fundamentals which are necessary for him/her to function effectively and appropriately as a physician of first contact. Assessment shall be carried out on an objective basis to the extent possible.
- Nature of questions will include different types such as structured essays (Long Answer Questions - LAQ), Short Essays, Short Answers Questions (SAQ) and Multiple choice questions (MCQs). Marks for each part should be indicated separately.
- The learner **must secure at least 40% marks in each of the two papers with minimum 50% of marks in aggregate (both papers together) to pass in Community Medicine.**
- In subjects with one question paper the learner must secure a minimum of 50% marks to pass.
- Clinical examinations will be conducted at the bedside in the hospital wards. The objective will be to assess proficiency and skills to elicit a detailed history, perform clinical examination, interpret data and form logical conclusion, wherever applicable.
- **There shall be one main examination in an academic year and a supplementary to be held not later than 90 days after the declaration of the results of the main examination.**

- A learner shall not be entitled to graduate after 10 years of his/her joining of the first part of the MBBS course.
- A maximum number of four permissible attempts would be available to clear the first Professional University examination, whereby the first Professional course will have to be cleared within 4 years of admission to the said course. Partial attendance at any University examination shall be counted as an availed attempt.
- **THIRD PROFESSIONAL PART 1 EXAMINATION:**

This examination shall be held at the end of third professional training (11 months), in the subjects of Otorhinolaryngology, Ophthalmology, Community Medicine and Forensic medicine.

## Phase II

**Table: Examination components, Subjects and Distribution of Marks**

<b>THEORY</b>	<b>Community Medicine</b>	<b>Forensic Medicine</b>	<b>Ophthalmology</b>	<b>Otorhinolary ngology</b>
Written Paper				
No. of Papers & Maximum Marks for each paper.	2×100=200	1×100=100	1×100=100	1×100=100
<b>Total theory</b>	<b>200</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>PRACTICAL</b>				
1. Practical exam	80	80	80	80
2. Viva-voce	20	20	20	20
<b>Total practical</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Internal assessment*</b>				
Internal Assessment (Theory)	40	40	40	40
Internal assessment (Practical)	40	40	40	40

\* Internal assessment marks will reflect under separate head in the marks card of the university examination.



### Type, number of questions and distribution of marks for written paper

TYPES OF QUESTION	NUMBER OF QUESTIONS	MARKS FOR EACH QUESTION
Long essay	2	10
Short essay	6	5
Short answers	10	3
MCQs	20	1
<b>Total</b>		<b>100</b>

### 3. SUBMISSION OF LOGBOOK

- a. At the time of Clinical Examination each candidate shall submit to the Examiners his/her logbook record duly certified by the Head of the Department as a bonafide record of the work done by the candidate.

### 4. ELIGIBILITY TO APPEAR FOR EXAMINATION

The following criteria to be met by the students to be eligible for the university exams:

- a. Shall have undergone satisfactorily the approved course of study in the subject/subjects for the prescribed duration.
- b. Shall have attended not less than 75% of the total classes conducted in theory and not less than 80% of the total classes conducted in practical separately to become eligible to appear for examination in that subject/subjects.
- c. Minimum of 40% marks to be obtained **separately** in theory and practical AND atleast 50% marks of the total marks **combined** in theory and practical assigned for internal assessment is to be obtained in a particular subject to appear for university exam. (average of 3 internal assessments theory and practical separately)
- d. Learners must have completed the required certifiable competencies for that phase of training and completed the logbook appropriate for that phase of training to be eligible for appearing at the final university examination of that subject.

### 5. CRITERIA FOR PASS

For declaration of pass in any subject in the University examination, a candidate shall pass both in Theory and Practical examination components separately as stipulated below:

- The Theory component consists of marks obtained in University Written papers only. For a pass in theory, a candidate must secure at least 40% marks in each of the two papers with minimum 50% of marks in aggregate (both papers together).
- For a pass in practical examination, a candidate shall secure not less than 50% marks in aggregate, i.e., marks obtained in university practical examination and viva voce added together.

- **Internal assessment marks will reflect as a separate head of passing at the university examination.**
- A candidate not securing 50% marks in aggregate in Theory or Practical examination + viva in a subject shall be declared to have failed in that subject and is required to appear for both Theory and Practical again in the subsequent examination in that subject.

## 6. DECLARATION OF CLASS

- A candidate having appeared in all the subjects in the same examination and passed that examination in the first attempt and secures 75% of marks or more of **grand total marks (university examination + internal assessment)** prescribed will be declared to have passed the examination with distinction.
- A candidate having appeared in all the subjects in the same examination and passed that examination in the first attempt and secures 65% of marks or more but less than 75% of **grand total marks (university examination + internal assessment)** prescribed will be declared to have passed the examination in First Class.
- A candidate having appeared in all the subjects in the same examination and passed that examination in the first attempt and secures 50% of marks or more but less than 65% of **grand total marks (university examination + internal assessment)** prescribed will be declared to have passed the examination in Pass Class.
- A candidate passing a university examination in more than one attempt shall be placed in Pass class irrespective of the percentage of marks secured by him/her in the examination.

**Note: Please note fraction of marks will not be rounded off for clauses (a), (b) and (c)**

### Appointment of Examiners

- Person appointed as an examiner in the particular subject must have at least four years of total teaching experience as assistant professor after obtaining postgraduate degree in the subject in a college affiliated to a recognized/approved/permitted medical college.
- For the Practical/ Clinical examinations, there shall be at least four examiners for 100 learners, out of whom not less than 50% must be external examiners. Of the four examiners, the senior-most internal examiner will act as the Chairman and coordinator of the whole examination programme so that uniformity in the matter of assessment of candidates is maintained. Where candidates appearing are more than 100, two additional examiners (one external & one internal) for every additional 50 or part there of candidates appearing, be appointed.
- External examiners may not be from the same University.

- (d) The internal examiner in a subject shall not accept external examinership for a college from which external examiner is appointed in his/her subject.
- (e) A University having more than one college shall have separate sets of examiners for each college, with internal examiners from the concerned college.
- (f) External examiners shall rotate at an interval of 2 years.
- (g) There shall be a Chairman of the Board of paper-setters who shall be an internal examiner and shall moderate the questions.
- (h) All eligible examiners with requisite qualifications and experience can be appointed internal examiners by rotation in their subjects.
- (i) All theory paper assessment should be done as central assessment program (CAP) of concerned university.
- (j) Internal examiners should be appointed from same institution for unitary examination in same institution. For pooled examinations at one centre approved internal examiners from same university may be appointed.
- (k) The grace marks up to a maximum of five marks may be awarded at the discretion of the University to a learner for clearing the examination as a whole but not for clearing a subject resulting in exemption.

# FORENSIC MEDICINE & TOXICOLOGY

## GOAL:

The aim of teaching the undergraduate student in Forensic Medicine is to impart such knowledge and skills that may enable him to manage common medico-legal problems in day to day practice. He/she shall acquire competence for post mortem diagnosis based on history, physical examination and relevant observations during autopsy.

## COMPETENCIES:

### **Period of Training – Phase II MBBS & Phase III part 1 MBBS**

The learner must demonstrate:

- Understanding of medico-legal responsibilities of physicians in primary and secondary care settings,
- Understanding of the rational approach to the investigation of crime, based on scientific and legal principles,
- Ability to manage medical and legal issues in cases of poisoning / overdose,
- Understanding the medico-legal framework of medical practice and medical negligence,
- Understanding of codes of conduct and medical ethics.

### **Period of Training – Internship**

#### **A. An intern must perform or assist in:**

- Identifying and documenting medico-legal problems in a hospital and general practice,
- Identifying the medico-legal responsibilities of a medical practitioner in various hospital situations,
- Diagnosing and managing with competence basic poisoning conditions in the community,
- Diagnosing and managing with competence and documentation in cases of Rape /Sexual assault,
- Preparing medico-legal reports in various medico legal situations.

#### **B. An intern must have observed or preferably assisted at the following operations/ procedures:**

- Various medico legal / post-mortem procedures and formalities during their performance by police.

### **Certifiable Procedural skills desirable of Indian Medical Graduate in Forensic Medicine & Toxicology**

- Documentation and certification of trauma (I)
- Diagnosis and certification of death (D)

- Legal documentation related to emergency cases (D)
- Certification of medico-legal cases e.g. Age estimation, Sexual Violence etc. (D)
- Establishing communication in medico-legal cases with police, public health authorities, other concerned departments, etc (D)

I- Independently performed on patients,

O- Observed in patients or on simulations,

D- Demonstration on patients or simulations and performance under supervision in patients

**Competencies in Phase II MBBS and Phase III part 1 MBBS**

<b>No.</b>	<b>Topic</b>	<b>Competencies</b>	<b>Procedures requiring certification</b>
1	General information	11	Nil
2	Forensic Pathology	35	Nil
3	Clinical Forensic Medicine	33	Nil
4	Medical jurisprudence (Medical Law & Ethics)	30	Nil
5	Forensic Psychiatry	06	Nil
6	Forensic laboratory investigation in medicolegal practice	03	Nil
7	Emerging technologies in Forensic Medicine	01	Nil
8	General Toxicology	10	Nil
9	Chemical Toxicology	06	Nil
10	Pharmaceutical Toxicology	01	Nil
11	Biotoxicology	01	Nil
12	Sociomedical Toxicology	01	Nil
13	Environmental Toxicology	02	Nil
14	Skills in Forensic Medicine & Toxicology	22	Nil
	<b>TOTAL</b>	<b>162</b>	<b>Nil</b>

<b>Competencies in Internship</b>			
<b><u>Sl no</u></b>	<b><u>Topic</u></b>	<b><u>Competencies</u></b>	<b><u>Procedures requiring certification</u></b>
<b><u>1</u></b>	Documentation and certification of trauma (I)	<b><u>1</u></b>	<b><u>1</u></b>
<b><u>2</u></b>	Diagnosis and certification of death (D)	<b><u>1</u></b>	<b><u>1</u></b>
<b><u>3</u></b>	Legal documentation related to emergency cases (D)	<b><u>1</u></b>	<b><u>1</u></b>
<b><u>4</u></b>	Certification of medico-legal cases e.g. Age estimation, Sexual Violence etc. (D)	<b><u>3</u></b>	<b><u>3</u></b>
<b><u>5</u></b>	Establishing communication in medico-legal cases with police, public health authorities, other concerned departments, etc (D)	<b><u>3</u></b>	<b><u>3</u></b>
<b><u>6</u></b>	Prerequisites, Procedure, Documentation and Opinion writing in Medicolegal Autopsy(D)	<b><u>1</u></b>	<b><u>1</u></b>
	<b><u>Total</u></b>	<b><u>10</u></b>	<b><u>10</u></b>

<b>Forensic Medicine &amp; Toxicology</b>	<b>Lectures (hours)</b>	<b>Small group learning (Tutorials / Seminars) /Integrated learning (hours)</b>	<b>Self - Directed Learning (hours)</b>	<b>Total (hours)</b>
Phase II	15	30	05	50
Phase III part 1	25	45	05	75
<b>Total</b>	<b>40</b>	<b>75</b>	<b>10</b>	<b>125</b>
<b>AETCOM</b>	<b>Lectures (hours)</b>	<b>Small group learning (Tutorials / Seminars) /Integrated learning (hours)</b>	<b>Self - Directed Learning (hours)</b>	<b>Total (hours)</b>
Phase II	02	04	02	08
Phase III part 1	01	02	02	05
<b>Total</b>	<b>03</b>	<b>06</b>	<b>04</b>	<b>13</b>

**Minimum Teaching Hours in Internship**

<b>Subject</b>	<b>Period of posting</b>
<b>Forensic Medicine &amp; Toxicology</b>	<b>7 days</b>

# List of Competencies and SLOs to be covered in Phase II MBBS

## General Information

**Lecture – 1 hr (Orientation class) Assessment:** No assessment

**FM1.1 - Demonstrate knowledge of basics of Forensic Medicine like definitions of Forensic medicine, Clinical Forensic Medicine, Forensic Pathology, State Medicine, Legal Medicine and Medical Jurisprudence**

- Define Forensic Medicine and Medical Jurisprudence.
- Describe different branches of Forensic medicine like Clinical Forensic Medicine, Forensic Pathology, Forensic Odontology and Forensic Psychiatry.
- Discuss on Forensic Medicine practice in different parts of the world.

**FM1.2 - Describe history of Forensic Medicine**

- Describe the etymology of Forensic Medicine.
- Describe how knowledge of medicine was applied to aid in the administration of justice from ancient time and its evolution to the recent times.
- Enumerate the important people and events related to Forensic Medicine.

## Forensic Pathology

**Lecture – 1 hr (Interactive) Assessment:** Written, Viva voce

**FM2.1 - Define, describe and discuss death and its types including somatic/clinical/cellular, molecular and brain-death, Cortical Death and Brainstem Death**

- Define death.
- Describe the types of death (somatic, molecular, brain-death, cortical death and brainstem death).
- Describe the procedure of declaring death with specific reference to brain stem death.

**FM2.2 - Describe and discuss natural and unnatural deaths**

2.2.1: Describe the manner of death and cause of death

**FM2.3 - Describe and discuss issues related to sudden natural deaths**

- Define sudden natural death.
- Enumerate the causes for sudden natural death.
- Describe the medicolegal importance of sudden natural death.

2.3.4: Discuss the autopsy procedure in case of sudden natural death.

**SDL – 1 hr (Followed by reflective writing) Assessment:** Written, Viva voce

**FM2.4 - Describe salient features of the Organ Transplantation and The Human Organ Transplant (Amendment) Act 2011 and discuss ethical issues regarding organ donation**



- Discuss the ethical and legal issues related to organ donation and transplantation.
- Describe the salient features of The Human Organ Transplant Act, 1994 with amendments till date.

**Lecture – 1 hr (Interactive) Assessment:** Written, Viva voce

**FM2.5 - Discuss moment of death, modes of death - coma, asphyxia and syncope**

- Describe the modes of death (coma, syncope, asphyxia).

**FM2.6 - Discuss presumption of death and survivorship**

- Discuss the importance of presumption of death (Sec. 107 & 108 IEA).

**FM2.7 - Describe and discuss suspended animation**

- Define suspended animation.
- Enumerate the causes for suspended animation.
- Discuss the medicolegal importance of suspended animation.

**SGD – 2 hrs Assessment:** Written, Viva voce

**FM2.10 - Discuss estimation of time since death**

- Enumerate the various factors which help in determination of time since death.
- Discuss on Forensic entomology.

**FM2.8 - Describe and discuss postmortem changes including signs of death, cooling of body, post-mortem lividity, rigor mortis, cadaveric spasm, cold stiffening and heat stiffening**

- Classify post-mortem changes (immediate, early, late).
- Describe postmortem cooling and its medicolegal importance.
- Define postmortem lividity.
- Describe postmortem lividity and its medico legal importance.
- Define rigor mortis.
- Describe rigor mortis and its medico legal importance.
- Enumerate the conditions simulating rigor mortis.
- Define cadaveric spasm.
- Differentiate between cadaveric spasm and rigor mortis.
- Discuss on cold stiffening, heat stiffening, chemical stiffening and gas stiffening.

**SGD – 1 hr Assessment:** Written, Viva voce

**FM2.9 - Describe putrefaction, mummification, adipocere and maceration**

- Describe the various changes seen in the body due to putrefaction.
- Define adipocere.
- Describe adipocere and its medico legal importance.
- Define mummification.
- Describe mummification and its medico legal importance.

**Lecture – 1 hr Assessment:** Written, Viva voce

**FM2.11 - Describe and discuss autopsy procedures including post-mortem examination, different types of autopsies, aims and objectives of post-mortem examination**

- Describe the types of autopsy.
- Enumerate the objectives of medicolegal autopsy.
- Enumerate the objectives of foetal autopsy.
- Enumerate the objectives of skeletal remains examination.

**FM2.14 - Describe and discuss examination of clothing, preservation of viscera on post-mortem examination for chemical analysis and other medico-legal purposes, post-mortem artefacts**

- Describe the method of preservation and dispatch of viscera and body fluids for chemical analysis.
- Describe the method of preservation and dispatch of viscera and body fluids for histopathology and microbiological investigations.
- Describe the method of preservation and dispatch of clothes in a medicolegal case.
- Discuss on postmortem artefacts and their medicolegal importance

**\*FM8.5 - Describe Medico-legal autopsy in cases of poisoning including preservation and dispatch of viscera for chemical analysis**

- Explain the procedure of medico-legal autopsy in a suspected case of poisoning.
- Describe the method of preserving the various viscera in a case of poisoning.
- Describe the procedure for dispatch of viscera for chemical analysis in a case of poisoning.

**\*FM8.9 - Describe the procedure of intimation of suspicious cases or actual cases of foul play to the police, maintenance of records, preservation and dispatch of relevant samples for laboratory analysis.**

- Describe the procedure of intimation of suspicious cases or actual cases of foul play to the police  
S. 39 CrPC, S. 40 CrPC, S. 175 CrPC.  
S. 166 (B) IPC, S. 176 IPC, S. 177 IPC, S. 201 IPC, S. 202 IPC.
- Describe the procedure of record maintenance in a case of poisoning.
- Describe the procedure of collection and dispatch of viscera for chemical analysis in a case of poisoning.

**Lecture – 1 hr Assessment:** Written, Viva voce

**FM2.12 - Describe the legal requirements to conduct post-mortem examination and procedures to conduct medico-legal post-mortem examination**

- Describe the rules for conducting medicolegal autopsy.
- Enumerate the skin incisions in medicolegal autopsy.
- Enumerate the methods of evisceration in medicolegal autopsy.
- Describe the external and internal examination in medicolegal autopsy.

- Explain the special techniques used in medicolegal autopsy (demonstration of pneumothorax, air embolism, etc).

**FM2.13 - Describe and discuss obscure autopsy**

- Discuss on obscure autopsy with examples.
- Discuss on negative autopsy with examples.

**FM2.17 - Describe and discuss exhumation**

- Define exhumation.
- Enumerate the objectives of exhumation.
- Describe the rules and procedure of exhumation.

**SGD – 4 hrs (Practical) Assessment:** Written, Viva voce, OSPE, Practical book, Log book

**FM2.16 - Describe and discuss examination of mutilated bodies or fragments, charred bones and bundle of bones**

- Describe the procedure of examination of mutilated bodies / fragments.
- Describe the procedure of examination of skeletal remains (including charred bones).

**\*FM14.9 - Demonstrate examination of & present an opinion after examination of skeletal remains in a simulated/ supervised environment**

- Enumerate the objectives of skeletal remains examination.
- Demonstrate the procedure of examination of skeletal remains in a simulated/supervised environment.
- Draft a medicolegal report and opinion after examination of skeletal remains.

**SGD – 1 hr Assessment:** Written, Viva voce

**FM2.18 - Crime Scene Investigation: -**

**Describe and discuss the objectives of crime scene visit, the duties & responsibilities of doctors on crime scene and the reconstruction of sequence of events after crime scene investigation**

- Enumerate the objectives of crime scene visit by an autopsy surgeon.
- Describe the procedure of examination of crime scene and preservation of evidentiary material.
- Explain the reconstruction of a case after the crime scene visit.

**SGD – 1 hr Assessment:** Viva voce

**FM2.31 - Demonstrate ability to work in a team for conduction of medico-legal autopsies in cases of death following alleged medical negligence, dowry death, death in custody or following violation of human rights as per National Human Rights Commission Guidelines on exhumation**

- Demonstrate the benefit of team work in a medicolegal autopsy of alleged medical negligence.
- Demonstrate the benefit of team work in a medicolegal autopsy of alleged dowry death.
- Demonstrate the benefit of team work in a medicolegal autopsy of alleged custodial death.

- Demonstrate the benefit of team work in a medicolegal autopsy of death due to violation of human rights.
- Demonstrate the benefit of team work in exhumation.

**SDL – 1 hr Assessment:** Written, Viva voce

**FM2.19 - Investigation of anaesthetic, operative deaths: Describe and discuss special protocols for conduction of autopsy and for collection, preservation and dispatch of related material evidences**

- Explain the significance of autopsy in operative deaths.
- Describe the procedure of autopsy in operative deaths.
- Describe the procedure of preservation and dispatch of evidentiary material for investigation in deaths associated with anaesthesia and surgery

**SDL – 1 hr Assessment:** Written,

**FM2.15 - Describe special protocols for conduction of medico-legal autopsies in cases of death in custody or following violation of human rights as per National Human Rights Commission Guidelines**

- Describe the National Human Rights Commission guidelines for conduction of medicolegal autopsy in cases of death in custody or violation of human rights.
- **SGD – 1 hr Assessment:** OSPE, Written, Viva voce

**FM2.32 - Demonstrate ability to exchange information by verbal or nonverbal communication to the peers, family members, law enforcing agency and judiciary**

- Demonstrate the skills of communication by a doctor with the peers.
- Demonstrate the skills of communication by a doctor with the patient's family members in MLC works at casualty.
- Demonstrate the skills of communication by a doctor with the deceased familymembers during medicolegal autopsy.
- Demonstrate the skills of communication by a doctor with the law enforcing agency/judiciary in medicolegal practices.

**FM2.33 & FM2.34 - Demonstrate ability to use local resources whenever required like in mass disaster situations**

- Define Mass disaster
- Enumerate the types of Mass disaster.
- List the objectives of forensic investigation in mass disasters.
- Describe the procedure of examination at disaster site and autopsy.
- Describe the evidentiary materials to be preserved in mass disasters.
- Demonstrate the importance of team work in Mass Disasters.

**FM2.35 - Demonstrate professionalism while conducting autopsy in medicolegal situations, interpretation of findings and making inference/opinion, collection, preservation and dispatch of biological or trace evidences**

- Demonstrate the professionalism of a doctor during conduction of medicolegal autopsies (such as interaction with investigating officer/relatives of deceased, receiving inquest form, maintaining confidentiality, etc).
- Demonstrate the professionalism in preservation and dispatching evidentiary materials to FSL (such as proper method of preservation and dispatch of materials with necessary forms and maintaining confidentiality).
- Demonstrate the professionalism in preservation and dispatching evidentiary materials to histopathology and microbiology investigations (such as proper method of preservation and dispatch of materials with necessary forms and maintaining confidentiality).
- Demonstrate the professionalism while giving opinion in medicolegal cases (such as honesty with unbiased inferences).

## **Clinical Forensic Medicine**

**SGD – 2 hrs**    **Assessment:** Written,

### **FM3.1 - IDENTIFICATION**

**Define and describe Corpus Delicti, establishment of identity of living persons including race, Sex, religion, complexion, Stature, age determination using morphology, teeth- eruption, decay, bite marks, bones-ossification centres, medicolegal aspects of age** 3.1.1 Define Corpus delicti

- Describe the importance of corpus delicti in establishing the crime.
  - List the various means of identification in living and dead persons.
  - Explain the role of hand writing analysis, gait, speech, photography and facial description as a tool of identification.
  - Describe the methods of determination of race.
  - Describe the methods of sex determination in a living person.
  - Describe the methods of sex determination in a dead person.
  - Define intersex.
  - Describe the types of intersex and its medicolegal importance. 3.1.10: Describe the methods of age determination in a living person.
  - Describe the methods of age determination in a dead person.
  - Explain the method of age estimation using Gustafson's technique.
  - Discuss the forensic aspects related to teeth.
  - Describe the methods of determination of stature.

**SGD – 1 hr**    **Assessment:** Written, Viva voce

### **FM3.2 - IDENTIFICATION**

**Describe and discuss identification of criminals, unknown persons, dead bodies from the remains-hairs, fibres, teeth, anthropometry, dactylography, foot prints, scars, tattoos, poroscopy & superimposition**

- Explain the role of hair in the identification of an individual.
- Describe the medicolegal importance of hair.
- Describe the dyes used, methods of erasure and medicolegal importance of a tattoo.
- Describe the medicolegal importance of the scar.
- Define anthropometry.
- Describe various data included in anthropometry and its importance in identification.
- Define dactylography.

- Describe the types, method of collection and medicolegal importance of dactylography.
- Discuss the role of poroscopy, cheiloscopy and rugoscopy in identification.
- Describe the role of foot prints in establishing the identity.
- Describe the role of facial reconstruction in establishing the identity.
- Discuss the role of superimposition in establishing the identity.

**SGD – 2 hrs (Practical) Assessment:** OSPE, Practical book, Log book

**\*FM14.6 - Demonstrate and interpret medico-legal aspects from examination of hair (human & animal) fibre, semen & other biological fluids**

- Identify hair (human/ animal), other fibres by physical and microscopic examination and describe its medicolegal importance.
- Identify the **semen** by physical and microscopic examination and describe its medicolegal importance.

**\*FM14.7 - Demonstrate & identify that a particular stain is blood and identify the species of its origin**

- Identify the blood by physical and microscopic examination.
- Explain the various medicolegal conclusions by examining the blood stains.
- Explain the method of identifying the species of origin of the blood stain.

**\*FM14.8 - Demonstrate the correct technique to perform and identify ABO & RH blood group of a person**

- Perform the technique of identifying the ABO blood group of a person.
- Perform the technique of identifying the Rh blood group of a person.

## **Toxicology: General Toxicology**

- **SDL – 1 hr Assessment:** Written, Viva Voce

**FM8.1 - Describe the history of Toxicology**

- Describe the history of Toxicology.

- **Lecture – 1 hr Assessment:** Written, Viva Voce

**FM8.2 - Define the terms Toxicology, Forensic Toxicology, Clinical Toxicology and poison**

- Define Toxicology, Forensic Toxicology, Clinical Toxicology and Poison

**FM8.3 - Describe the various types of poisons, Toxicokinetics, and Toxicodynamics and diagnosis of poisoning in living and dead**

- Classify poisons in respect to mode of action and mode of usage.
- Describe pharmacokinetics & pharmacodynamics of the poisons.
- Explain the diagnosis of poisoning in the living individual.
- Explain the diagnosis of poisoning in the dead individual

**FM8.4 - Describe the Laws in relations to poisons including NDPS Act, Medico-legal aspects of poisons**

- Describe the legal sections related to poisoning in India.  
S. 85 IPC, S. 86 IPC, S. 274 IPC, S. 284 IPC, S. 299 IPC, S. 300 IPC, S. 304 (A) IPC,

S. 375 IPC

S. 324 IPC, S. 325 IPC, S. 326 IPC, S. 326A IPC, S. 326B IPC, S. 328 IPC

S. 357C CrPC

S. 185 IMV Act, S. 203 IMV Act, S. 204 IMV Act

- Describe Narcotic Drugs and Psychotropic Substances Act, 1985. 8.4.3: Describe Karnataka Poisons (Possession and Sale) Rules, 2015.
- Describe the legal responsibilities of a doctor in a case of poisoning

**FM8.6 - Describe the general symptoms, principles of diagnosis and management of common poisons encountered in India**

- Describe the general symptoms and signs of the common poisons encountered in India.
- Describe the general principles of diagnosis of the common poisons encountered in India.
- Enumerate the line of management of the common poisons encountered in India.

**Lecture – 1 hr Assessment:** Written, Viva Voce

**FM8.8 - Describe basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination**

- List the general treatment procedure in case of poisoning.
- Explain the procedure of Gastric lavage.
- Enumerate the indications and contraindications for Gastric lavage.
- Define antidote.
- Describe the various types of antidotes.
- Explain Chelation therapy.
- Describe the methods for hastening elimination of absorbed poison.

**Lecture – 1 hr Assessment:** Written, Viva Voce

**FM8.10 - Describe the general principles of Analytical Toxicology and give a brief description of analytical methods available for toxicological analysis: Chromatography – Thin Layer Chromatography, Gas Chromatography, Liquid Chromatography and Atomic Absorption Spectroscopy**

- List the various analytical methods used in Toxicology.
- Describe the general principle of Thin Layer Chromatography.
- Describe the basic principle and uses of Gas Chromatography.
- Describe the basic principle and uses of Liquid Chromatography.
- Describe the basic principle and uses of Atomic Absorption Spectroscopy.
- Describe the basic principle and uses of Mass Spectrometry.
- Describe the basic principle and uses of Radioimmuno Assay

**SGD – 2 hrs (Practical/ Skills lab) Assessment:** OSPE, Written, Viva Voce

**\*FM14.2 - Demonstrate the correct technique of clinical examination in a suspected case of poisoning & prepare medico-legal report in a simulated/ supervised environment**

- Take an informed consent from the Patient / Guardian after explaining the importance of MLC registration in Poisoning cases.
- Perform the clinical examination (history taking, general physical examination, systemic

examination, laboratory investigations, differential diagnosis) in poisoning cases in a simulated/ supervised environment.

- Prepare the medicolegal certificate after documenting the clinical findings.14.2.4: Prepare the police intimation.

**\*FM14.3 - Assist and demonstrate the proper technique in collecting, preserving and dispatch of the exhibits in a suspected case of poisoning, along with clinical examination**

- Demonstrate the process of collecting, preserving and dispatch of the materials/ exhibits in a suspected case of ingested poisoning.
- Demonstrate the process of collecting, preserving and dispatch of the materials/ exhibits in a suspected case of inhalation poisoning along with clinical examination.
- Demonstrate the process of collecting, preserving and dispatch of the materials/ exhibits in a suspected case of injected poisoning along with clinical examination.

**FM8.7 - Describe simple Bedside clinic tests to detect poison/drug in a patient's body fluids**

- Describe the bedside clinic tests for Hydrochloric acid poisoning (Ammonia test, Litmus paper test, Silver nitrate test).
- Describe the bedside clinic tests for Nitric acid poisoning (Ferrous Sulphate test).
- Describe the bedside clinic tests for Sulphuric acid poisoning (Litmus paper test).
- Describe the bedside clinic tests for Oxalic acid poisoning (Barium nitrate test).
- Describe the bedside clinic tests for Caustic alkalis poisoning (Litmus paper test).
- Describe the bedside clinic tests for Phenol (Folin Ciocaltaeu reagent test).
- Describe the bedside clinic tests for Salicylates (Trinder's reagent test).

## **Toxicology : Chemical Toxicology**

**SGD – 2 hrs Assessment:** Written, Viva voce

**FM9.1 - Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to: Caustics Inorganic – sulphuric, nitric, and hydrochloric acids; Organic-Carboic Acid (phenol), Oxalic and acetylsalicylic acids**

- Describe the characteristics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Sulphuric acid poisoning.
- Describe the characteristics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Nitric acid poisoning.9.1.3: Describe the characteristics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Hydrochloric acid poisoning.
- Discuss on Vitriolage.
- Describe the characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of



Carbolic acid poisoning.

- Discuss on Carboluria.
- Describe the characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Oxalic acid poisoning.
- Discuss on Oxaluria.
- Describe the characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Acetylsalicylic acid poisoning.

**Lecture – 1 hr**

**Assessment:** Written, Viva voce

**FM9.2 - Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Phosphorus, Iodine, Barium**

- Describe the characteristics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Phosphorus poisoning.
- Discuss on Phossy jaw.
- Describe the characteristics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Iodine poisoning.
- Describe the characteristics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Barium poisoning.

**Lecture – 2 hrs**

**Assessment:** Written, Viva voce

**FM9.3 - Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Arsenic, lead, mercury, copper, iron, cadmium and thallium**

- Describe the characteristics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Arsenic poisoning.
- Describe the characteristics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Lead poisoning.
- Describe the characteristics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Mercury poisoning.
- 9.3.4: Describe the characteristics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Copper poisoning.
- 9.3.5: Describe the characteristics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Iron poisoning.
- Describe the characteristics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Thallium poisoning.
- Describe the characteristics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Cadmium poisoning.
- Describe the causes, clinical features and treatment of Metallic fume fever.

**Lecture – 2 hrs**

**Assessment:** Written, Viva voce

**FM9.4 - Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Ethanol, methanol, ethylene glycol**

- Describe physical/chemical characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of ethanol intoxication.
- Define drunkenness.
- Describe the methods of detection of drunken person in legal situations.
- Describe clinical features, treatment and medicolegal aspects of chronic alcoholism.
- Describe physical/chemical characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects in a case of methanol poisoning.
- Describe physical/chemical characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment and medicolegal aspects of ethylene glycol poisoning.

**SGD – 2 hrs (Integration – Pharmacology) Assessment:** Written, Viva voce

**FM9.5 - Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Organophosphates, Carbamates, Organochlorines, Pyrethroids, Paraquat, Aluminium and Zinc phosphide**

- Classify agricultural poisons.
- Describe physical/chemical characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Organo- phosphorous poisoning.
- Describe physical/chemical characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Carbamate poisoning.
- Describe physical/chemical characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Organo- chlorine poisoning.
- Describe physical/chemical characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Paraquat poisoning.
- Describe physical/chemical characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Pyrethroid poisoning.
- Describe physical/chemical characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Aluminum and Zinc phosphide poisoning.

**SGD – 1 hr Assessment:** Written, Viva Voce

**FM9.6 - Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to Ammonia, carbon monoxide, hydrogen cyanide & derivatives, methyl isocyanate, tear (riot control) gases**

- Describe physical/chemical characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Ammonia poisoning.
- Describe physical/chemical characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings & medicolegal aspects of Carbon monoxide poisoning.
- Describe physical/chemical characteristics, pharmacokinetics, mechanism of action, fatal dose, fatal period, clinical features, treatment, postmortem findings and medicolegal aspects of Cyanide poisoning.
- Describe physical/chemical characteristics, mechanism of action, clinical features, treatment, postmortem findings and medicolegal aspects of Methyl Isocyanate poisoning. 9.6.5: Describe clinical features, treatment and medicolegal aspects of exposure to tear gas (riot control).

### **Toxicology : Pharmaceutical Toxicology**

**SDL – 1 hr (Integration – Pharmacology) Assessment:** Written, Viva Voce

**FM10.1 - Describe General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to:**

- i. Antipyretics – Paracetamol, Salicylates**
- ii. Anti-Infectives (Common antibiotics – an overview)**
- iii. Neuropsychotoxicology Barbiturates, benzodiazepins, phenytoin, lithium, haloperidol, neuroleptics, tricyclics**
- iv. Narcotic Analgesics, Anaesthetics, and Muscle Relaxants**
- v. Gastro-Intestinal and Endocrinal Drugs – Insulin**
  - Describe clinical features, treatment and medico-legal aspects of poisoning due to Antipyretics (such as Paracetamol and Salicylates).
  - Describe clinical features, treatment and medico-legal aspects of poisoning due to Anti-Infective overdose (common antibiotics).
  - Describe clinical features, treatment, post-mortem findings and medico- legal aspects of Barbiturate poisoning.
  - Describe clinical features, treatment and medico-legal aspects of Benzodiazepine poisoning.
  - Describe clinical features, treatment, post-mortem findings and medico- legal aspects of opium and its alkaloids.
  - Describe clinical features, treatment, post-mortem findings and medico- legal aspects of poisoning due to Gastro-Intestinal and Endocrinal Drugs (e.g., Insulin).

**Lecture – 1 hr Assessment:** Written, Viva voce

**FM10.1 vi - Cardiovascular Toxicology Cardiotoxic plants – oleander, odollam, aconite, digitalis**

- Enumerate the cardiotoxic plants.
- Describe the active principles, mechanism of action, fatal dose, fatal period, clinical features, treatment, post-mortem findings and medico- legal aspects of poisoning due to cardiotoxic plants.

## **Toxicology : Biotoxicology**

**SGD – 2 hrs Assessment:** Written, Viva Voce

### **FM11.1 - Describe features and management of Snake bite, scorpion sting, bee and wasp sting and spider bite**

- Differentiate poisonous and non-poisonous snakes.
- Classify poisonous snakes.
- Identify the common poisonous and non-poisonous snakes in India.
- Describe mechanism of action, clinical features, management, postmortem findings and medicolegal aspects of snake bite (Ophitoxaemia).
- Identify the common scorpions seen in India.
- Describe mechanism of action, clinical features, management, postmortem findings and medicolegal aspects of scorpion sting.
- Describe mechanism of action, clinical features, management, postmortem findings and medicolegal aspects of bee and wasp sting, and spider bite.

## **Toxicology : Environmental Toxicology**

**Lecture – 1 hr Assessment:** Written, Viva voce

### **FM13.1 - Describe toxic pollution of environment, its medico-legal aspects & toxic hazards of occupation and industry**

- Enumerate the causes for environmental pollution.
- Describe the health effects of environmental pollution due to toxic substances.
- Describe the medico-legal aspects of toxic hazards on employees of an industry
- Describe medico-legal aspects of poisoning in Workman's Compensation Act
- Describe the medico-legal issues arising out of effects of poisoning due to occupational exposure as per Workman's Compensation Act.
- Discuss the role of physician in cases of poisoning due to occupational exposure.

## **Toxicology : Sociomedical Toxicology**

**Lecture – 2 hrs**

**Assessment:** Written, Viva

voce **FM12.1 - Describe features and management of abuse/ poisoning with following chemicals: Tobacco, cannabis, amphetamines, cocaine, hallucinogens, designer drugs & solvent**

- Define drug abuse, drug addiction, drug habituation and drug dependence.
- List the drugs of abuse.
- Describe clinical features, treatment, post-mortem findings and medico-legal aspects of acute and chronic tobacco poisoning.
- Enumerate the active principles and various preparations of cannabis.
- Describe clinical features, treatment, post-mortem findings and medico-legal aspects of acute and chronic cannabis poisoning.
- Describe clinical features, treatment, post-mortem findings and medico-legal aspects of acute and chronic cocaine poisoning.

- Describe clinical features, treatment, post-mortem findings and medico-legal aspects of amphetamine poisoning.
- Enlist hallucinogenic substances.
- Describe clinical features, treatment, post-mortem findings and medico-legal aspects of Lysergic acid diethylamide poisoning.
- Define 'Designer drug'.
- Describe the clinical features and management of common designer drugs. 12.1.12: Define 'Solvent abuse'.
- Describe clinical features, treatment, post-mortem findings and medico-legal aspects of Solvent abuse.
- Discuss on Body packer's syndrome.

### **Skills in Forensic Medicine & Toxicology**

#### **SGD – 2 hrs (Practical)**

book, Log book, Viva Voce

**Assessment:** OSPE, Practical

**FM14.17 - To identify & draw medico-legal inference from common poisons e.g. dhatura, castor, cannabis, opium, aconite copper sulphate, pesticides compounds, marking nut, oleander, Nux vomica, abrus seeds, Snakes, capsicum, calotropis, lead compounds & tobacco.**

- Identify with physical and /or chemical characteristics of the common poisons e.g. dhatura, castor, cannabis, opium, aconite, copper sulphate, pesticide compounds, marking nut, oleander, Nux vomica, abrus seeds, snakes, capsicum, calotropis, lead compounds & tobacco. (regional / local poisons)
- Draw the medico-legal inferences with the use of the common poisons.

#### **SGD – 5 hrs (Practical – 5 cases)**

Practical book, Log book, Viva Voce

**Assessment:** OSPE,

**FM14.5 - Conduct & prepare post-mortem examination report of varied aetiologies (at least 15) in a simulated/ supervised environment**

- Describe the techniques of conducting a medicolegal autopsy.
- Describe the postmortem findings (external and internal) in a medicolegal autopsy.
- Enumerate the ancillary investigations required (along with appropriate materials for such investigations) in a medicolegal autopsy.
- Draft the postmortem report after a medicolegal autopsy.
- Medicolegal autopsies may be a case of unnatural death, natural death, custodial death, alleged medical negligence, decomposed body, mutilated body.

#### **SGD – 1 hr (Practical) Integration Pathology**

Practical book, Log book, Viva Voce

**Assessment:** OSPE,

**FM14.19\* - To identify & prepare medico-legal inference from histo-pathological slides of Myocardial Infarction, pneumonitis, tuberculosis, brain infarct, liver cirrhosis, Pulmonary oedema, (remaining slides will be covered in phase 3 MBBS)**

- List the microscopic identifying features after examining the histopathological slides of myocardial Infarction, pneumonitis, tuberculosis, brain infarct, liver

cirrhosis, pulmonary oedema.

- Describe the medico-legal inferences after examining the above-mentioned histopathological slides.

### Summary of TL methods and list of competencies to be covered in Phase II MBBS and Assessment methods

Sl. No.	Teaching hours and type	Competency numbers	Assessment methods
1.	Lecture – 1 hr (Orientation class)	1.1, 1.2	No assessment
2.	Lecture – 1 hr (Interactive)	2.1, 2.2, 2.3	Written, Viva voce
3.	SDL – 1 hr (Followed by reflective writing)	2.4	Written, Viva voce
4.	Lecture – 1 hr (Interactive)	2.5, 2.6, 2.7	Written, Viva voce
5.	SGD – 2 hrs	2.10, 2.8	Written, Viva voce
6.	SGD – 1 hr	2.9	Written, Viva voce
7.	Lecture – 1 hr	2.11, 2.14, 8.5, 8.9	Written, Viva voce
8.	Lecture – 1 hr	2.12, 2.13, 2.17	Written, Viva voce
9.	SGD – 4 hrs (Practical)	2.16, 14.9	Written, Viva voce, OSPE, Practical book, Log book
10.	SGD – 1 hr	2.18	Written, Viva voce
11.	SGD – 1 hr	2.31	Viva voce
12.	SDL – 1 hr	2.19	Written, Viva voce
13.	SDL – 1 hr	2.15	Written, Viva voce
14.	SGD – 1 hr	2.32, 2.33, 2.34, 2.35	OSPE, Written, Viva voce
15.	SGD – 2 hrs	3.1	Written, Viva voce
16.	SGD – 1 hr	3.2	Written, Viva voce
17.	SGD – 2 hrs (Practical)	14.6, 14.7, 14.8	OSPE, Practical book, Log book
18.	SDL – 1 hr	8.1	Written, Viva voce
19.	Lecture – 1 hr	8.2, 8.3, 8.4, 8.6	Written, Viva voce
20.	Lecture – 1 hr	8.8	Written, Viva voce
21.	Lecture – 1 hr	8.10	Written, Viva voce
22.	SGD – 2 hrs (Practical/ Skills lab)	14.2, 14.3, 8.7	OSPE, Written, Viva Voce
23.	SGD – 2 hrs	9.1	Written, Viva voce
24.	Lecture – 1 hr	9.2	Written, Viva voce
25.	Lecture – 2 hrs	9.3	Written, Viva voce
26.	Lecture – 2 hrs	9.4	Written, Viva voce
27.	SGD – 2 hrs (Integration – Pharmacology)	9.5	Written, Viva voce
28.	SGD – 1 hr	9.6	Written, Viva voce
29.	SDL – 1 hr (Integration – Pharmacology)	10.1 (i-v)	Written, Viva voce
30.	Lecture – 1 hr	10.1 (vi)	Written, Viva voce
31.	SGD – 2 hrs	11.1	Written, Viva voce
32.	Lecture – 1 hr	13.1, 13.2	Written, Viva voce

33.	Lecture – 2 hrs	12.1	Written, Viva voce
34.	SGD – 2 hrs (Practical)	14.17	OSPE, Practical book, Log book, Viva Voce
35.	SGD – 5 hrs (5 cases)	14.5	OSPE, Practical book, Log book, Viva Voce
36.	SGD – 1 hr (Practical) Integration Pathology	14.19	OSPE, Practical book, Log book, Viva Voce

# List of Competencies and SLOs to be covered in Phase III MBBS part 1

## General Information

- **Lecture – 1 hr (Orientation class/ SDL)**

**Assessment:** No assessment

**FM 1.3 - Describe legal procedures including Criminal Procedure Code, Indian Penal Code, Indian Evidence Act, Civil and Criminal Cases, Inquest (Police Inquest and Magistrate's Inquest), Cognizable and Non- cognizable offences**

: Describe the meaning of Criminal Procedure Code, Indian Penal Code, and Indian Evidence Act.

: Differentiate between civil and criminal cases and their proceedings in the court of law.

: Define inquest.

: Describe the types of inquest practiced in India.

: Discuss the meaning of cognizable and non-cognizable offence with examples.

**FM 1.4 - Describe Courts in India and their powers: Supreme Court. High Court, Sessions court, Magistrate's Court. Labour Court. Family Court, Executive Magistrate Court and Juvenile Justice Board**

: List various civil and criminal courts in India.

: Describe the location, presiding officer and powers of various courts in India.

**FM 1.5 - Describe Court procedures including issue of summons, conduct money, types of witnesses, recording of evidence: oath, affirmation, examination in chief, cross examination, re- examination & court questions, recording of evidence & conduct of doctor in witness box.**

: Define 'Summons'.

: Describe the formalities to be followed by a doctor while receiving summons and consequence of not honouring the summons.

: Define 'Witness'.

: Describe the types of witness.

: Define 'Evidence'.

: Describe the types of evidence.

: Describe the steps of recording evidence in the court of law.

: Describe the conduct of a doctor in the witness box.

**FM 1.6 - Describe the offences in Court including Perjury; Court strictures vis-a-vis medical officer**

: Explain the meaning of perjury and its punishment.

: Mention the various offences that could be charged upon medical officer by the court of law and its punishment.

**SGD – 2 hrs (Moot Court)**

**Assessment:** Log book / Viva voce / OSCE

**FM14.22 - To give expert medical/ medico-legal evidence in Court of law**



: Describe conduct of a doctor in witness box during the process of deposing expert medical/ medico-legal evidence in Court of law.

: Describe the steps /procedure of recording of expert medical/ medico-legal evidence in Court of law with relation to Court procedures.

**FM2.29 - Demonstrate respect to the directions of courts, while appearing as witness for recording of evidence under oath or affirmation, examination in chief, cross examination, re-examination and court questions, recording of evidence**

: Demonstrate the procedure of receiving summons.

: Demonstrate the oath taking in the court of law

Demonstrate the procedure of recording of evidence in court of law (examination in chief, cross examination, re-examination, question by Judge).

2.29.4: Demonstrate the doctor's professionalism (attitude and subject expertise) expected in the witness box.

**SGD – 1 hr ( Role play) Assessment:** Log book / Viva voce / OSCE / Skill station

**FM 1.7 - Describe Dying Declaration and Dying Deposition.**

: Define dying declaration and dying deposition.

: Describe the procedure of recording of dying declaration.

: Differentiate between dying declaration and dying deposition.

**FM14.20 - To record and certify dying declaration in a simulated/ supervised environment**

: Certify compos mentis (sound mind) by examining higher mental functions before recording of dying declaration in a simulated environment.

: Record dying declaration in a simulated environment.

: Assist the executive magistrate in recording of dying declaration in a simulated environment

• **Lecture – 1 hr** Assessment: Written, Viva voce

**FM 1.8 - Describe the latest decisions/ notifications/resolutions/circulars/ standing orders related to medico-legal practice issued by Courts/Government authorities etc.**

: Describe the latest decisions/notifications/resolutions/ circulars/ standing orders related to medico-legal practice issued by Courts.

: Describe the latest decisions/notifications/resolutions/ circulars/ standing orders related to medico-legal practice issued by Central Government authorities.

: Describe the latest decisions/notifications/resolutions/ circulars/ standing orders related to medico-legal practice issued by State Government authorities.

: Describe the latest decisions/notifications/resolutions/ circulars/ standing orders related to medico-legal practice issued by NMC/MCI/ SMC.

**FM2.30 - Have knowledge/awareness of latest decisions/ notifications/ resolutions/ circulars/standing orders related to medico-legal practice issued by Courts/ Government**

authorities **etc**

: Debate on the latest decisions/notifications/circulars/standing orders related to medico-legal practice issued by Courts.

: Debate on the latest decisions/notifications/circulars/standing orders related to medico-legal practice issued by Central Government.

: Debate on the latest decisions/notifications/circulars/standing orders related to medico-legal practice issued by State Government.

2.30.4: Debate on the latest decisions/notifications/circulars/standing orders related to medico-legal practice issued by NMC/MCI/ SMC

• **Lecture – 1 hr**

**Assessment:** Written, Viva voce

**FM 1.9 - Describe the importance of documentation in medical practice in regard to medicolegal examinations, Medical certificates & medicolegal reports especially**

- **Maintenance of patient case records, discharge summary, prescribed registers to be maintained in Health Centres.**
- **Maintenance of medico-legal register like accident register**
- **Documents of issuance of wound certificate**
- **Documents of issuance of drunkenness certificate**
- **Documents of issuance of sickness & fitness certificate**
- **Documents of issuance of death certificate**
- **Documents of issuance of medical certification of cause of death-form no.4, 4A**
- **Documents of estimation of age by physical, dental & radiological examination & issuance of certificate**

: Enumerate various medical / medicolegal records to be maintained by hospital/ medical practitioner.

: Describe the importance of documentation and maintenance of medical records (out-patient slips, in-patient case details, consent forms, operative & anesthetic notes, discharge/death summary, sickness & fitness certificates, MCCD certificate, etc).

: Describe the importance of documentation and maintenance of medicolegal records (MLC register, MTP register, age certificate, wound certificate, drunkenness certificate, sexual violence report, postmortem report, etc).

**SGD – 1 hr ( Practical)**

**Assessment:** Written / Viva voce / OSCE

**FM 1.10 - Select appropriate cause of death in a particular scenario by referring ICD 10 code.**

1.10.1: Explain the importance of ICD-10 code in certifying the cause of death. 1.10.2: Enumerate the important causes of death as per ICD-10.

1.10.3: Chose the appropriate cause of death in a particular scenario.

**FM 1.11 - Write a correct cause of death certificate as per ICD 10 document**

- : Describe the objectives of MCCD certification.
- : Draft the MCCD certificate in a particular scenario as per ICD-10.
- : Explain the procedure of dispatching MCCD certificate to the concerned authorities.

## Forensic Pathology

- SGD – 5 hrs Assessment: Written / Viva voce

### **FM 2.20 - Mechanical asphyxia: Define, classify and describe asphyxia and medico-legal interpretation of post-mortem findings in asphyxial deaths.**

- : Define asphyxia.
- : Mention the various types of asphyxial deaths (mechanical, pathological, toxic, environmental, traumatic, postural, iatrogenic).
- : Describe the pathophysiology (vicious cycle) of asphyxia. 20.4: Explain the types of anoxia/hypoxia (Gordon's classification).
- 2.20.5: Discuss the classical postmortem findings in asphyxial deaths.

### **FM 2.21 - Mechanical asphyxia: Describe and discuss different types of hanging and strangulation including clinical findings, causes of death, post-mortem findings and medico-legal aspects of death due to hanging and strangulation including examination, preservation and dispatch of ligature material.**

- : Define mechanical asphyxia death.
- : Classify mechanical asphyxial deaths.
- : Define hanging.
- : Enumerate the types of hanging.: Explain the symptoms experienced by the victim in hanging.
- : Describe the causes of death, postmortem findings and medicolegal aspects of death due to hanging.
- : Discuss on judicial hanging.
- : Define strangulation.
- : Enumerate the types of strangulation.
- : Describe the causes of death, postmortem findings and medicolegal aspects of death due to ligature strangulation.
- : Describe the causes of death, postmortem findings and medicolegal aspects of death due to manual strangulation.
- : Discuss on Bansdola, Mugging, Garrotting,
- : Describe the examination, preservation and dispatch of ligature material used in hanging and strangulation.
- 2.21.15: Explain the fractures of hyoid bone.

### **FM 2.22 - Mechanical asphyxia: Describe and discuss patho-physiology, clinical features, post-mortem findings and medico-legal aspects of traumatic asphyxia, obstruction of nose & mouth, suffocation and sexual asphyxia.**

- : Define traumatic asphyxia.
  - : Describe the pathophysiology, postmortem findings and medicolegal aspects of traumatic asphyxia.
  - : Discuss on postural/positional asphyxia.
  - : Discuss on Overlying.
  - : Define suffocation.
  - : Enumerate the types of suffocation.
  - : Describe the postmortem findings and medicolegal aspects of Environmental asphyxia, Smothering, Gagging and Choking.
  - : Discuss on Café-coronary.
  - : Discuss on Burking.
- 2.22.10: Describe methods used, postmortem findings and medicolegal aspects of Sexual/ Auto-erotic asphyxia.

**FM 2.23 - Mechanical asphyxia: Describe and discuss types, patho-physiology, clinical features, post-mortem findings and medico-legal aspects of drowning, diatom test and gettler test.**

- : Define drowning.
  - : Explain the mechanism of drowning.
  - : Enumerate the types of drowning.
  - : Describe the pathophysiology, causes of death, postmortem findings and medicolegal aspects of drowning.
  - : Describe the clinical features and treatment of Post-immersion syndrome (Near drowning).
  - : Discuss on Diatom test and its medicolegal importance.
- 2.23.7: Discuss on Gettler test and its medicolegal importance.

**SGD – 1 hr**

**Assessment:** Written / Viva voce

**FM 2.24 - Thermal deaths: Describe the clinical features, post-mortem finding and medicolegal aspects of injuries due to physical agents like heat (heat-hyper-pyrexia, heat stroke, sun stroke, heat exhaustion/ prostration, heat cramps [miner's cramp] or cold (systemic and localized hypothermia, frostbite, trench foot, immersion foot)**

- : Classify thermal injuries.
  - : Describe the local (frostbite, trench foot, immersion foot) and general effects (hypothermia) due to Cold.
  - : Describe the postmortem findings and medicolegal aspects of deaths due to Hypothermia.
  - : Describe the general effects due to Heat (heat cramps, heat exhaustion/prostration, heat hyperpyrexia/heat stroke/ sunstroke).
- 2.24.5: Describe the postmortem findings and medicolegal aspects of deaths due to Heat stroke.

**SGD – 1 hr**

**Assessment:** Written / Viva voce / OSPE

**FM 2.25 - Describe types of injuries, clinical features, patho-physiology, postmortem findings and medico-legal aspects in cases of burns, scalds, lightening, electrocution and radiations.**

- : Define Burn.
  - : Enumerate the types or causes of burns.
  - : Describe the degree of burns (Dupuytren's, Wilson's and Clinical classification).
  - : Explain the method of calculation of percentage of burns (Rule of Nine/Wallace, Lund and Browder chart).
  - : Describe the clinical features, management, causes of death, postmortem findings and medicolegal aspects of Dry burns and Scalds.
  - : Differentiate between antemortem and postmortem burns.
  - : Describe the factors affecting the electrical injuries.
  - : Describe the postmortem findings, causes of death and medicolegal aspects in deaths due to electrocution.
  - : Describe the factors affecting the lightning injuries.
  - : Describe the postmortem findings, causes of death and medicolegal aspects in deaths due to lightning.
- 2.25.11 Discuss on injuries caused by exposure to radiation

**Lecture – 1 hr**

**Assessment:** Written, Viva voce

**FM 2.26 - Describe and discuss clinical features, post-mortem findings and medico-legal aspects of death due to starvation and neglect**

- : Explain the meaning of starvation.
- : Enumerate the types of starvation.
- : Enumerate the causes of starvation.
- : Describe the factors modifying the effects of starvation.
- : Describe the clinical features, management, causes of death, postmortem findings and medicolegal aspects of starvation.

**SGD – 3 hrs** **Assessment:** Written / Viva voce / OSPE / log book / Practical record

**FM 2.27 - Define and discuss infanticide, foeticide and stillbirth**

- : Define Foeticide, Neonaticide and infanticide.
  - : Define dead birth, still birth and live birth.
- 2.27.3: Discuss on medicolegal aspects of infanticide

**FM 2.28 - Describe and discuss signs of intrauterine death, signs of live birth, viability of foetus, age determination of foetus, DOAP session of ossification centres, Hydrostatic test, Sudden Infant Death syndrome. Munchausen's syndrome by proxy. *[Munchausen's syndrome by proxy is covered in FM 3.29]***

- : Describe the causes of Intra Uterine Death (IUD).
- : Describe the features of 'Dead born foetus'.

- : Define 'Viability of foetus' and its medicolegal importance.
- : Describe the method of estimation of gestational age of foetus.
- : Describe the signs of 'Live birth'.
- : Describe the causes of infant death.
- : Define Sudden Infant Death Syndrome (SIDS).
- : Describe causes, postmortem findings & medicolegal aspects of SIDS

#### **FM14.13 - To estimate the age of foetus by post-mortem examination**

- : Enumerate the objectives of foetal autopsy.
- : Describe the procedure of foetal autopsy.
- : Estimate the age of foetus by examination of ossification centres, anthropometric measurements, blood constituents, hair, nail, umbilical cord etc.
- : Draft a medicolegal report and opinion after foetal autopsy.

### **Clinical Forensic Medicine**

**SGD – 4 hrs Assessment:** Written, Viva voce, OSCE

#### **FM 3.3 - Mechanical injuries and wounds: Define, describe and classify different types of mechanical injuries, abrasion, bruise, laceration, stab wound, incised wound, chop wound, defense wound, self-inflicted/ fabricated wounds and their medico-legal aspects.**

- : Define mechanical injury.
- : Classify mechanical injuries.
- : Define abrasion.
- : Describe the characteristic features, types and medicolegal aspects of an abrasion
- : Define contusion.
- : Describe the characteristic features, types and medicolegal aspects of contusion.
- : Describe the factors influencing the formation of contusion.
- : Define laceration.
- : Describe the characteristic features, types and medicolegal aspects of a laceration.
- 3.3.10: Define an incised wound.
- : Describe the characteristic features, types and medicolegal aspects of an incised wound.
- : Define chop wound.
- : Describe the characteristic features and medicolegal aspects of chop wound.
- : Define stab wound.
- : Describe the characteristic features, types and medicolegal aspects of stab wound.
- : Define defense wound.
- : Describe the characteristic features and medicolegal importance of defense wound.
- : Define fabricated wound.
- : Describe the characteristic features and medicolegal importance of fabricated wound.

**Lecture – 2 hrs**

**Assessment:** Written, Viva voce

**FM 3.4 - Define injury, assault & hurt. Describe IPC pertaining to injuries**

: Define injury (S. 44 IPC), assault (S. 351 IPC) and hurt (S. 319 IPC).

: Define homicide.

: Describe the types of homicide.

: Describe Grievous hurt (S. 320 IPC).

: Understand the IPC sections pertaining to injuries (Sec. 44, 299, 300, 302, 304, 304-A, 304-B, 306, 307, 319, 320, 321-326, 351, 354, 497, 498-A).

**FM 3.5 - Describe accidental, suicidal and homicidal injuries. Describe simple, grievous and dangerous injuries. Describe ante-mortem and post-mortem injuries.**

: Define medico-legal case (MLC) with examples.

: Differentiate between the accidental, suicidal and homicidal injuries with examples.

: Describe simple and grievous hurt.

: Explain the difference between the injuries that are likely to cause death, sufficient in the ordinary course of nature to cause death and imminently dangerous.

: Describe the difference between ante-mortem and post-mortem wounds.

**FM 3.6 - Describe healing of injury and fracture of bones with its medico-legal importance**

: Describe wound healing by primary and secondary intention and its medicolegal importance.

: Enumerate the types of fracture.

: Describe the healing of a fracture and its medicolegal importance.

: Describe the difference between ante-mortem and post-mortem fracture.

**FM 3.7 - Describe factors influencing infliction of injuries and healing, examination and certification of wounds and wound as a cause of death: Primary and Secondary (along with FM 14.1)**

: Describe the factors influencing the causation of an injury.

: Describe the factors that influence healing of an injury or fracture.

: Discuss the primary and secondary causes of death from a wound.

**FM 3.8 - Describe and discuss different types of weapons including dangerous weapons and their examination**

: Identify the weapons that cause blunt force and sharp force injuries.

: Define dangerous weapon (S. 324 IPC and 326 IPC).

**SGD – 3 hrs** **Assessment:** Written, Viva voce, OSCE

**FM 3.9 - Firearm injuries: Describe different types of firearms including structure and components. Along with description of ammunition propellant charge and mechanism of fire-arms, different types of cartridges and bullets and various terminology in relation of firearm – caliber, range, choking**

: Define Forensic ballistics, Proximal ballistics, Intermediate ballistics, and Terminal ballistics.

: Define firearm.

: Classify firearms.

- : Enumerate the parts of the basic firearms.
- : Explain 'rifling' and 'calibre' of a firearm.
- : Explain 'choking' in a firearm and its purpose.
- : Enumerate the components of rifled firearm and shotgun cartridge, and its function.
- : Describe the types of gunpowder.
- : Discuss on types of bullets and pellets.

**FM 3.10 - Describe and discuss wound ballistics-different types of firearm injuries, blast injuries and their interpretation, preservation and dispatch of trace evidences in cases of firearm and blast injuries, various tests related to confirmation of use of firearms**

- : Define wound ballistics.
- : Enumerate the factors affecting gunshot wound production.
- : Explain the mechanism of firing and various components of discharge of firing.
- 3.10.4: Describe the entry and exit wounds from a rifled firearm at various ranges.
- 3.10.5: Describe the entry and exit wounds from a shotgun at various ranges.
- 3.10.6: Discuss on Ricocheting of a bullet and its effect.
- 3.10.7: Discuss on Tumbling bullet, Yawning bullet, Dumdum bullet, Tandem bullet, Souvenir bullet.
- 3.10.8: List the evidentiary materials to be collected in gunshot wounds.
- 3.10.9: Describe the method of collection and preservation of evidentiary materials in gunshot wounds.
- 3.10.10: Describe the significance of bullet markings and use of comparison microscope.
- 3.10.11: Enumerate the tests done for detection of gunshot residue.
- 3.10.12: Describe the injuries caused by bomb blast / explosion

**SGD – 4 hrs Assessment:** Written, Viva voce, OSCE / OSPE

**FM 3.11 - Regional injuries: Describe and discuss regional injuries to head (Scalp wounds, fracture skull, intracranial haemorrhages, coup and contrecoup injuries), neck, chest, abdomen, limbs, genital organs, spinal cord and skeleton**

- : Define head injury.
- : Discuss the forensic anatomy of scalp and scalp injuries.
- : Enumerate the types of skull fracture.
- : Describe the intracranial hemorrhages and its medicolegal aspects.
- : Describe the cerebral injuries and its medicolegal aspects.
- : Explain 'concussion of brain' and 'diffuse axonal injury'.
- : Discuss on 'Punch drunk syndrome'.
- : Describe the mechanism, clinical features and medicolegal aspects of whiplash injury.
- : Discuss on 'railway spine'.
- : Discuss on injuries to chest, abdomen and genital organs

**FM 3.12 - Describe and discuss injuries related to fall from height and vehicular injuries – Primary and Secondary impact, Secondary injuries, crush syndrome, railway spine**

- : Describe the injuries sustained to person in a fall from height.
- : Describe the injuries to a pedestrian in vehicular accident (primary impact, second impact and



secondary injuries).

: Describe the injuries to driver, front seat passenger and back seat passenger of a motor car.

: Discuss on 'Crush syndrome'.

**SGD – 2 hrs (Practical) Assessment:** Log book / Skill station / Viva voce, OSCE

**FM14.1 - Examine and prepare Medico-legal report of an injured person with different etiologies in a simulated/ supervised environment**

: Take an informed consent from the Patient / Guardian after explaining the importance of MLC registration in Medicolegal cases (Road traffic accident / Fall from height / Assault / Self infliction of injuries / Burns / Firearms).

: Perform the clinical examination of an injured person (history taking, general physical examination, systemic examination, laboratory investigations) in a simulated/ supervised environment.

: Prepare the wound certificate after documenting the clinical findings.

: Prepare the police intimation.

**SGD – 1 hr (Practical) Assessment:** Log book / Practical record / Viva voce, OSPE

**FM14.10 - Demonstrate ability to identify & prepare medicolegal inference from specimens obtained from various types of injuries e.g. contusion, abrasion, laceration, firearm wounds, burns, head injury and fracture of bone**

: Prepare a medicolegal inference from photographs showing various types of injuries/ lesions/ postmortem findings.

: Prepare a medicolegal inference from wet specimens showing various types of injuries/ lesions/ postmortem findings.

: Prepare medicolegal inference from models showing various types of injuries/ lesions/ postmortem findings.

• **Lecture – 2 hrs**

**Assessment:** Written, Viva voce

**FM3.18 - Describe anatomy of male and female genitalia, hymen and its types. Discuss the medico-legal importance of hymen. Define virginity, defloration, legitimacy and its medicolegal importance**

: Describe anatomy of male and female genitalia.

: Describe the anatomical appearance and types of hymen.

: Define virginity and defloration.

: Describe the signs of virginity and its medicolegal importance.

: Define legitimacy.

: Discuss the medicolegal importance of legitimacy.

**FM3.19 - Discuss the medicolegal aspects of pregnancy and delivery, signs of pregnancy, precipitate labour, superfoetation, superfecundation, and signs of recent and remote delivery in living and dead**

: Describe the presumptive, probable and positive signs of pregnancy.

- : Describe pseudocyesis.
  - : Define superfoetation and superfecundation.
  - : Describe the medicolegal aspects of pregnancy.
  - : Define delivery.
  - : Describe the signs of recent and remote delivery in a living individual.
  - : Enumerate the signs of recent & remote delivery in a dead individual.
- 3.19.8. Mention the medicolegal aspects of delivery.
- : Define precipitate labour.

- : Describe the signs and medicolegal aspects of precipitate labour.

**FM3.20 - Discuss disputed paternity and maternity**

: Discuss the medicolegal issues related to disputed paternity and maternity. 3.20.2: Describe the method of identifying paternalism and maternalism.

**Lecture – 2 hrs**

**Assessment:** Written, Viva voce

**FM3.22 - Define and discuss impotence, sterility, frigidity, sexual dysfunction, premature ejaculation. Discuss the causes of impotence and sterility in male and female**

- : Define impotence, sterility, frigidity, sexual/erectile dysfunction and premature ejaculation.
- : List the causes of impotence in male and female.
- : Describe the medicolegal issues related to impotence, sexual/erectile dysfunction and premature ejaculation.
- : List the causes of sterility in male and female.
- : Describe the medicolegal issues related to sterility.
- : Describe procedure of examination in alleged case of impotency.

**FM3.23 - Discuss Sterilization of male and female, artificial insemination, Test Tube Baby, surrogate mother, hormonal replacement therapy with respect to appropriate national and state laws**

- : Describe the methods of sterilization in male and female.
- : Discuss the medicolegal issues related to sterilization procedure.
- : Define artificial insemination.
- : Mention the types of artificial insemination.
- : Enumerate the indications for artificial insemination.
- : Discuss ethical issues and precautions to be taken during the artificial insemination.
- : Describe medicolegal issues related to artificial insemination.
- : Discuss on invitro fertilization/ test tube baby and surrogate motherhood.

**FM3.26 - Discuss the national Guidelines for accreditation, supervision & regulation of ART Clinics in India**

- : Discuss the National Guidelines for accreditation, supervision & regulation of ART Clinics in India.
- : Explain the recent updates on laws related to ART and Surrogacy.

**SDL – 1 hr**

**Assessment:** Written, Viva voce

**FM3.21 - Discuss Pre-conception and Pre Natal Diagnostic Techniques (PC&PNDT) - Prohibition of Sex Selection Act 2003 and Domestic Violence Act 2005**

- : Describe the objectives of PCPNDT Act, 1994.

- : Enumerate the indications for prenatal diagnostic procedures.
- : List the various prenatal diagnostic techniques.
- : Describe the guidelines for establishing and maintaining the centres to practice prenatal diagnostic procedures.
- : Describe the punishment for offences under PCPNDT Act.
- : Discuss on amendments to the PCPNDT Act till date.
- : Define domestic violence.
- : Describe the salient features of The Protection of Women from Domestic Violence Act, 2005.
- : Explain the medicolegal responsibilities of a medical practitioner in a domestic violence case.

**FM3.24 - Discuss the relative importance of surgical methods of contraception (vasectomy and tubectomy) as methods of contraception in the National Family Planning Programme**

- : Describe the salient features of the National Family Planning Programme related to vasectomy and tubectomy.

**FM3.25 - Discuss the major results of the National Family Health Survey**

3.25.1: Discuss the major results of National Family Health Survey (NFHS).

**Lecture – 1 hr**

**Assessment:** Written, Viva voce, OSPE / OSCE

**FM 3.13 - Sexual offences:** Describe different types of sexual offences. Describe various sections of IPC regarding rape including definition of rape (Section 375 IPC), Punishment for Rape (Section 376 IPC) and recent amendments notified till date.

- : Classify sexual offences.
- : Define ‘rape’ as per section 375 IPC.
- : Define ‘statutory rape’.
- : Discuss on ‘date rape’.
- : Describe the punishment for rape (Sec. 376 IPC).
- : Explain the meaning of ‘custodial rape’ and punishment for it.
- : Explain the meaning of ‘gang rape’ and punishment for it.
- : Understand the salient features of section 354, 354-A, 354-B, 354-C and 354-D IPC.
- : Describe the salient features of Protection of Children from Sexual Offences Act (POCSO), 2012.

• **Lecture – 1 hr**

**Assessment:** Written, Viva voce, OSCE

**FM 3.14 - Describe and discuss the examination of the victim of an alleged case of rape, and the preparation of report, framing the opinion and preservation and dispatch of trace evidences in such cases.**

- : Describe the findings in a victim of sexual violence.
- : Describe the duties of doctor towards victim of sexual violence.
- : Understand the legal sections related to examination of a victim of sexual violence (164-A CrPC, 327 CrPC, 357-C CrPC, 228-A IPC, 114-A IEA, 146 IEA).
- : Describe the procedure of examination, contents of the format, guidelines for preliminary and final opinion in a victim of sexual violence (given by Ministry of Health and Family welfare, Government of India).
- : Describe the procedure of collecting, preservation and dispatch of evidentiary materials from a victim of sexual violence.
- : Understand the significance of SAFE kit in collecting evidentiary material from a victim of sexual assault.

**SGD – 3 hrs**

**Assessment:** Written, Viva voce, OSCE

**FM 3.15 - Describe and discuss examination of accused and victim of sodomy, preparation of report, framing of opinion, preservation and despatch of trace evidences in such cases.**

- : Define sodomy.
- : Describe the findings in a victim of sodomy.
- : Describe the procedure of examination, contents of the format, and guidelines for opinion in a victim of sodomy.
- : Describe the procedure of collecting, preservation and dispatch of evidentiary materials from a victim of sodomy.
- : Describe the findings in an accused of sexual assault.
- : Describe the procedure of examination, contents of the format, and guidelines for opinion in an accused of sexual assault.
- : Understand the recent amendments in section 377 IPC.

**FM 3.16 - Describe and discuss adultery and unnatural sexual offences, sodomy, incest, lesbianism, buccal coitus, bestiality, indecent assault and preparation of report, framing the opinion and preservation and dispatch of trace evidences in such cases.**

- : Explain the meaning of ‘adultery’ and its medicolegal importance.
- : Explain the meaning of ‘incest’ and its medicolegal importance.
- : Define unnatural sexual offence (Sec. 377 IPC).
- : Discuss on ‘lesbianism’ and its medicolegal importance.
- : Discuss on ‘buccal coitus’ and its medicolegal importance.
- : Discuss on ‘bestiality’ and its medicolegal importance.
- : Describe the procedure of examination, collection, preservation and dispatch of evidentiary materials in a victim and accused of lesbianism, buccal coitus and bestiality

**FM 3.17 - Describe and discuss the sexual perversions fetishism, transvestism, voyeurism, sadism, necrophagia, masochism, exhibitionism, frotteurism, Necrophilia.**

- : Define sexual paraphilia.
- : Explain the sexual perversions requiring partner for sexual gratification (sadism, masochism, frotteurism, pedophilia, necrophilia, necrophagia).
- : Explain the sexual perversions not requiring partner for sexual gratification (voyeurism, exhibitionism).
- : Explain the sexual perversions requiring object/article as a stimulus for sexual gratification (fetishism, transvestism).

**SGD – 1 hr (Practical)**

**Assessment:** Practical record, log

book, Viva voce, OSCE **FM14.15 - To examine & prepare medico-legal report of a victim of sexual offence/ unnatural sexual offence in a simulated/ supervised environment**

- : Take an informed consent for examination of a victim of sexual offence.
- : Describe the procedure of examination and collection of evidentiary material for medical and medicolegal purposes.
- : Prepare a medicolegal report and opinion in a victim of sexual offence.
- : Explain the procedure of handing over the evidentiary material to the investigating officer.

**SGD – 1 hr (Practical)**

**Assessment:** Practical record, log

book, Viva voce, OSCE **FM14.14 - To examine & prepare report of an alleged accused in rape/ unnatural sexual offence in a simulated/ supervised environment**

- : Take an informed consent for examination of an accused of sexual offence.
- : Describe the procedure of examination and collection of evidentiary material for medical and medicolegal purposes.

- : Prepare a medicolegal report and opinion in an alleged accused of sexual offence.
- : Explain the procedure of handing over the evidentiary material to the investigating officer

• **Lecture – 2 hrs**

**Assessment:** Written, Viva voce, OSCE

**FM3.27 - Define, classify and discuss abortion, methods of procuring MTP and criminal abortion and complication of abortion. MTP Act 1971**

- : Define abortion.
- : Classify abortion.
- : Describe the methods used for therapeutic abortion.
- : Describe the methods used for criminal abortion & its complications.
- : Discuss the Medical termination of Pregnancy Act, 1971 and its amendments.

**FM3.28 - Describe evidences of abortion - living and dead, duties of doctor in cases of abortion, investigations of death due to criminal abortion**

- : Describe evidences of abortion in living and dead individual.
- : Explain the circumstances under which a case of abortion is brought to the notice of medical officer.
- : Describe the medical and legal duties of doctor in a case of criminal abortion.
- : Describe the examination, method of collection, preservation and dispatch of evidentiary materials during investigation of death of woman in criminal abortion.

• **Lecture – 1 hr**

**Assessment:** Written, Viva voce, OSCE

**FM3.29 - Describe and discuss child abuse and battered baby syndrome**

- : Define child abuse or child maltreatment (as per WHO).
  - : Enumerate different forms of child abuse.
  - : Define battered baby syndrome.
  - : Describe the clinical findings and medicolegal aspects of battered baby syndrome.
- 29.5: Discuss on Shaken baby syndrome and Cinderella syndrome.
- : Discuss on Munchausen's Syndrome by proxy.
  - : Describe the medicolegal responsibilities of a doctor in child abuse cases.

**SDL – 1 hr**

**Assessment:** Written, Viva voce, OSCE

**FM3.30 - Describe and discuss issues relating to torture, identification of injuries caused by torture and its sequelae, management of torture survivors**

- : Define Torture (as per UN Convention of Torture, World Medical Association).
- 3.30.2: Enumerate the types/methods/techniques used for torture.
- 3.30.3: Explain the medical findings in a case of torture.
- 3.30.4: Outline the management of torture survivors.
- 3.30.5: Discuss the ethical and legal issues related to torture.

**FM3.31 - Torture and Human rights- Describe and discuss guidelines and Protocols of National Human Rights Commission regarding torture**

- : Describe the guidelines and protocols of National human rights commission in cases of torture.

**SGD – 2 hrs****Assessment:** Practical record, Log book, Viva voce, OSCE

**FM3.32 - Demonstrate the professionalism while preparing reports in medico-legal situations, interpretation of findings and making inference/opinion, collection preservation and dispatch of biological or trace evidences**

- : Demonstrate the professionalism to be shown by a doctor while preparing reports in medicolegal cases, interpretation of findings and making inference/opinion.
- : Demonstrate the professionalism to be shown by a doctor during the collection, preservation and dispatch of biological or trace evidences.

**FM3.33 - Should be able to demonstrate the professionalism while dealing with victims of torture and human right violations, sexual assaults psychological consultation, rehabilitation**

- : Demonstrate the professionalism to be shown by a doctor while dealing with victims of torture and human right violations.
- : Demonstrate the professionalism to be shown by a doctor during the examination, psychological consultation and rehabilitation of sexual victims

**FM14.18 - To examine & prepare medico-legal report of a person in police, judicial custody or referred by Court of Law and violation of human rights as requirement of NHRC, who has been brought for medical examination**

- : Explain the procedure of examination and preparing the medico-legal report of a person in police custody/ judicial custody who has been brought for medical examination.
- : Explain the procedure of examination and preparing the medico-legal report of a person referred by Court of Law for medical examination.
- : Explain the procedure of examination and preparing the medico-legal report of a person with history of violation of human rights as per requirement of NHRC (victim of torture, hunger strike, etc), who has been brought for medical examination.

**Medical Jurisprudence (Medical Law and ethics)**

• **Lecture – 3 hrs**

**Assessment:** Written, Viva voce, OSCE

**FM4.1 - Describe Medical Ethics and explain its historical emergence**

- : Define Ethics and Medical ethics.
- : Describe the historical emergence of Medical ethics.
- : Discuss the need for and the emergence of World Medical Association's Declaration of Helsinki 1964 and its subsequent revisions.

**FM4.2 - Describe the Code of Medical Ethics 2002 conduct, Etiquette and Ethics in medical practice and unethical practices & the dichotomy**

- : Describe the 'Code of medical ethics' as per Indian Medical Council (Professional conduct, Etiquette and Ethics) Regulations, 2002.
- : Enumerate the various practices of a medical practitioner which are considered as unethical.
- : Explain the meaning of Dichotomy with examples.
- : Mention guidelines laid down by MCI with respect to remuneration

**FM4.3 - Describe the functions and role of Medical Council of India / National Medical Commission and State Medical Councils**

- : Describe the constitution and functions of Medical Council of India/ National Medical Council.
- : Describe the constitution and functions of State Medical Council.

**FM4.4 - Describe the Indian Medical Register**

- : List the various particulars to be entered in Indian Medical Register (IMR).
- : Mention under which schedules, the degrees obtained by institutions in and outside India are recognized by MCI.
- : Describe the procedure for a foreign medical practitioner to get enrolled in IMR.
- : Mention the advantages to a Doctor after enrolling in IMR.

**FM4.5 - Rights/privileges of a medical practitioner, penal erasure, infamous conduct, disciplinary Committee, disciplinary procedures, warning notice and penal erasure**

- : Enumerate the Rights/privileges of a medical practitioner
- : Define Infamous conduct/Professional misconduct with suitable examples (as per IMC regulations, 2002)
- : Describe the composition of disciplinary committee and its procedure in dealing with cases of infamous conduct.
- : Discuss the various punishments awarded by disciplinary committee for infamous conduct (warning notice, temporary erasure, penal erasure).

**FM4.6 - Describe the Laws in Relation to medical practice and the duties of a medical practitioner towards patients and society**

- : Enumerate the laws related to medical practice in India.
- : Describe the 'Duties of a medical practitioner' in general towards his patient, society and research.

• **Lecture – 1 hr**

**Assessment:** Written, Viva voce, OSCE

**FM4.7 - Describe and discuss the ethics related to HIV patients**

- : Describe legal and ethical issues in HIV testing.
- : Mention the rights of HIV positive patients.
- : Discuss the duties of a Doctor while treating HIV patients with respect to confidentiality & disclosure.
- : Discuss the current policies related to the research and health care of HIV positive patients.

**FM4.12 - Discuss legal and ethical issues in relation to stem cell research**

- : Enumerate the application of stem cells in research and therapy.
- : Discuss the ethical issues arising from stem cell research and therapy.
- : Discuss the legal status of stem cell therapy and research in India.
- : Describe the guidelines for stem cell research in India.

**FM4.13 - Describe social aspects of Medico-legal cases with respect to victims of assault, rape, attempted suicide, homicide, domestic violence, dowry- related cases**

- : Describe the social aspects and role of medical professionals with respect to victim of sexual violence.
- : Describe the social aspects and role of medical professionals with respect to victim of attempted suicide.
- : Describe the social aspects and role of medical professionals with respect to victim of attempted homicide.
- : Describe the social aspects and role of medical professionals with respect to victim of domestic violence.

• **Lecture – 1 hr**

**Assessment:** Written, Viva voce, OSCE

**FM4.8 - Describe the Consumer Protection Act-1986 (Medical Indemnity Insurance, Civil Litigations and Compensations), Workman's Compensation Act & ESI Act**

- : Discuss on Consumer Protection Act-1986 & 2019 in view of medical services with latest amendments.
- : Describe the purpose of Medical Indemnity Insurance in civil litigations and compensations.
- : Discuss the role of a doctor in awarding compensation to workers or their dependents as per

Workman's Compensation Act and ESI Act.

**SGD – 1 hr**

**Assessment:** Practical record, Log book, Viva voce,

OSCE

**FM4.9 - Describe the medico - legal issues in relation to family violence, violation of human rights, NHRC and doctors**

- : Define Domestic Violence.
- : Discuss the salient features of “Protection of women from domestic violence Act, 2005” in relation to medical and legal responsibilities of a medical practitioner.
- : Enumerate the cases related to violation of human rights.
- : Discuss the responsibilities of a doctor in cases of violation of human rights.

**FM4.10 - Describe communication between doctors, public and media**

- : Describe the communication skills by a doctor with the public and its importance.
- : Describe the communication skills and precautions to be taken by a doctor while interacting with the media. 4.10.3: Describe communication skills by a doctor with his/her colleagues

**FM4.14 - Describe & discuss the challenges in managing medico-legal cases including development of skills in**

**relationship management – Human behaviour, communication skills, conflict resolution techniques**

- : Discuss the challenges in managing the medico legal cases.
- : Describe the principles of doctor-patient relationship management.
- : Describe the development of human behavior and communication skills required for managing doctor-patient relationship.
- : Discuss the conflict resolution techniques in managing medico-legal cases.

**FM4.15 - Describe the principles of handling pressure – definition, types, causes, sources and skills for managing the pressure while dealing with medico-legal cases by the doctor**

- : Define stress.
- : Mention the types of pressure while dealing with medico-legal cases by a doctor.
- : List the causes/ sources of pressure in handling medico-legal cases.
- : Discuss the skills needed for managing the pressure situations in handling a medico-legal case.

• **Lecture – 1 hr**

**Assessment:** Written, Viva voce

**FM4.16 - Describe and discuss Bioethics**

- : Define bioethics.
- : Enumerate the issues in medical practice wherein bioethics is applied.
- : Mention the four main principles of bioethics.
- : Discuss the medico-legal issues related to bioethics in patient care.

**FM4.17 - Describe and discuss ethical Principles: Respect for autonomy, non-maleficence, beneficence & justice**

- : Describe respect for patient's autonomy.
- : Describe the role of beneficence as a guiding principle in patient care.
- : Describe the role of non-maleficence as a guiding principle in patient care.
- : Discuss the application of justice in distributing resources and benefits in medical practice and research.



#### **FM4.11 - Describe and discuss euthanasia**

- : Define euthanasia.
- : Describe various types of euthanasia.
- : Debate around euthanasia- the arguments against and in favour.
- : Mention the legal status of euthanasia in India and in other countries.
- : Discuss the landmark case of Aruna Shanbaug and its impact on the status of euthanasia in India.

**SGD – 3 hrs**

**Assessment:** Written, Viva voce

#### **FM4.18 - Describe and discuss medical negligence including civil and criminal negligence, contributory negligence, corporate negligence, vicarious liability, Res Ipsa Loquitur, prevention of medical negligence and defenses in medical negligence litigations**

- : Define medical negligence.
- : Describe the elements of medical negligence.
- : Describe civil and criminal negligence with examples.
- : Describe contributory negligence with examples.
- : Describe the importance of Vicarious liability in medical practice.
- : Describe Corporate Negligence with examples.
- : Describe Res Ipsa Loquitur with examples.
- : Mention the precautionary measures to be taken to avoid medical negligence.
- : Describe the various defenses for a doctor in medical negligence (including Contributory negligence, Therapeutic misadventure, Medical maloccurrence, Calculated risk doctrine, Novus actus interveniens, Res judicata etc).

#### **FM4.19 - Define Consent. Describe different types of consent and ingredients of informed consent. Describe the rules of consent and importance of consent in relation to age, emergency situation, mental illness and alcohol intoxication**

- : Define consent.
- : Describe the different types of consent with suitable examples.
- : Describe the ingredients of an informed consent.
- : Describe the rules and regulations associated with consent.
- : Explain the importance of consent in relation to age, emergency situation, mental illness and alcohol intoxication (with relevant sections of IPC).

#### **FM4.20 - Describe therapeutic privilege, Malingering, Therapeutic Misadventure, Professional Secrecy, Human Experimentation**

- : Explain the concept of 'therapeutic privilege' in medical practice. 4.20.2: Discuss the legal aspects of Malingering during medical practice.

#### **FM4.21 - Describe Products liability and Medical Indemnity Insurance**

- : Discuss about 'product liability' in medical negligence.
- : Describe medical indemnity insurance and its purpose.

#### **FM4.24 - Enumerate rights, privileges and duties of a Registered Medical Practitioner. Discuss doctor-patient relationship: professional secrecy and privileged communication**

- : Enumerate the rights and privileges of Registered Medical Practitioner.
- : Describe the duties of a Registered Medical Practitioner.
- : Discuss on doctor-patient relationship in clinical practice.

- : Explain professional secrecy with examples.
- : Describe Privileged communication with examples.

**FM4.22 - Explain Oath – Hippocrates, Charaka and Sushruta and procedure for administration of Oath**

- : Explain oath as described by Hippocrates, Charaka and Sushruta.

4.22.3: Describe the procedure for administration of oath for a medical practitioner.

**FM4.23 - Describe the modified Declaration of Geneva and its relevance**

- : Describe the components of declaration of Geneva.
- : Describe the components of modified declaration of Geneva.
- : Explain the relevance of Declaration of Geneva in the medical profession.

**FM4.25 - Clinical research & Ethics - Discuss human experimentation including clinical trials**

- : Enumerate the need and drawbacks of different types of clinical research on humans.
- : Describe the phases of clinical trials and its implications.
- : Describe the ethical regulations and guidelines for clinical research.
- : Discuss the principles pertaining to human experimentation in Nuremberg code and Belmont report.
- : Discuss the steps to be taken for protection of vulnerable population in clinical trials/research

**FM4.26 - Discuss the constitution and functions of ethical committees**

- : List the composition of Institutional Ethics Committee (IEC).
- : Mention the responsibilities and duties of IEC.
- : Describe the proposals that are required to be presented before IEC.
- : Discuss limitations of IEC.

**FM4.27 - Describe and discuss Ethical Guidelines for Biomedical Research on Human Subjects & Animals**

- : Describe the international and national ethics guidelines for human and animal research.
- : Discuss the principles of ICMR guidelines for research involving human participants.
- : Discuss the rights of human research participants.
- : Discuss the 5 R's (replace, reduce, refine, reuse, and rehabilitate) of animal research ethics.

**SGD – 1 hr**

**Assessment:** OSPE, Viva voce

**FM4.28 - Demonstrate respect to laws relating to medical practice and Ethical code of conduct prescribed by Medical Council of India and rules and regulations prescribed by it from time to time**

- : Demonstrate the conduct of doctor with patients as per the Code of Medical Ethics prescribed by IMC.

**FM4.29 - Demonstrate ability to communicate appropriately with media, public and doctors**

- : Demonstrate the skills of communication by a doctor with the public.
- : Demonstrate the skills of communication by a doctor with the media.
- : Demonstrate the skills of communication by a doctor with his/her colleagues.

**FM4.30 - Demonstrate ability to conduct research in pursuance to guidelines or research ethics**

- : Prepare a research protocol for a study as per the ICMR guidelines.
- : Demonstrate the procedure of taking informed consent for conducting a research.

## Forensic Psychiatry

- **Lecture – 1 hr**

**Assessment:** Written, Viva voce

### **FM5.1 - Classify common mental illnesses including post-traumatic stress disorder (PTSD)**

- : Define Forensic Psychiatry.
- : Define mental illness.
- : Classify common mental illnesses.
- : Explain PTSD with examples.

### **FM5.2 - Define, classify and describe delusions, hallucinations, illusion, lucid interval and obsessions with exemplification**

- : Define delusion.
- : Describe types of delusions and their medicolegal importance.
- : Define hallucination.
- : Describe types of hallucinations and their medicolegal importance.
- : Define illusion with examples.
- : Define lucid interval.
- : Describe the medicolegal importance of lucid interval.
- : Define Impulse.
- : Describe impulsive disorders with examples.
- : Describe the obsessive-compulsive disorders with examples.

- **Lecture – 1 hr**

**Assessment:** Written, Viva voce

### **FM5.3 - Describe Civil and criminal responsibilities of a mentally ill person**

- : Describe Civil responsibility of a mentally ill person.
- : Describe Criminal responsibility of a mentally ill person.
- : Describe the M'Naughten Rule and critics about it.
- : Discuss the alternate hypotheses/tests in relation to criminal responsibility.
- : Describe the criminal responsibility in Automatism, Somnambulism, Somnolentia, Hypnotism and Intoxication.

### **FM5.4 - Differentiate between true insanity from feigned insanity**

- : Differentiate between true and feigned insanity.

### **FM5.5 - Describe & discuss Delirium tremens**

- : Define delirium tremens.
- : Describe the criminal responsibility in delirium tremens.

- **SDL – 1 hr**

**Assessment:** Written, Viva voce

### **FM5.6 - Describe the Indian Mental Health Act, 1987 & Indian Mental Healthcare Act 2017 with special reference to admission, care and discharge of a mentally ill person**

- : Describe the important definitions mentioned in Mental Health Care Act, 2017 (MHCA).
- : Describe the Rights of mentally ill person including 'Advance directive' as per the MHCA.
- : Describe the guidelines to start and run a 'Mental health establishment'.
- : Discuss on 'Admission, Treatment and Discharge of mentally ill person' as described in the MHCA.
- : Discuss on punishment for violation of provisions of MHCA.

## Forensic Laboratory investigation in medical legal practice

- **SGD – 1 hr**

**Assessment:** OSPE, Viva voce

**FM6.1 - Describe different types of specimen and tissues to be collected both in the living and dead: Body fluids (blood, urine, semen, faeces, saliva), Skin, Nails, tooth pulp, vaginal smear, viscera, skull, specimen for histo- pathological examination, blood grouping, HLA Typing and DNA Fingerprinting. Describe Locard's Exchange Principle**

- : Describe the importance of trace evidences in crime investigation.
- : Explain Locard's principle of exchange in crime investigation.
- : Enlist the various trace evidences seen in different type of crimes (living and dead).
- : Discuss the importance of DNA profiling in forensic investigation.
- : Enlist body tissue and body fluid suitable for DNA profiling.
- : Discuss the importance of histopathology and cytology examination in forensic investigation.
- : Discuss importance of blood grouping in forensic investigation.
- : Discuss significance of HLA typing in forensic investigation.

**FM6.2 - Describe the methods of sample collection, preservation, labeling, dispatch, and interpretation of reports**

- : Describe method of collection, packing, labelling, sealing and dispatch of evidentiary materials to the laboratory.
- : Describe the method of interpretation of investigation reports like Chemical analysis, Histopathological examination, Microbiological examination etc.

**FM6.3 - Demonstrate professionalism while sending biological or trace evidences to Forensic Science lab, specifying the required tests to be carried out, objectives of preservation of evidences sent for examination, personal discussions on interpretation of findings**

- : Draft requisition letter to be sent along with the samples preserved for laboratory analysis/examination mentioning type of sample preserved, required tests to be done, and brief history of the case.
- : Demonstrate professionalism while sending the samples for analysis such as maintaining confidentiality and chain of custody.

**FM14.21 - To collect, preserve, seal and dispatch exhibits for DNA-Finger printing using various formats of different laboratories.**

- : Describe the procedure involved in collecting, preserving, sealing and dispatching exhibits for DNA profiling from a living individual.
- : Describe the procedure involved in collecting, preserving, sealing and dispatching exhibits for DNA profiling from a dead individual after conducting medicolegal autopsy.
- : Describe the procedure involved in collecting samples for DNA profiling depending on the laboratory policies of collecting blood on dry gauze or EDTA vacutainer or on FTA cards,

## Emerging technologies in Forensic Medicine

- **SDL – 1 hr**

**Assessment:** Written, Viva voce

**FM7.1 - Enumerate the indications and describe the principles and appropriate use for:- DNA**

profiling, Facial reconstruction, Polygraph (Lie Detector), Narcoanalysis, Brain Mapping, Digital autopsy, Virtual Autopsy, Imaging technologies

- : Discuss principle, procedure and medico-legal significance of DNA profiling.
- : Describe principle and medico-legal significance of Facial reconstruction.
- : Enlist different Lie detection tests.
- : Describe principle, procedure and medico-legal significance of Polygraph, Narcoanalysis and Brain mapping.
- : Describe principles of Virtual / Digital autopsy.
- : Describe the uses of different Imaging technologies in crime investigation.

## **Skills in Forensic Medicine & Toxicology**

**SGD – 2 hrs (Practicals) Assessment:** OSPE, OSCE, Viva voce

**FM14.4 - Conduct and prepare report of estimation of age of a person for medico-legal and other purposes & prepare medico-legal report in a simulated/ supervised environment**

- : Explain the procedure of taking an informed consent from a person after explaining the importance and procedure of age estimation in criminal cases (accused/ victim of a crime) and civil cases (joining employment, obtaining pension, etc).
- : Estimate the age of a person by using physical, dental and radiological findings.
- : Prepare the medicolegal report on the age of a person.

- **SGD – 10 hr (along with discussion of concerned competencies (Mechanical injuries, firearm injuries, thermal injuries, asphyxia, sexual offences, etc ) in other SGD)**

**Assessment:** OSPE, Viva voce, Practical record, Log Book

**FM14.5 - Conduct & prepare post-mortem examination report of varied etiologies (at least 10) in a simulated/ supervised environment**

- : Describe the techniques of conducting a medicolegal autopsy.
  - : Describe the postmortem findings (external and internal) in a medicolegal autopsy.
  - : Enumerate the ancillary investigations required (along with appropriate materials for such investigations) in a medicolegal autopsy.
  - : Draft the postmortem report after a medicolegal autopsy.
- Medicolegal autopsies may be a case of unnatural death, natural death, custodial death, alleged medical negligence, decomposed body, mutilated body.

**SGD – 2 hrs (Practicals) Assessment:** OSPE, Viva voce, Practical record, Log Book

**FM14.11 - To identify & describe weapons of medicolegal importance which are commonly used e.g. lathi, knife, kripa, axe, gadda, gupta, farsha, dagger, bhalla, razor & stick. Able to prepare report of the weapons brought by police and to give opinion regarding injuries present on the person as described in injury report/ PM report so as to connect weapon with the injuries. (Prepare injury report/ PM report must be provided to connect the weapon with the injuries)**

- : Document the information before commencing the weapon examination.
- : Examine and document the details of weapons of medicolegal importance.
- : Prepare a report on the weapon examined.
- : Opine whether the injuries present in the wound certificate/ postmortem report are possible to be caused by the weapon examined.
- : Explain the method of packing and handing over the weapon to concerned police (maintaining

the chain of custody).

**FM14.12 - Describe the contents and structure of bullet and cartridges used & to provide medico-legal interpretation from these**

- : Describe the structure and contents of Rifled cartridge & prepare a medico-legal inference.
- : Describe the structure and contents of Shotgun cartridge & prepare a medico-legal inference.

**SGD – 1 hr (Practical)**

voce, Practical record, Log Book

**Assessment:** OSPE, OSCE, Viva

**FM14.16 - To examine & prepare medico-legal report of drunk person in a simulated/ supervised environment**

- : Take an informed consent for examination of a person with alleged drunkenness.
- : Describe the procedure of examination and collection of evidentiary material for medicolegal purpose.
- : Prepare a medicolegal report and opinion in a drunkenness case.
- : Explain the procedure of handing over the evidentiary material to the investigating officer.

**SGD – 1 hr (Practical)** **Assessment:** OSPE, Viva voce, Practical record, Log Book

**FM14.19 - To identify & prepare medico-legal inference from bone fracture, soot particles, diatoms & wound healing (slides)**

- : List the microscopic identifying features after examining the histopathological slides of brain infarct, liver cirrhosis, brain haemorrhage, bone fracture, pulmonary oedema, brain oedema, soot particles, diatoms & wound healing.
- : Describe the medico-legal inferences after examining the above mentioned histopathological slides.

**Summary of TL methods and list of competencies to be covered in Phase III IMBBS part 1 and Assessment methods**

Sl. No.	Teaching hours and type	Competency numbers	Assessment methods
1.	Lecture / SDL – 1 hr (Orientation class)	1.3, 1.4, 1.5,1.6	No assessment
2.	SGD – 2 hrs (Moot Court)	14.22, 2.29	Log book / Viva voce / OSCE
3.	SGD – 1 hr (Role play)	1.7, 14.20	Log book / Viva voce / OSCE / Skill station
4.	Lecture – 1 hr	1.8, 2.30	Written, Viva voce
5.	Lecture – 1 hr	1.9	Written, Viva voce
6.	SGD – 1hr (Practical)	1.10.1.11	Written / Viva voce / OSCE

7.	SGD – 5 hrs	2.20,2.21,2.22, 2.23,	Written / Viva voce
8.	SGD – 1 hr	2.24	Written / Viva voce
9.	SGD – 1 hr	2.25	Written / Viva voce / OSPE
10.	Lecture – 1 hr	2.26	Written, Viva voce
11.	SGD – 3hrs	2.27, 2.28, 4.13	Written / Viva voce / OSPE / log book / Practical record
12.	SGD – 4 hrs	3.3	Written, Viva voce, OSCE
13.	Lecture – 2hrs	3.4,3.5, 3.6, 3.7, 3.8	Written, Viva voce
14.	SGD – 3 hrs	3.9, 3.10	Written, Viva voce, OSCE
15.	SGD – 4 hrs	3.11, 3.12	Written, Viva voce, OSCE / OSPE
16.	SGD – 2 hrs (Practicals)	14.1	Log book / Skill station / Viva voce, OSCE
17.	SGD – 1 hr (Practicals)	14.10	Log book / Practical record / Viva voce, OSPE
18.	Lecture – 2 hrs	3.18, 3.19, 3.20	Written, Viva voce
19.	Lecture – 2 hrs	3.22, 3.23, 3.26	Written, Viva voce
20.	SDL – 1 hr	3.21, 3.24, 3.25	Written, Viva voce
21.	Lecture – 1 hr	3.13	Written, Viva voce, OSPE / OSCE
22.	Lecture – 1 hr	3.14	Written, Viva voce, OSCE
23.	SGD – 3 hrs	3.15, 3.16, 3.17	Written, Viva voce, OSCE
24.	SGD – 1hr (Practical)	14.15	Practical record, log book, Viva voce, OSCE
25.	SGD – 1hr (Practical)	14.14	Practical record, log book, Viva voce, OSCE
26.	Lecture – 2 hrs	3.27, 3.28	Written, Viva voce, OSCE
27.	Lecture – 1 hr	3.29	Written, Viva voce, OSCE
28.	SDL – 1 hr	3.30, 3.31	Written, Viva voce, OSCE
29.	SGD – 2 hrs	3.32, 3.33, 14.18	Practical record, Log book, Viva voce, OSCE
30.	Lecture – 3 hrs	4.1, 4.2, 4.3, 4.4, 4.5, 4.6	Written, Viva voce, OSCE
31.	Lecture – 1 hr	4.7, 4.12, 4.13	Written, Viva voce, OSCE
32.	Lecture – 1 hr	4.8	Written, Viva voce, OSCE

33	SGD – 1 hr	4.9, 4.10, 4.14, 4.15	Practical record, Log book, Viva voce, OSCE
34	Lecture – 1 hr	4.16, 4.17, 4.11	Written, Viva voce
35	SGD – 3hrs	4.18, 4.19, 4.20, 4.21, 4.24, 4.22, 4.23, 4.25, 4.26, 4.27	Written, Viva voce
36	SGD – 1 hr	4.28, 4.29, 4.30	OSPE, Viva voce
37	Lecture – 1 hr	5.1, 5.2	Written, Viva voce
38	Lecture – 1 hr	5.3, 5.4, 5.5	Written, Viva voce
39	SDL – 1 hr	5.6	Written, Viva voce
40	SGD – 1 hr	6.1, 6.2, 6.3, 14.21	OSPE, Viva voce
41	SDL – 1 hr	7.1	Written, Viva voce
42	SGD – 2hrs (Practicals)	14.4	OSPE, OSCE, Viva voce
43	SGD – 10 hrs	14.5	OSPE, Viva voce, Practical record, Log Book
44	SGD – 2hrs (Practicals)	14.11, 14.12	OSPE, Viva voce, Practical record, Log Book
45	SGD – 1 hr (Practicals)	14.16	OSPE, OSCE, Viva voce, Practical record, Log Book
46	SGD – 1 hr (Practicals)	14.19	OSPE, OSCE, Viva voce, Practical record, Log Book



# Competencies in Internship

## ***Certifiable Procedural skills desirable of Indian Medical Graduate in Forensic Medicine & Toxicology***

### **A. An Intern must have observed or preferably assisted in:**

- Documentation and certification of trauma (I)
- Diagnosis and certification of death (D)
- Legal documentation related to emergency cases (D)
- Certification of medico-legal cases e.g. Age estimation, Sexual Violence etc. (D)
- Establishing communication in medico-legal cases with police, public health authorities, other concerned departments, etc (D)
  - I- Independently performed on patients,
  - O- Observed in patients or on simulations,
  - D- Demonstration on patients or simulations and performance under supervision in patients

### **B. An Intern must have observed a medicolegal autopsy / postmortem**

**Compulsory rotating Internship posting of 7 days in Forensic Medicine and Toxicology Log book to be maintained.**

**The internship posting has to be extended (repeated) till all the certifiable skills are achieved. Use of skill lab is desirable wherever available**

No	Competency	Number of times to be done	Assessment	Setting
1	IMG should independently examine a trauma patient / simulated patient and document and certify trauma	02	Skill assessment	Casualty / EMD
2	IMG should demonstrate on patients or simulations and performance under supervision in patients the diagnosis and certification of death	02	Skill assessment / DOAP Session	Casualty / EMD / Ward / ICU
3	IMG should demonstrate the legal documentation related to emergency care in a medicolegal register / accident register maintained at casualty / EMD	02	Skill assessment / DOAP Session	Casualty / EMD
4	IMG should examine, document and certify in a medicolegal case of age estimation	01	Skill assessment / DOAP Session	Forensic Medicine /Casualty / EMD
5	IMG should examine, document and certify in a medicolegal case of victim of Sexual violence	01	Skill assessment / DOAP Session	OBG /Forensic Medicine /Casualty EMD
6	IMG should examine, document and certify in a medicolegal case of accused of Sexual violence	01	Skill assessment / DOAP Session	Forensic Medicine /Casualty / EMD
7	IMG should demonstrate communication in medicolegal cases with police	01	Skill assessment / DOAP Session	Forensic medicine /Casualty / EMD
8	IMG should demonstrate communication in medicolegal cases with public health authorities	01	Skill assessment / DOAP Session	Forensic Medicine /Casualty / EMD
9	IMG should demonstrate communication in medicolegal cases with Radiology / Pathology / Microbiology / FSL departments	01	Skill assessment / DOAP Session	Forensic Medicine /Casualty / EMD
10	IMG should observe and document a medicolegal autopsy / postmortem examination	01	Skill assessment / DOAP Session	Forensic Medicine

## Assessment in Forensic Medicine & Toxicology

**Summative Assessment** - An assessment conducted at the end of instruction to check how much the student has learnt. **Formative Assessment** - An assessment conducted during the instruction with primary purpose of providing feedback for improving learning.

**Internal Assessment** - Range of assessments conducted by the teachers teaching a particular subject with the purpose of knowing what is learnt and how it is learnt.

Internal assessment can have both formative and summative functions.

**Note** - Assessment requires specification of measurable and observable entities. This could be in the form of whole tasks that contribute to one or more competencies or assessment of a competency per se. Another approach is to break down the individual competency into learning objectives related to the domains of knowledge, skills, attitudes, communication etc. and then assess them individually.

**Scheduling of Internal Assessment** - In Phase II MBBS there will be ONE Internal assessments in theory and practicals.

- In Phase III part 1 MBBS there will be two Internal assessments in theory and practical. One of the test should be prelim or pre-university examination

**Theory IA can include:** Theory tests, seminars, quizzes, interest in subject, scientific attitude etc. Written tests should have essay questions, short notes and creative writing experiences.

**Practical IA can include:** practical tests, Objective Structured Practical Examination (OSPE), Directly Observed Procedural Skills (DOPS), records maintenance and attitudinal assessment.

**Assessment of Log-book-** Log book should record all activities like seminar, symposia, quizzes and other academic activities. It should be assessed regularly and submitted to the department. Up to twenty per cent IA Theory marks should be for Log book assessment.

**Assessment of Practical Record book-** Practical book should record all skills and other practical exercises done during the academic programme. It should be assessed regularly and submitted to the department. Up to twenty per cent IA Practical marks should be for Log book assessment

**Internal Assessment for AETCOM will include:** - Written tests comprising of short notes and creative writing experiences.

- OSCE based clinical scenarios and/or viva voce. Skill competencies acquired during the Professional Development Programme (AETCOM) must be tested during the practical and viva voce.

**Feedback in Internal Assessment** - Feedback should be provided to students throughout the course so that they are aware of their performance and remedial action can be initiated well in time. The feedbacks need to be structured and the faculty and students must be sensitized to giving and receiving feedback.

The results of IA should be displayed on notice board within two weeks of the test and an opportunity provided to the students to discuss the results and get feedback on making their performance better.

It is also recommended that students should sign with date whenever they are shown IA records in token of having seen and discussed the marks.

**Internal assessment marks will not be added to University examination marks and will reflect as a separate head of passing at the summative examination.**

**Internal assessment should be based on competencies and skills.**

**Criteria for appearing in University examination:** Learners must secure at least 50% marks of the total marks (combined in theory and practical; not less than 40 % marks in theory and practical separately) assigned for internal assessment in order to be eligible for appearing at the final University examination

# Topics for Electives

- Disaster management
- Medicolegal aspects of healthcare / hospital administration
- Depositing evidence in a Court of Law
- Medicolegal aspects in management of emergency cases
- Forensic odontology
- Disaster victim identification
- Forensic anthropology
- Forensic psychiatry
- Forensic radiology
- Forensic toxicology
- Snake bite – species identification and management
- Crime scene examination
- Forensic ballistic

# Blue Print & Assessment methods - Theory

Number of QPs for the subject: One

Theory marks 100

## Theory Question Paper: Blue print

This shows the weightage given to each chapter in the summative assessment. This improves the content validity by distributing the assessment of learners in the competencies that are represented by learning objectives under each chapter.

Number of QPs for the subject: One.

Only CORE competencies shall be considered for framing questions. Each paper should contain the following distribution of questions (as shown in below table).

## Theory Question Paper:

Only CORE competencies shall be considered for framing questions. Each paper should contain the following distribution of questions (as shown in below table).

Type of questions	Marks per question	Number of questions	Total marks
MCQs	1	20	20
Long Essay questions	10	2	20
Short essay questions	5	6	30
Short answer questions	3	10	30

## Distribution of marks in suggested blue print:

Section	Chapters	Marks allotted	Number of questions			
			MCQs	Long essay	Short essay	Short answer
Section 1	General information [Dying declaration, Dying deposition, Medical records, Cause of death]	5 marks	2			1
Section 2	Forensic Pathology [Thanatology, Medicolegal autopsy, Mechanical asphyxia, Thermal deaths, Death due to starvation and neglect, Infanticide]	25 marks*	5	1	2	1
Section 3	Clinical Forensic Medicine [Identification, Mechanical injuries, Firearm injuries, Regional injuries, Sexual offences, Virginit, Pregnancy, Abortion, Impotence, Sterility, Sterilization, Artificial Insemination, Torture, Child abuse]	25 marks*	4	1	2	1
Section 4	Medical Jurisprudence [Medical law and ethics, Euthanasia, Bioethics, Research ethics]	15 marks	3		1	3
Section 5	Forensic Psychiatry, Forensic Laboratory Investigation in medico-legal practice	5 marks	2			1
Section 6	General Toxicology, Chemical Toxicology,	25 marks*	4		1	3

	Pharmaceutical Toxicology, Biotoxicology, Sociomedical Toxicology, Environmental Toxicology					
	<b>Total number of questions</b>	<b>100 marks</b>	<b>20</b>	<b>2</b>	<b>6</b>	<b>10</b>

Section	Chapters	Marks allotted	Number of questions			
			MCQs	Long essay	Short essay	Short answer
Section 1	General information [Competencies 1.7 to 1.10]	5 marks	2			1
Section 2	Forensic Pathology [Competencies 2.1 to 2.28]	25 marks*	5	1	2	1
Section 3	Clinical Forensic Medicine [Competencies 3.1 to 3.23, 3.26 to 3.30]	25 marks*	4	1	2	1
Section 4	Medical Jurisprudence [Competencies 4.1 to 4.8, 4.10 to 4.24, 4.26]	15 marks	3		1	3
Section 5	Forensic Psychiatry, Forensic Laboratory Investigation in medico-legal practice [Competencies 5.1 to 5.5, 6.1 to 6.2]	5 marks	2			1
Section 6	Toxicology [Competencies 8.1 to 8.10, 9.1 to 9.6, 10.1, 11.1, 12.1, 13.1 to 13.2]	25 marks*	4		1	3
	<b>Total number of questions</b>	<b>100 marks</b>	<b>20</b>	<b>2</b>	<b>6</b>	<b>10</b>

\*The Long essay questions shall be chosen from any two sections of Sections 2, 3 and 6.

**One Long Essay question and One Short Essay question should be of Problem solving or on Clinical application.**

This shows the weightage given to each topic in the summative assessment. This improves the content validity by distributing the assessment of learners in the competencies that are represented by learning objectives under each topic.

# Blue Print & Assessment methods – Practicals

**Practicals 80**

**Viva Voce 20**

## Practical Question Paper: Blue print

**OSPE in FMT:**

<i>Station</i>	<i>Exercise</i>	<i>Marks</i>	<i>Duration</i>
Station-1	Wound certificate	10	30 min
	Weapon examination	5	
Station-2	Age certificate	15	30 min
Station-3	Skeletal remains	10	20 min
Station-4 (Any one exercise)	Victim of rape	10	20 min
	Accused of rape		
	Drunkenness certificate		
Station-5	PM certificate	10	20 min
Station-6	Spotters	10	10 min
Station-7	Blood grouping	5	10 min
Station-8 (Any one exercise)	Preservation of evidentiary materials in poisoning	5	10 min
	Preservation of DNA material for analysis		
	Gestational age of foetus		
	MCCD		

**Detailed planning of practical assessment:**

<i>Station</i>	<i>Exercise</i>	<i>Assessment</i>	<i>Marks</i>	<i>Duration</i>
Station-1	Wound certificate	<p>Option-A:</p> <ul style="list-style-type: none"> <li>A case scenario containing the details of a patient, history and part-task trainer with injuries will be given.</li> <li>Student will be asked to draft a certificate as per</li> </ul>	10	30 min



		<p>the format based on above case details.</p> <ul style="list-style-type: none"> <li>• Evaluation will be based on the checklist.</li> </ul> <p>Option-B:</p> <ul style="list-style-type: none"> <li>• A case scenario containing the details of a patient, history, multiple photographs of injuries with scale attached (printed in a single page) will be given.</li> <li>• Student will be asked to draft a certificate as per the format based on above case details.</li> <li>• Evaluation will be based on the checklist.</li> </ul>		
	Weapon examination	<ul style="list-style-type: none"> <li>• A weapon related to above wound certificate will be given.</li> <li>• Student will be asked to examine and draft a report as per the format.</li> <li>• Evaluation will be based on the checklist.</li> </ul>	5	
Station-2	Age certificate	<ul style="list-style-type: none"> <li>• A case scenario containing the details of a patient, history, findings of General Physical Examination, Tooth eruption (picture of dentition) and X-ray film/s will be given.</li> <li>• Student will be asked to draft a certificate as per the format based on above case details.</li> <li>• Evaluation will be based on the checklist.</li> </ul>	15	30 min
Station-3	Skeletal remains	<ul style="list-style-type: none"> <li>• A case scenario containing the history and relevant findings of scene from where the bone/s were recovered will be given.</li> <li>• Student will be asked to examine the bone/s and draft a report as per the format.</li> <li>• Evaluation will be based on the checklist.</li> </ul>	10	20 min
Station-4 (Any one exercise)	Victim of rape	<ul style="list-style-type: none"> <li>• A case scenario containing the details of a patient, history and findings related to sexual violence (victim of rape) will be given.</li> <li>• Student will be asked to draft a report in a printed modified format (as shown in annexure) based on case details and answer questions related to case scenario.</li> <li>• Evaluation will be based on the checklist.</li> </ul>	10	20 min
	Accused of rape	<ul style="list-style-type: none"> <li>• A case scenario containing the details of a patient,</li> </ul>		

		<p>history and findings related to sexual violence (accused of rape) will be given.</p> <ul style="list-style-type: none"> <li>• Student will be asked to draft a report in a printed modified format (as shown in annexure) based on case details and answer questions related to case scenario.</li> <li>• Evaluation will be based on the checklist.</li> </ul>		
	Drunkenness certificate	<ul style="list-style-type: none"> <li>• A case scenario containing the details of a patient, history and findings related to drunkenness will be given.</li> <li>• Student will be asked to draft a report as per the format based on case details and answer questions related to case scenario.</li> <li>• Evaluation will be based on the checklist.</li> </ul>		
Station-5	PM certificate	<ul style="list-style-type: none"> <li>• A case scenario containing the details of a patient, history and postmortem findings will be given.</li> <li>• Student will be asked to draft the PM certificate and give opinion on cause of death, time since death and any other questions related to case scenario.</li> <li>• Evaluation will be based on the checklist.</li> </ul>	10	20 min
Station-6 (Spotters)	Hair, Semen, & other Biological fluids; Blood - Identification of species; Photographs / Specimens; Poisons; Histopathology Slides; Firearm cartridge	<ul style="list-style-type: none"> <li>• It should contain 10 spotters.</li> <li>• Each spotter will be awarded maximum of one mark for correct responses.</li> <li>• Each spotter should be completed by 2 minutes duration.</li> <li>• Ideally spotters should contain applied type of questions related to content of the spotter.</li> <li>• Evaluation will be based on the marks allotted to structured questions.</li> </ul>	10	10 min
Station-7	Blood grouping	<ul style="list-style-type: none"> <li>• A case scenario containing the details of a patient, history and relevant findings related to blood grouping will be given.</li> <li>• Student will be asked to determine the blood group of a given sample.</li> </ul>	5	10 min

		<ul style="list-style-type: none"> <li>• Evaluation will be based on the checklist.</li> </ul>		
Station-8 (Any one exercise)	Preservation of evidentiary materials in poisoning	<ul style="list-style-type: none"> <li>• A case scenario containing the details of a patient, history and clinical features of any poisoning will be given.</li> <li>• Student will be asked to list the various evidentiary materials to be preserved in such cases, write the labels for such preservation, and write the letters to FSL for analysis.</li> <li>• Evaluation will be based on the checklist.</li> </ul>	5	10 min
	DNA material	<ul style="list-style-type: none"> <li>• A case scenario containing the details of a patient, history and relevant findings related to DNA analysis will be given.</li> <li>• Student will be asked to list the various evidentiary materials to be preserved in such cases, write the labels for such preservation, and write the letters to FSL for analysis.</li> <li>• Evaluation will be based on the checklist.</li> </ul>		
	Gestational age of foetus	<ul style="list-style-type: none"> <li>• A case scenario containing the details of a patient, history and findings related to gestational age will be given.</li> <li>• Student will be asked to determine the gestational age and answer the questions related to case scenario.</li> <li>• Evaluation will be based on the checklist.</li> </ul>		
	MCCD	<ul style="list-style-type: none"> <li>• A case scenario containing the details of a patient, history and clinical findings related to MCCD will be given.</li> <li>• Student will be asked to draft a certificate as per the format based on above case details.</li> <li>• Evaluation will be based on the checklist.</li> </ul>		

# Annexure

## Checklists

### Checklist for Practical Assessment:

#### Wound certificate

(Maximum marks :10)

Component of certificate	Max marks	Marks awarded
Preliminary details (MLC No., Name, Age, Sex, Address, Date of admission & discharge, Brought by)	0.5	
Consent	1	
Identification marks	1	
History	1	
Details of injuries	4	
Opinion	2	
Signature, Name & Designation of doctor	0.5	
<b>Total</b>	<b>10</b>	

#### Weapon examination

(Maximum marks :5)

Component of certificate	Max marks	Marks awarded
Addressing to IO, Subject, Reference	0.5	
Details of receiving weapon from police and date and time of examination	0.5	
Name & Type of weapon; Weight of weapon	1	
Description & dimensions of weapon	1.5	
Opinion	1	
Signature, Name & Designation of doctor	0.5	
<b>Total</b>	<b>5</b>	

#### Age certificate

(Maximum marks : 15)

Task	Max marks	Marks awarded
Details on receiving request letter	0.5	
Preliminary details (MLC No., Name, Age, Sex, Address, Date, time & place of examination)	1	
Consent	1	
Identification marks	1	
History	1	

General physical examination with inference	2	
Dental examination with inference	3	
Radiological examination with inference	3	
Final opinion on age	2	
Signature, Name & Designation of doctor	0.5	
<b>Total</b>	<b>15</b>	

### Skeletal remains

(Maximum marks : 10)

Component of certificate	Max marks	Marks awarded
Addressing to IO, Subject, Reference	0.5	
Details of receiving Skeletal remains from police and date and time of examination	1	
Whether it is bone / not?	0.5	
Number of bones/dismembered body parts		
Physical state of bones/dismembered body	0.5	
Belongs to human/animal		
Morphological details	4	
Belongs to one or more individuals	0.5	
Injuries / manner of separation		
Cause of death	0.5	
Time since death		
Opinion	2	
Signature, Name & Designation of doctor	0.5	
<b>Total</b>	<b>10</b>	

### Examination of Victim of sexual violence

(Maximum marks : 10)

Task	Max marks	Marks awarded
Preliminary details (as printed from No. 1 to 11 in the format given)	0.5	
Consent	1	
Identification marks	0.5	
Relevant medical/surgical history	0.5	
History related to sexual violence	0.5	
General physical examination	0.5	
Examination for injuries on body	0.5	
Local examination of genital parts/other orifices	1	
Sample collection/ investigations for hospital laboratory/ Clinical laboratory	1	
Samples Collection for FSL	1	
Date and time of completion of examination	0.5	
Investigation (hospital laboratory/FSL) reports	0.5	
Opinion	2	
<b>Total</b>	<b>10</b>	

**Examination of Accused of sexual violence****(Maximum marks : 10)**

<b>Task</b>	<b>Max marks</b>	<b>Marks awarded</b>
Preliminary details (as printed from No. 1 to 11 in the format given)	0.5	
Consent	1	
Identification marks	0.5	
Relevant medical/surgical history	0.5	
History related to sexual violence	0.5	
General physical examination	0.5	
Examination for injuries on body	0.5	
Local examination of genital parts/other orifices	1	
Sample collection/ investigations for hospital laboratory/ Clinical laboratory	1	
Samples Collection for FSL	1	
Hospital laboratory/FSL reports	0.5	
Opinion	2	
Signature, Name & Designation of doctor	0.5	
<b>Total</b>	<b>10</b>	

**Drunkenness certificate****(Maximum marks : 10)**

<b>Component of certificate</b>	<b>Max marks</b>	<b>Marks awarded</b>
Preliminary details (OPD/IPD No., MLC No., Name, Age, Sex, Address, Date & time of examination, Brought by)	0.5	
Consent	1	
Identification marks	0.5	
History	1	
General examination	1	
Examination for muscular Co-ordination	1	
Injuries	1	
Systemic examination	0.5	
Collection of materials for analysis	1	
Opinion	2	
Signature, Name & Designation of doctor	0.5	
<b>Total</b>	<b>10</b>	

**Preservation of evidentiary material in Poisoning****(Maximum marks :5)**

<b>Component of certificate</b>	<b>Max marks</b>	<b>Marks awarded</b>
From and To address	0.5	
PM No., Name, Age, Sex, Crime/UDR No., PS	0.5	
List of evidentiary materials collected	2	
Signature, Name & Designation of doctor	0.5	
Labels for evidentiary materials	1.5	
<b>Total</b>	<b>5</b>	

**Preservation of evidentiary material for DNA analysis**

(Maximum marks :5)

<b>Component of certificate</b>	<b>Max marks</b>	<b>Marks awarded</b>
From and To address	0.5	
PM/MLC No., Name, Age, Sex, Crime/UDR No., PS	0.5	
List of evidentiary materials collected	2	
Signature, Name & Designation of doctor	0.5	
Labels for evidentiary materials	1.5	
<b>Total</b>	<b>5</b>	

**Blood grouping**

(Maximum marks :5)

<b>Component of certificate</b>	<b>Max marks</b>	<b>Marks awarded</b>
From and To address	0.5	
PM/MLC No., Name, Age, Sex, Crime/UDR No., PS	0.5	
Test conducted	0.5	
Method used for testing	0.5	
Findings observed after testing	1.5	
Final opinion	1	
Signature, Name & Designation of doctor	0.5	
<b>Total</b>	<b>5</b>	

**MCCD certification**

(Maximum marks :5)

<b>Component of certificate</b>	<b>Max marks</b>	<b>Marks awarded</b>
Preliminary details (Name of hospital, Date and time of death)	0.5	
Name, Age, Sex	0.5	
Cause of death (Immediate & Antecedent cause)	2	
Cause of death (Other contributing causes)	0.5	
Manner of death	0.5	
Death associated with pregnancy/ delivery	0.5	
Signature, Name & Designation of doctor	0.5	
<b>Total</b>	<b>5</b>	

**PM certificate**

(Maximum marks :10)

<b>Component of certificate</b>	<b>Max marks</b>	<b>Marks awarded</b>
Drafting PM certificate + Opinion	3+2	
Question 1	1	
Question 2	1	
Question 3	1	
Question 4	1	
Question 5	1	
<b>Total</b>	<b>10</b>	

## MBBS Phase III , Part I

### Community Medicine

(a) **Competencies:** The learner must demonstrate:

1. Understanding of physical, social, psychological, economic and environmental determinants of health and disease,
2. Ability to recognize and manage common health problems including physical, emotional and social aspects at individual family and community level in the context of National Health Programmes
3. Ability to Implement and monitor National Health Programmes in the primary care setting
4. Knowledge of maternal and child wellness as they apply to national health care priorities and programmes,
5. Ability to recognize, investigate, report, plan and manage community health problems including malnutrition and emergencies.

(b) **Integration:** The teaching should be aligned and integrated **horizontally** and vertically in order to allow the learner to understand the impact of environment, society and national health priorities as they relate to the promotion of health and prevention and cure of disease.

#### TEACHING METHODS & HOURS

	Large group Teaching	Small group teaching/ Practical/ Tutorials	SDL	Total	AETCOM	Clinical /Field Posting	Pandemic Module	Family Adoption Programme
1 <sup>st</sup> Professional	20 hours	27 hours	5hours	52hours	8 hours	_____	2 hours	27hours
2 <sup>nd</sup> Professional	20 hours	30 hours	10hours	60 hours	7 hours	72 hours (4weeks)	12 hours	18 hours
3 <sup>rd</sup> Professional	40 hours	60 hours	5 hours	105 hours	10 hours	108 hours (6weeks)	18 hours	15 hours
4 <sup>th</sup> Professional					5 hours			
<b>TOTAL</b>	80 hours	117 hours	20 hours	217 hours	30 hours	180 hours ( 10 weeks)	32 hours	60 hours



## COMMUNITY MEDICINE SYLLABUS FOR FIRST PROFESSIONAL YEAR

SI no	TOPIC	LECTURE	SGD/DOAP	SDL	TOTAL HOURS
1	Concept of Health and Disease (CM 01)	8	13	1	22
2	Relationship of social and behavioural to health and disease ( CM 02)	4	3	1	8
3	Nutrition (CM 05)	5	7	2	14
4	Demography and vital statistics (CM 09)	3	4	1	8
<b>TOTAL HOURS</b>		<b>20</b>	<b>27</b>	<b>5</b>	<b>52</b>
<b>*AETCOM</b>		<b>8 HRS</b>			
<b>INTEGRATION / AETCOM SUPERVISION</b>					
<b>PANDEMIC MANAGEMENT</b>					
<b>FAMILY ADOPTION PROGRAMME</b>		<b>9 x 3= 27 HRS</b>			

## COMMUNITY MEDICINE SYLLABUS FOR SECOND PROFESSIONAL YEAR

SI no	TOPIC	LECTURE	SGD/DOAP	SDL	TOTAL HOURS
1	Environmental health problems (CM 3)	2	19	2	23
2	Epidemiology (CM 7)	10	8	2	20
3	Occupational Health (CM 11)	4	0	1	5
4	Disaster Management (CM 13)	2	0	2	4
5	Mental Health (CM 15)	0	2	2	4
6	International health (CM 18)	2	0	0	2
7	Essential Medicine (CM 19)	0	1	1	2
<b>TOTAL HOURS</b>		<b>20</b>	<b>30</b>	<b>10</b>	<b>60</b>
<b>AETCOM</b>		<b>7 HRS</b>			
<b>PANDEMIC MANAGEMENT</b>		<b>12 HRS</b>			
<b>FAMILY ADOPTION PROGRAMME</b>		<b>6 x 3=18 HRS</b>			

The numbers of hours mentioned above are rough guidelines that can be modified to suit the specific requirements of a medical college.

It is recommended that didactic teaching be restricted to less than one third of the total time allotted for that discipline.

Greater emphasis is to be laid on hands-on training, symposia, seminars, small group discussions, problem-oriented and problem-based discussions and self-directed learning.

Students must be encouraged to take active part in and shared responsibility for the learning.

### COMMUNITY MEDICINE SYLLABUS FOR THIRD PROFESSIONAL YEAR

Sl no	TOPIC	LECTURE	SGD/ DOAP	SDL	TOTAL HOURS
1	Principles of health promotion and education (CM 04)	03	0	0	03
2	Basic statistics and its applications (CM 06)	0	12	0	12
3	Epidemiology of communicable and non-communicable diseases (CM 08)	15	30	01	46
4	Reproductive maternal and child health (CM 10)	10	10	01	21
5	Geriatric services (CM 12)	01	02	0	03
6	Hospital waste management (CM 14)	01	02	01	04
7	Health planning and management (CM 16)	02	02	0	04
8	Health care of the community (CM 17)	06	0	01	07
9	Recent advances in Community Medicine (CM 20)	02	02	01	05
	<b>TOTAL HOURS</b>	<b>40</b>	<b>60</b>	<b>05</b>	<b>105</b>
	<b>AETCOM</b>	<b>15 HRS</b>			
	<b>PANDEMIC MANAGEMENT</b>	<b>18 HRS</b>			
	<b>FAMILY ADOPTION PROGRAMME</b>	<b>5 x 3=15 HRS</b>			

Sl no	Topic
1	Concept of Health and Disease ( CM 01)
2	Relationship of social and behavioural to health and disease ( CM 02)
3	Environmental health problems ( CM 3)
4	Principles of health promotion and education (CM 04)
5	Nutrition ( CM 05)
6	Basic statistics and its applications (CM 06)
7	Epidemiology ( CM 7)
8	Epidemiology of communicable and non- communicable diseases (CM 08)
9	Demography and vital statistics ( CM 09)
10	Reproductive maternal and child health (CM 10)
11	Occupational Health ( CM 11)
12	Geriatric services (CM 12)
13	Disaster Management ( CM 13)
14	Hospital waste management (CM 14)
15	Mental Health ( CM 15)
16	Health planning and management (CM 16)
17	Health care of the community (CM 17)
18	International health ( CM 18)
19	Essential Medicine/Integration ( CM 19)
20	Recent advances in Community Medicine (CM 20)

### **ASSESSMENT / UNIVERSITY EXAMINATION**

**Summative Assessment** - An assessment conducted at the end of instruction to check how much the student has learnt.

**Formative Assessment** - An assessment conducted during the instruction with primary purpose of providing feedback for improving learning.

Internal assessment – Range of assessments are conducted by the teacher teaching a particular subject with the purpose of knowing what is learnt. Internal assessment can have both formative and summative functions.

**Note** - Assessment requires specification of measurable and observable entities. This could be in the form of whole tasks that contribute to one or more competencies or assessment of a competency per se. Another approach is to break down the individual competency into learning objectives related to the domains of knowledge, skills, attitudes, communication etc. and then assess them individually.

**Scheduling of Internal Assessment** - done once at the end of each professional year

**Theory IA can include:** Written tests should have essay questions, short notes, and creative writing experiences.

**Practical IA can include:** Spotters, Problem solving exercises, Objective Structured Practical / Clinical Examination (OSPE / OSCE), Clinicosocial case discussion, and records maintenance and logbook assessment.

**Assessment of Log-book-** Log book should record all academic and curricular activities like seminar, symposia, and quizzes. It should be assessed regularly and submitted to the department. Marks should be allotted for logbook assessment and should be included as a part of formative assessment marks under practical's

**Assessment of Practical Record book-** Practical book should record all skills and other practical exercises done during the academic programme. It should be assessed regularly and submitted to the department. Marks should be allotted for practical record and should be included as a part of formative assessment marks under practical's

**Assessment for AETCOM will include:** - Written tests comprising of short notes and creative writing experiences only in internal assessment.

### **INTERNAL ASSESSMENT**

There will be 3 internal assessment examinations in Community Medicine. The structure of the internal assessment examinations should be like the structure of University examinations.

It is mandatory for the students to appear for all the internal assessment examinations.

First internal assessment examination will be held at the end of 1<sup>st</sup> professional, second internal assessment examination will be held at the end of 2<sup>nd</sup> professional and 3<sup>rd</sup> internal assessment examination will be held at the end of 3<sup>rd</sup> professional as per University Pattern .

Pattern of first and second Internal Assessment are left to the discretion of the individual institute. However, third internal assessment has to be conducted in the same pattern of the University exam

Additional internal assessment examination for absent students can be considered due to genuine reason after approval by the head of the department. It should be taken before the submission of internal assessment marks to the University.

Internal assessment marks allotment for theory and practical for the first and second internal assessment are left to the discretion of the respective institutes. Marks allotted in the third (final) Internal Assessment should be preferably for 100 marks each for Theory and Practical. 20% of the internal assessment marks should be from Formative Assessment in Practical internal assessment

**Feedback in Internal Assessment -** Feedback should be provided to students throughout the course so that they are aware of their performance and remedial action can be initiated well in time. The feedbacks need to be structured and the faculty and students must be sensitized to giving and receiving feedback.

The results of IA should be displayed on notice board within two weeks of the test and an opportunity provided to the students to discuss the results and get feedback on making their performance better.

It is also recommended that students should sign with date whenever they are shown IA records in token of having seen and discussed the marks.

Internal assessment marks will not be added to University examination marks and will reflect as a separate head of passing at the summative examination.

Internal assessment should be based on competencies and skills.

Criteria for appearing in University examination: Learners must secure at least 50% marks of the total marks (combined in theory and practical; not less than 40 % marks in theory and practical separately) assigned for internal assessment in order to be eligible for appearing at the final University examination.

**Average marks obtained in all three internal assessments should be calculated to 40 marks.**

A candidate who has not secured requisite aggregate in the internal assessment may be subjected to remedial assessment by the institution. If he/ she successfully complete the same, he/she is eligible to appear for University Examination. Remedial assessment shall be completed before submitting the internal assessment marks online to the University.

## Annexure

### Blueprint for Theory and Practical assessment

#### SCHEME OF EXAMINATION

#### Internal assessment

TABLE SHOWING SCHEME FOR CALCULATION OF INTERNAL EXAMINATION MARKS

Theory (Maximum marks)		Practical (Maximum marks)	
Theory papers	30*	Practical exercises	30**
Professionalism	5	Level of participation in AETCOM activities	5
Part completion tests	5	Practical record book	5
<b>TOTAL</b>	<b>40</b>	<b>TOTAL</b>	<b>40</b>
Please note: <input type="checkbox"/> *Prior to submission to the University, the marks for each of the internal examination theory assessments must be calculated out of 30 marks, regardless of the maximum marks. <input type="checkbox"/> **Prior to submission to the University, the marks for each of the internal examination practical assessments must be calculated out of 30 marks, regardless of the maximum marks. Only the final marks out of 40 (as in the table) need to be submitted to the University, separately for theory and practical for each internal assessment.			

#### GENERAL INSTRUCTIONS

- Questions in each paper should be as per distribution of competencies in each professional year.
- The SLO to be referred while setting the question paper
- Repetition of questions from the same SLO to be avoided
- The marks allotted to the different topics & sections to be adhered

- There will be at least one question on AETCOM in the theory papers.
- Internal assessment needs to be for 40 marks in theory and 40 marks for Practical
- Internal assessment for theory may constitute Long essay, Short essay, and Short answers
- 20% of the internal assessment marks will be contributed by formative assessment in both theory and Practicals i.e. 8 marks in theory and 8 marks in practical.
- Total internal assessment marks of 40 will be 32 for internal assessment and 8 for formative assessment conducted. (32+8=40)
- Marks allocated for record and logbook maintenance will be added to practical internal assessment marks.

### **FORMATIVE ASSESSMENT**

- CBME mandates conduct of formative assessments; institutions can conduct formative assessments as per their convenience, however, the formative assessment would contribute towards the internal assessments.
- Institutions can select from the suggested methods of formative assessment that are given below however the institutions can adapt methods that comply with that of the MCI regulations.
- Feedbacks to students regarding formative assessment have to be documented and should be the basis for mark allocation.
- The logbook in community medicine is a record of all activities of the students. All competencies at a “Shows How” level in the Miller’s pyramid should be documented in the logbook. In addition, logbook also contains documentation of attendance, involvement in departmental academic and extracurricular activities and feedback given to the student. The logbook should be signed by faculty on a regular basis. A total of 10 marks should be allotted to logbook in the second professional year. This should be reduced and added to formative assessment marks.
- The practical record in community medicine contains documentation of the practical sessions held during the course. A total of 10 marks should be allotted to practical record and should be reduced and added to formative assessment marks in the second professional year.
- Suggested methods for Formative Assessments are:
  - MCQs
  - Essays
  - Assignments
  - Seminar presentations
  - Project work
  - OSCE
  - OSPE

## Scheme of Internal assessment

Timing	Theory	Practical
1 <sup>st</sup> Professional Year	40	40
2 <sup>nd</sup> Professional Year	40	40
3 <sup>rd</sup> Professional Year	40	40
*(As per University Pattern)	(100)*	(100)*

### University Examination Marks

University Examination Marks			Internal Assessment	
Theory	Clinical/ Practical	Viva	Theory	Practical
Paper 1= <b>100</b> Paper 2= <b>100</b>  Long Essay  10X2=20 Marks  Short essay 5x6=30 Marks  Short answer 3x10=30marks  MCQs 1X20=20marks	Case Discussion--(25)  Epidemiological Exercises--(25)  Spotters --(10)  Objective Structure Practical Examination --(20)          <b>=80</b>	<b>20</b>	40	40
<b>Mandatory 50% Theory and Practical</b>			50% combined in theory and Practical (not less than 40% in each) for eligibility of appearing the University Examination	

## Distribution of Topics for Paper -1 & paper- 2 for University Examination

<b>PAPER 1 Topics</b>	<b>PAPER 2 Topics</b>
<ul style="list-style-type: none"> <li>• History and evolution of Public Health &amp; Concept of Health and Disease (CM 01)</li> <li>• Relationship of social and behavioural to health and disease (CM 02)</li> <li>• Environmental Health Problems (CM 03)</li> <li>• Nutrition (CM 05)</li> <li>• Basic Statistics and its Applications (CM 06)</li> <li>• Epidemiology (CM 07)</li> <li>• Demography and vital statistics (CM 09)</li> <li>• Reproductive, Maternal and Child Health including concerned national health programs and family planning (CM 10)</li> <li>• International Health (CM 18)</li> </ul>	<ul style="list-style-type: none"> <li>• Principles of Health Promotion and Education (CM 04)</li> <li>• Epidemiology of communicable and non- communicable diseases including specific national health programs(CM 08)</li> <li>• Occupational Health (CM 11)</li> <li>• Geriatric services (CM12)</li> <li>• Disaster Management (CM 13)</li> <li>• Hospital Waste management (CM14)</li> <li>• Mental Health (CM 15)</li> <li>• Health Planning and Management (CM 16)</li> <li>• Health Care of the Community (CM 17)</li> <li>• Essential Medicines (CM 19)</li> <li>• Recent Advances In Community Medicine (CM 20)</li> </ul>

### Blue print

Paper 1 Marks	Marks	Paper 2 Marks	Marks
History and evolution of Public Health & Concept of Health and Disease (CM 01)	15	Principles of Health Promotion and Education (CM 04)	10
Relationship of social and behavioural to health and disease (CM 02)	5	Epidemiology of communicable and non- communicable diseases including specific national health programs(CM 08)	30
Environmental Health Problems (CM 03)	10	Occupational Health (CM 11)	10
Nutrition (CM 05)	15	Geriatric services (CM12)	5
Basic Statistics and its Applications (CM 06)	5	Disaster Management (CM 13)	5
Epidemiology (CM 07)	10	Hospital Waste management (CM14)	5
Demography and vital statistics (CM 09)	5	Mental Health (CM 15)	5
Reproductive, Maternal and Child Health including concerned national health programs and family planning (CM 10)	30	Health Planning and Management (CM 16)	10
International Health (CM 18)	5	Health Care of the Community (CM 17)	10
		Essential Medicines (CM 19)	5
		Recent Advances In Community Medicine (CM 20)	5
<b>Total</b>	<b>100</b>	<b>Total</b>	<b>100</b>



**THIRD PROFESSIONAL YEAR**

Sl No.	Classes	Teaching method	Competency	Integration	Misc.	Assessment
<b>PRINCIPLES OF HEALTH PROMOTION AND EDUCATION (CM 04)</b>						
1	Describe the models of Health education & Describe various methods of health education with their advantages and limitations	LGT	CM4.1			Written/ Viva-voce
2	Describe the methods of organizing health promotion and education and counseling activities at individual family and community	SGT	CM4.2			Written/ Viva-voce
3	Demonstrate and describe the steps in evaluation of health promotion and education program	SGT	CM4.3			Written/ Viva-voce/ Skill Assessment
<b>Note: L- Lecture (03); SGD- Small group discussion (00); SDL-Self-directed learning (0)</b>						
<b>BASIC STATISTICS AND ITS APPLICATIONS [CM 6 - 6.1 TO 6.4]</b>						
1.	Discuss and introduce the topic of biostatistics and its applications. Formulate a research question for a study	SGD-1	CM 6.1	V.I with General Medicine & Paediatrics	Practical	Written/ Viva-voce/ Skill Assessment
2.	Describe and discuss the principles and demonstrate the methods of collection and classification of statistical data	SGD-2	CM 6.2	V.I with General Medicine & Paediatrics	Practical	Written/ Viva-voce/ Skill Assessment
3.	Enumerate, discuss and demonstrate common sampling techniques	SGD-3	CM 6.4	V.I with General Medicine & Paediatrics	Practical	Written/ Viva-voce/ Skill Assessment
4.	Describe and discuss the principles and demonstrate the methods of analysis and interpretation	SGD-4	CM 6.2	V.I with General Medicine & Paediatrics	Practical	Written/ Viva-voce/ Skill Assessment
5.	Describe and discuss the principles and demonstrate the methods of presentation of statistical data using frequency distribution and other appropriate methods	SGD-5	CM 6.2 & 6.4	V.I with General Medicine & Paediatrics	Practical	Written/ Viva-voce/ Skill Assessment
6.	Describe and discuss the elementary statistical methods - central tendency and dispersion	SGD-6	CM 6.4	V.I with General Medicine & Paediatrics	Practical	Written/ Viva-voce/ Skill Assessment
7.	Demonstrate the application of measures of central tendency and dispersion for discrete data	SGD-7	CM 6.4	V.I with General Medicine & Paediatrics	Practical	Written/ Viva-voce/ Skill Assessment
8.	Demonstrate measures of central tendency and dispersion for continuous data	SGD-8	CM 6.4	V.I with General Medicine & Paediatrics	Practical	Written/ Viva-voce/ Skill Assessment
9.	Describe, discuss and demonstrate the application of test of significance in various study designs – normal distribution and significance of 'P'-value.	SGD-9	CM 6.3	V.I with General Medicine & Paediatrics	Practical	Written/ Viva-voce/ Skill Assessment
10.	Demonstrate the application of test of significance for large samples	SGD-10	CM 6.3	V.I with General Medicine & Paediatrics	Practical	Written/ Viva-voce/ Skill Assessment
11.	Demonstrate the application of test of significance for small samples	SGD-11	CM 6.3	V.I with General Medicine & Paediatrics	Practical	Written/ Viva-voce/ Skill Assessment
12.	Demonstrate the application of test of significance – Chi square test	SGD-12	CM 6.3	V.I with General Medicine & Paediatrics	Practical	Written/ Viva-voce/ Skill Assessment

**Note: SGD- Small group discussion (12)**

Sl No.	Classes	Teaching method	Competency	Integration	Misc.	Assessment method
<b>EPIDEMIOLOGY OF COMMUNICABLE AND NON- COMMUNICABLE DISEASES [CM 8 - 8.1 TO 8.7]</b>						
1.	Discuss the lessons learnt from Smallpox eradication. Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Chickenpox.	Lecture-1	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology		Written/ Viva-voce
2.	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for, Mumps and Rubella	Lecture-2	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology		Written/ Viva-voce
3.	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Influenza	Lecture-3	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology		Written/ Viva-voce
4.	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Diphtheria, Whooping Cough and Meningococcal Meningitis	Lecture-4	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology		Written/ Viva-voce
5.	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Measles and ARI	SGD-1	CM 8.1 & 8.3	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise	Written/ Viva-voce
6.	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for SARS including novel Corona Virus.	SGD-2	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise/ CSCD	Written/ Viva-voce
7.	Describe and discuss the epidemiology of TB up to Tuberculin test	SGD-3	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise	Written/ Viva-voce
8.	Describe and discuss the prevention and control measures including the use of essential laboratory tests at the primary care level for Tuberculosis	SGD-4	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise	Written/ Viva-voce
9.	Describe and discuss NTEP	SGD-5	CM 8.1 & 8.3	V.I with General Medicine & Paediatrics H.I with Microbiology	Epidemiological exercise & Visit	Written/ Viva-voce

				& Pathology		
10.	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Poliomyelitis	Lecture-5	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology		Written/ Viva-voce
11.	Describe and discuss NPSP	SGD-6	CM 8.1 & 8.3	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise/ CSCD	Written/ Viva-voce
12.	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Viral Hepatitis	Lecture-6	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology		Written/ Viva-voce
13.	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Acute Diarrheal Diseases & ADD control Programme	SGD-7	CM 8.1 & 8.3	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise	Written/ Viva-voce
14.	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Cholera, Food Poisoning	SGD-8	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercises	Written/ Viva-voce
15.	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Typhoid fever	SGD-9	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	CSCD	Written/ Viva-voce
16.	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Amoebiasis, Soil Transmitted Helminthiasis & Dracunculiasis with its related programme	Lecture-7	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology		Written/ Viva-voce
17.	Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for The Dengue Syndrome	SGD-10	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise	Written/ Viva-voce
18.	Describe and discuss the epidemiology of Malaria till approaches and strategies of malaria control	SGD-11	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise/ CSCD	Written/ Viva-voce
19.	Describe and discuss the control measures including the use of essential	SGD-12	CM 8.1	V.I with General Medicine & Paediatrics	Epidemiological exercise/ CSCD	Written/ Viva-voce

	laboratory tests at the primary care level for malaria control including the diagnosis and treatment of malaria in India as per 2013 guidelines			H.I with Microbiology & Pathology		
20.	cribe and discuss the control measures including the use of essential laboratory tests at the primary care level for Lymphatic Filariasis and National filarial control programme	Lecture-8	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology		Written/ Viva-voce
21.	cribe and discuss the control measures including the use of essential laboratory tests at the primary care level for Japanese encephalitis, Chikungunya, Yellow Fever, Zika Virus disease	Lecture-9	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology		Written/ Viva-voce
22.	cribe and discuss the control measures including the use of essential laboratory tests at the primary care level for KFD	SGD-13	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise	Written/ Viva-voce
23.	cribe and discuss the epidemiological and control measures including the use of essential laboratory tests for Nipah Virus, Brucellosis and Human Salmonellosis	Lecture-10	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology		Written/ Viva-voce
24.	cribe and discuss the epidemiological and control measures including the use of essential laboratory tests for Rabies	SGD-14	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise	Written/ Viva-voce
25.	cribe and discuss the epidemiological and control measures including the use of essential laboratory tests for Leptospirosis, Plague, Rickettsial diseases	Lecture-11	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology		Written/ Viva-voce
26.	cribe and discuss the epidemiological and control measures including the use of essential laboratory tests for Trachoma and Tetanus	SGD-15	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise	Written/ Viva-voce
27.	cribe and discuss the epidemiological and control measures including the use of essential laboratory tests for Taeniasis, Hydatid disease and Leishmaniasis	Lecture-12	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology		Written/ Viva-voce
28.	cribe and discuss the epidemiology of Leprosy till diagnosis	SGD-16	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise/ CSCD	Written/ Viva-voce
29.	cribe and discuss the epidemiological and control measures for Leprosy and describe and discuss NLEP	SGD-17	CM 8.1 & 8.3	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise/ CSCD	Written/ Viva-voce
30.	cribe and discuss the epidemiological and control measures including the use of	SGD-18	CM 8.1 & 8.3	V.I with General Medicine & Paediatrics H.I with Microbiology	Epidemiological exercise	Written/ Viva-voce

	essential laboratory tests for STD along with syndromic approach			& Pathology		
31.	cribe and discuss the epidemiological and control measures including the use of essential laboratory tests for endemic treponematosi s – Yaws eradication programme	Lecture-13	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology		Written/ Viva-voce
32.	cribe and discuss the epidemiology of HIV/AIDS including the use of essential laboratory tests	SGD-19	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise	Written/ Viva-voce
33.	cribe and discuss the epidemiological and control measures for HIV/AIDS	SGD-20	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise	Written/ Viva-voce
34.	cribe and discuss NACP	SGD-21	CM 8.1 & 8.3	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise	Written/ Viva-voce
35.	cribe and discuss emerging and re-emerging Infectious diseases.	SGD-22	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise	Written/ Viva-voce
36.	cribe and discuss Hospital acquired infections	SGD-23	CM 8.1	V.I with General Medicine & Paediatrics H.I with Microbiology & Pathology	Epidemiological exercise	Written/ Viva-voce
37.	cribe and discuss the epidemiological and control measures including the use of essential laboratory tests for Cardiovascular diseases and Coronary heart disease	SGD-24	CM 8.2	V.I with General Medicine	Epidemiological exercise/ CSCD	Written/ Viva-voce
38.	cribe and discuss the epidemiological and control measures including the use of essential laboratory tests for Diabetes Mellitus and Obesity	SGD-25	CM 8.2	V.I with General Medicine	Epidemiological exercise/ CSCD	Written/ Viva-voce
39.	cribe and discuss the epidemiological and control measures including the use of essential laboratory tests for Hypertension	SGD-26	CM 8.2	V.I with General Medicine	Epidemiological exercise/ CSCD	Written/ Viva-voce
40.	cribe and discuss the epidemiological and control measures including the use of essential laboratory tests for Stroke, RHD and Cancer	Lecture-14	CM 8.2	V.I with General Medicine		Written/ Viva-voce
41.	cribe and discuss NPCDCS	Lecture-15	CM 8.2 & 8.3	V.I with General Medicine		Written/ Viva-voce
42.	cribe and discuss the epidemiological and control measures for Visual Impairment and Blindness along with control programme	SGD-27	CM 8.2 & 8.3	V.I with General Medicine	Epidemiological exercise	Written/ Viva-voce

43.	cribe and discuss the epidemiological and control measures for Accidents and Injuries	SGD-28	CM 8.2	V.I with General Medicine	Epidemiological exercise	Written/ Viva-voce
44.	Describe and discuss the principles of planning, implementing and evaluating control measures for disease at community level bearing in mind the public health importance of the disease	SGD-29	CM 8.5	V.I with General Medicine & Paediatrics	PBL	Written/ Viva-voce
45.	Describe the principles of management of information systems.	Lecture-16	CM 8.7			Written/ Viva-voce
46.	Educate and train health workers in disease surveillance, control & treatment and health education.	SGD-30	CM 8.6		Family Study	Skill-assessment
47.	Observe the reporting of IDSP in our hospital and health centres	SDL-1	CM 8.6		Assignment	Written/ Viva-voce

**Note: L- Lecture (15); SGD- Small group discussion (30); SDL-Self-directed learning (1)**

SI No.	Classes	Teaching method	Competency	Integration	Misc.	Assessment method
<b>REPRODUCTIVE MATERNAL AND CHILD HEALTH [CM 10 - 10.1 TO 10.9]</b>						
1.	Describe the current status of Reproductive, maternal, newborn and Child Health	Lecture-1	CM 10.1	V.I with OBG & Paediatrics		Written/ Viva-voce
2.	Enumerate and describe the methods of screening high risk groups and common health problems	Lecture-2	CM 10.2	V.I with OBG & Paediatrics		Written/ Viva-voce
3.	Describe local customs and practices during pregnancy, childbirth, lactation and child feeding practices	SGD-1	CM 10.3	V.I with OBG & Paediatrics	Family Study	Written/ Viva-voce
4.	Describe the reproductive, maternal, newborn & child health (RMNCH); child survival and safe motherhood interventions	SGD-2	CM 10.4	V.I with OBG & Paediatrics	CSCD	Written/ Viva-voce
5.	Describe Universal Immunization Program; Integrated Management of Neonatal and Childhood Illness (IMNCI) and other existing Program including RBSK, BFHI, IYCF	SGD-3	CM 10.5	V.I with Paediatrics	Epidemiological exercise	Written/ Viva-voce
6.	Observe and classify neonatal and childhood illnesses in our hospital/ health centres according to IMNCI	SDL-1	CM 10.5	V.I with Paediatrics	Assignment	Written/ Viva-voce
7.	Describe the physiology, clinical management and principles of adolescent health including ARSH, RSK, WIFS	SGD-4	CM 10.8		Tutorial	Written/ Viva-voce
8.	Describe and discuss gender issues and women empowerment including gender bias	SGD-5	CM 10.9		Tutorial	Written/ Viva-voce
9.	Describe and discuss NRHM	SGD-6	CM 10.5	V.I with Paediatrics	Tutorial	Written/ Viva-voce

10.	Describe and discuss NUHM	SGD-7	CM 10.5	V.I with Paediatrics	Tutorial	Written/ Viva-voce
11.	Describe and discuss NHM	Lecture-3	CM 10.5	V.I with Paediatrics		Written/ Viva-voce
12.	Describe and discuss Ayushman Bharat	Lecture-4	CM 10.5	V.I with Paediatrics		Written/ Viva-voce
13.	Describe and discuss INAP	Lecture-5	CM 10.5	V.I with Paediatrics		Written/ Viva-voce
14.	Describe and discuss various public health legislations MTP Act and PNDT Act, PFA Act and CP Act	SGD-8	CM 10.5 & 20.4	V.I with Paediatrics	Tutorial	Written/ Viva-voce
15.	Describe and discuss School health program	Lecture-6	CM 10.4 & 10.5	V.I with OBG & Paediatrics		Written/ Viva-voce
16.	Describe and discuss Behavioral problems and Handicapped children and ICF	Lecture-7	CM 10.4 & 10.5	V.I with OBG & Paediatrics		Written/ Viva-voce
17.	Describe and discuss prevention of congenital malformations and describe and discuss rights of persons with disabilities bill-2016,	Lecture-8	CM 10.4	V.I with OBG & Paediatrics		Written/ Viva-voce
18.	Describe and discuss children in difficult circumstances, battered baby syndrome, the children act 1960 and National policy for children, rights of women and children	Lecture-9	CM 10.4	V.I with OBG & Paediatrics		Written/ Viva-voce
19.	Describe and discuss Juvenile delinquency and Juvenile justice act 1986, 2000 & 2015	Lecture- 10	CM 10.4	V.I with OBG & Paediatrics		Written/ Viva-voce
20.	Describe and discuss Street children, Refugee and displaced children, Child labor and child exploitation, child trafficking, child marriage, Child abuse	SGD-9	CM 10.4	V.I with OBG & Paediatrics	Tutorial	Written/ Viva-voce
21.	Describe and discuss Child guidance clinic and child placement	SGD-10	CM 10.4	V.I with OBG & Paediatrics	Tutorial	Written/ Viva-voce
22.	Describe and discuss MNP and 20 point programme	Lecture- 11	CM 10.5	V.I with Paediatrics		Written/ Viva-voce
23.	Describe and discuss tribal Health	Lecture- 12	CM 10.4 & 10.5	V.I with OBG & Paediatrics		Written/ Viva-voce

**Note: L- Lecture (10); SGD- Small group discussion (10); SDL-Self-directed learning (1)**

Sl No.	Classes	Teaching method	Competency	Integration	Misc.	Assessment
<b>GERIATRIC SERVICES [CM 12 - 12.1 TO 12.4]</b>						
1.	Define and describe the concept of Geriatric services	Lecture-1	CM 12.1	V.I with General Medicine		Written/ Viva-voce
2.	Describe health problems of aged population	SGD-1	CM 12.2	V.I with General Medicine	CSCD	Written/ Viva-voce
3.	Describe the prevention of health problems of aged population. Describe National program for elderly	SGD-2	CM 12.3 & 12.4	V.I with General Medicine	CSCD	Written/ Viva-voce

**Note: L- Lecture (1); SGD- Small group discussion (2)**

Sl No.	Classes	Teaching method	Competency	Integration	Misc.	Assessment
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<b>HOSPITAL WASTE MANAGEMENT [CM 14 - 14.1 TO 14.3]</b>						
1.	Define and classify hospital waste	Lecture-1	CM 14.1	H.I with Microbiology		Written/ Viva-voce
2.	Describe various methods of treatment of hospital waste	SGD-1	CM 14.2	H.I with Microbiology	Field visit	Written/ Viva-voce
3.	Describe laws related to hospital waste management	SGD-2	CM 14.3	H.I with Microbiology	Field visit	Written/ Viva-voce
4.	Observe the hospital waste management done at hospital/ Maridi	SDL-1	CM 14.2	H.I with Microbiology	Assignment	Written/ Viva-voce

**Note: L- Lecture (1); SGD- Small group discussion (2); SDL-Self-directed learning (1)**

SI No.	Classes	Teaching method	Competency	Integration	Misc.	Assessment
<b>HEALTH PLANNING AND MANAGEMENT [CM 16 - 16.1 TO 16.4]</b>						
1.	Define and describe the concept of Health planning	Lecture-1	CM 16.1			Written/ Viva-voce
2.	Describe planning cycle	Lecture-2	CM 16.2			Written/ Viva-voce
3.	Describe Health management techniques	SGD-1	CM 16.3		Tutorial	Written/ Viva-voce
4.	Describe health planning in India and National policies related to health and health planning	SGD-2	CM 16.2		Tutorial	Written/ Viva-voce

**Note: L- Lecture (2); SGD- Small group discussion (2)**

SI No.	Classes	Teaching method	Competency	Integration	Misc.	Assessment
<b>HEALTH CARE OF THE COMMUNITY [CM 17 - 17.1 TO 17.5]</b>						
1.	Define and describe the concept of health care to community	Lecture-1	CM 17.1			Written/ Viva-voce
2.	Describe community diagnosis	Lecture-2	CM 17.2			Written/ Viva-voce
3.	Describe primary health care, its components and principles	Lecture-3	CM 17.3			Written/ Viva-voce
4.	Describe National policies related to health and health planning and millennium development goals	Lecture-4	CM 17.4			Written/ Viva-voce
5.	Describe Sustainable development goals	Lecture-5	CM 17.4			Written/ Viva-voce
6.	Describe health care delivery in India	Lecture-6	CM 17.5			Written/ Viva-voce
7.	Observe the health care delivery in different level of health systems at primary, secondary and tertiary	SDL-1	CM 17.5		Assignment	Written/ Viva-voce

**Note: L- Lecture (6); SDL-Self-directed learning (1)**

SI No.	Classes	Teaching method	Competency	Integration	Misc.	Assessment
<b>RECENT ADVANCES IN COMMUNITY MEDICINE [CM 20 - 20.1 TO 20.4]</b>						
1.	List important public health events of last five years	SDL-1	CM 20.1		Assignment	Written/ Viva-voce



2.	Describe various issues during outbreaks and their prevention	SGD-1	CM 20.2		Tutorials	Written/ Viva-voce
3.	Describe any event important to Health of the Community	Lecture-1	CM 20.3			Written/ Viva-voce
4.	Discuss the laws pertaining to practice of medicine	Lecture-2	CM 20.4			Written/ Viva-voce
5.	Demonstrate awareness about laws pertaining to practice of medicine such as Clinical establishment Act and Human Organ Transplantation Act and its implications	SGD-2	CM 20.4		Tutorials	Written/ Viva-voce

**Note: L- Lecture (2); SGD- Small group discussion (2); SDL-Self-directed learning (1)**

## Specific Learning Objectives for 3<sup>rd</sup> Professional, Part - I **CM 4 - Principles of Health Promotion & Education**

### Competency 4.1:

Describe various methods of health education with their advantages and limitations

Level: Knows How

#### Specific Learning Objectives

At the end of the session, the learner should be able to:

1. Define health education
2. Describe the various methods of health education
3. Describe the advantages and limitations of each health education method

#### Content and TL methods

Sl No	Content	TL methods	Time allotted
1	Definition of health education	Lecture discussion	05 minutes
2	Methods of health education	Lecture discussion	30 minutes
3	Advantages and limitations of each health education method	Lecture discussion	10 mins

### Competency 4.2

Describe the methods of organizing health promotion and education and counselling activities at individual

family and community settings

Level: Knows How

### Specific Learning Objectives

At the end of the course, the learner should be able to:

1. Describe the methods of organizing health promotion and education and counselling activities at Individual, family and community settings
2. Plan a health education session at Individual/ family / community settings by selecting appropriate methods
3. Conduct a training session for given scenarios /target audience on the given topic

### Content and TL methods

Sl No	Content	TL methods	Time allotted
1.	Brief description of the methods of health promotion and counseling activities at Individual, family and community settings	Interactive discussion	15 minutes
2.	Allocation of scenarios for batches of 10 students each. Students are asked to prepare a training plan under the following headings: <ul style="list-style-type: none"><li>• Topic</li><li>• Pre test</li><li>• Set induction</li><li>• Key messages</li><li>• Methodology to deliver the key messages</li><li>• Training material and other resources needed</li><li>• Time scheduling</li><li>• Post test</li></ul>	Interactive discussion	15 minutes
3	Development of training material by students	Group work	30 minutes
4	Implementation of the training program	Group presentation	1 hour

### Competency 4.3:

Demonstrate and describe the steps in evaluation of health promotion and education program

Level: Shows How

### Specific Learning Objectives

At the end of the session, the learner should be able to:

- 1.Enumerate the steps in evaluation of health education program
- 2.Describe the steps in evaluation of health education program
- 3.Demonstrate and Apply the steps in evaluation of a health program

#### **Content and TL methods**

Sl No	Content	TL methods	Time allotted
1.	Steps in evaluation of health education program	Interactive discussion	15 minutes
2.	Application of the steps in evaluation of health promotion program : Following implementation of training program (Competency4.2), Students are asked to evaluate the sessions conducted by them	Interactive discussion	30 minutes
3	Debriefing by faculty	Interactive discussion	05 minutes

## **CM 06 - BASIC STATISTICS AND ITS APPLICATIONS**

### **Competency 6.1: (1hr)**

Formulate research question for the study. Level – know how

#### **Specific Learning Objectives**

At the end of the session, the learner should be able to:

- a)Introduction to health research and biostatistics
- a) Difference between qualitative and quantitative approaches to research
- b)Elements of research question
- c)Steps in framing a research question, criteria in framing research question.

### **Competency 6.2:**

Small group field activity **(2hrs)** Level – Know how

Describe and discuss the principles and the methods, classification, interpretation and presentation of statistical data.

### **Specific Learning Objectives**

At the end of the session, the learner should be able to:

- a) Making of questionnaire based on research
- b) They will do the data collection using data questionnaire
- c) How to classify the data.
- d) Steps in analysis and interpretation

## **Competency 6.3:**

Describe, discuss and demonstrate the application of elementary statistical methods including test of significance in various study designs.

Level – Show how

### **Specific Learning Objectives**

At the end of the session, the learner should be able to:

- a) Able to calculate Mean, Median and Mode, Standard deviation, Standard error.
- b) To know various methods of graphical representation of data.
- c) To know various data entry tools- MS excel, Epinfo, Google forms, Google sheets.

## **Competency 6.4:**

Enumerate, discuss and demonstrate common sampling techniques, simple statistical methods, frequency distribution, measures of central tendency and dispersion.

Level – Show how

### **Specific Learning Objectives**

At the end of the session, the learner should be able to:

- a) To know various sampling techniques and sample error.
- b) To know correlation and regression
- c) Able to calculate chi square test

## **Epidemiology of Communicable and Non- Communicable diseases (CM 08)**

### **Competency 8.1**

Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for communicable diseases

### **Specific Learning Objectives**

At the end of the course, the learner should be able to:

1. Describe the epidemiology of the following groups of communicable diseases
  - ☐ Respiratory diseases
  - ☐ Gastrointestinal infections
  - ☐ Vector borne diseases
  - ☐ Surface infections
2. Apply the concept of dynamics of disease control to the communicable disease under the above groups
3. Describe the salient features of national programs for the prevention and control of communicable diseases

## Content

## Theory

1. Overview of communicable diseases
2. Epidemiology of the following communicable diseases.....
  - ☐ Respiratory diseases
    - ☐ Measles
    - ☐ Tuberculosis
    - ☐ Influenza
    - ☐ Diphtheria
    - ☐ Pertusis
  - ☐ Gastrointestinal infections
    - ☐ Cholera
    - ☐ Typhoid
    - ☐ Poliomyelitis
    - ☐ Viral hepatitis
    - ☐ Helminthiasis
  - ☐ Vector borne diseases
    - ☐ Malaria
    - ☐ Dengue
  - ☐ Surface infections
    - ☐ HIV
    - ☐ Leprosy
    - ☐ Tetanus
  - ☐ Zoonotic diseases
  - ☐ Emerging and reemerging diseases
  - ☐ Hospital acquired infections

.....under the following headings

- ☐ Burden
  - ☐ Epidemiological triad
  - ☐ Chain of transmission for that disease
  - ☐ How to break the chain of transmission
3. Explain the following national health programs.....
    - ☐ Revised national tuberculosis control program
    - ☐ National polio surveillance program

- ☐ National vector borne disease control program
- ☐ National AIDS control program

..... under the following headings

- ☐ Relevance and need for the program
- ☐ Objectives
- ☐ Strategies
- ☐ Infrastructure for service delivery
- ☐ Monitoring and evaluation indicators

### **Practical**

Discuss public health scenarios on the following:

- ☐ Respiratory diseases
- ☐ Gastrointestinal infections
- ☐ Vector borne diseases
- ☐ Surface infections

### **Clinico-social case discussions**

1. Dengue
2. Typhoid
3. Acute respiratory tract infection
4. Acute diarrheal disease
5. HIV
6. Rabies

**For the above diseases, focus on the following:**

- ☐ Clinical features
- ☐ Assessment of determinants
- ☐ Recommendations at individual, family and community level

## **Competency 8.2**

Describe and discuss the epidemiological and control measures including the use of essential laboratory tests at the primary care level for Non Communicable diseases (diabetes, Hypertension, Stroke, obesity and cancer etc.)

### **Specific Learning Objectives**

At the end of the course, the learner should be able to:

1. Explain the characteristics of a non communicable disease
2. Explain the meaning of the term “risk factor”
3. Describe the epidemiology of the following non communicable diseases
  - ☐ Hypertension
  - ☐ Diabetes

- ☐ Coronary heart disease
  - ☐ Cancers
  - ☐ Blindness
  - ☐ Accidents
4. Apply the concept of levels of prevention to the above non communicable disease
  5. Describe the salient features of national programs for the prevention and control of NCDs

## Essential content

### Theory

1. Introduction to NCDs
  - ☐ What are NCDs
  - ☐ Characteristics
  - ☐ Risk factor
  - ☐ Prevention and control
2. Epidemiology, prevention and control of the following diseases.....
  - ☐ Hypertension
  - ☐ Diabetes
  - ☐ Coronary heart disease
  - ☐ Cancers
  - ☐ Blindness
  - ☐ Accidents

.....under the following headings

- ☐ Burden
- ☐ Time trends
- ☐ Place and person distribution
- ☐ Risk factors (and web of causation)
- ☐ Primordial, primary and secondary and tertiary prevention
- ☐ Key initiatives at international and national level

### Practical

Case studies on diabetes, RHD and stroke

### Clinico-social case discussions

1. Hypertension
2. Diabetes
3. Coronary heart disease
4. Stroke

For the above diseases, focus on the following:

- ☐ Clinical features
- ☐ Assessment of risk factors

- ☐ Anthropometric measurements
- ☐ Recommendations at individual, family and community level

## Competency 8.3

Enumerate and describe disease specific National Health Programs including their prevention and treatment of a case

### Specific Learning Objectives

At the end of the course, the learner should be able to:

1. List the national health programs in India
2. Describe the objectives and strategies for the following national health programs
  - a. RMNCH+A
  - b. RNTCP
  - c. NVBDCP
  - d. NACP
  - e. NLEP
  - f. ICDS
  - g. NPCDCS
  - h. NBCP

### Contents: (linked to competency 8.7)

Describe the salient features of the following national programs

- a. RMNCH+A
- b. RNTCP
- c. NVBDCP
- d. NACP
- e. NLEP
- f. ICDS
- g. IDSP
- h. NPCDCS
- i. NBCP
- j. NHM

.... under the following headings

- Need for national program (in terms of burden of problem)
- Objectives
- Strategies
- Infrastructure for service delivery and personnel at each level of care
- Monitoring indicators

## Competency 8.4

Describe the principles and enumerate the measures to control a disease epidemic



### Specific Learning Objectives

At the end of the session, the learner should be able to:

1. To be able to list the definition of epidemic
2. To be able to list the steps of investigation out break
3. To be able to list the factors leading to an outbreak in the community

### Content:

1. Definition of epidemic, endemic and sporadic
2. Objectives of an epidemic investigation
3. 10 Steps of an outbreak investigation with example
4. Epidemiological case sheet
5. Epidemic curve
6. Report writing
7. List the control measures based on the epidemic with actual examples

## Competency 8.5:

Describe and discuss the principles of planning, implementing and evaluating control measures for disease at community level bearing in mind the public health importance of the disease

Level: Knows

### Specific Learning Objectives

At the end of the session, the learner should be able to:

4. Describe the meaning of the terms “control”, “elimination” and “eradication” of disease
5. List the problems of public health importance in India
6. Describe the steps of the planning cycle (Link to competency 16.2 on planning cycle) and apply the steps of the planning cycle to common problems of public health importance
7. Describe the methods to prevent and control disease with two examples (one communicable and one non communicable disease)
8. Describe the strategies being used in the corresponding national program for the control of the two diseases chosen in SLO 5 (Link to competency 8.3 on national health programs)
9. Describe the steps in evaluation of a health program
10. Apply the steps in evaluation of a health program

### Content and TL methods

Sl No	Content	TL methods	Time allotted
1	Meaning of “control”, “elimination” and “eradication” of disease	Lecture discussion (Theory, 2 <sup>nd</sup> Professional)	30 minutes

2	Problems of public health importance in India	Lecture discussion (Theory, 2 <sup>nd</sup> Professional)	30 minutes
3	Application of the steps of planning cycle to a public health problem	Large group activity and interactive discussion (Theory, 2 <sup>nd</sup> Professional)	2 hours
4	Prevention and control of disease (with two examples - one communicable and one non communicable disease)	Small group activity (UOP, 2 <sup>nd</sup> Professional)	1 hour
5	Strategies used in the corresponding national program for the control of the two diseases chosen in SLO 4	Small group activity (UOP, 2 <sup>nd</sup> Professional)	1 hour
6	Steps in evaluation of a health program	Small group activity (Practicals, 3 <sup>rd</sup> Professional)	30 minutes
7	Application of steps in evaluation of a health program to a health program	Small group activity (Practicals 3 <sup>rd</sup> Professional)	1 hour

### Integration

- Medicine
- Microbiology
- Pharmacology

## Competency 8.6

Educate and train health workers in disease surveillance, control & treatment and health education

Level: Shows how

### Specific Learning Objectives

At the end of the course, the learner should be able to:

4. Conduct a training session for health workers on the given topic
5. Conduct a health education program for a target audience (Link to competency 4.2 on health promotion. Covered as a part of a) ROP – community program b) ROP – child to child program and c) CHAP – health education in school)

Note :

- a) Health workers to include nursing aids, nurses, workers from allied health departments like housekeeping, laundry etc, ASHAs, Anganwadi workers etc
- b) The sessions will involve prior preparation by faculty to identify the target audience, topic, evaluation material, chart paper, markers, permissions etc
- c) The topic for health education will depend on the audience and will be allotted by faculty. Suggested topics include hand washing, dengue, healthy lifestyle, tobacco control etc

## Content and TL methods

Sl No	Content	TL methods	Time allotted
1	Allocation of topic and division into groups of 10 students each. Students are asked to prepare a training plan on the allotted topic under the following headings: <ul style="list-style-type: none"><li>• Topic</li><li>• Pre test</li><li>• Set induction</li><li>• Key messages</li><li>• Methodology to deliver the key messages</li><li>• Training material and other resources needed</li><li>• Time scheduling</li><li>• Post test</li></ul>	Interactive discussion Practical, 3 <sup>rd</sup> Professional	15 minutes
2	Development of training material by students	Group work Practical, 3 <sup>rd</sup> Professional	1 hour
3	Review of training plan by faculty	Group presentation Practical, 3 <sup>rd</sup> Professional	45 minutes
4	Implementation of the training program for the target audience	Group presentation Practical, 3 <sup>rd</sup> Professional	1 hour
5	Debriefing by faculty	Interactive discussion	30 minutes

## Integration

- Nursing & allied health sciences
- Government functionaries

## Competency 8.7:

Describe the principles of management of information systems

### Specific Learning Objectives

At the end of the session, the learner should be able to:

1. Define health management information system [HMIS]
2. List the uses of HMIS
3. Describe the flow of data in HMIS in the public health system in India
4. List the sources of health information in India

### Content

1. Definition of HMIS
2. Distinction between data and information
3. WHO requirements for health information systems
4. Uses of HMIS
5. Sources of health information
6. HMIS in public health system in India

**TL methods**

Lecture discussion, 3<sup>rd</sup> Professional

# **Reproductive Maternal and Child Health**

## **Competency 10.1**

Describe the current status of Reproductive, maternal, new born and child health Level: Knows

**Specific Learning Objectives**

At the end of the session, the learner should be able to:

- a) Enumerate and discuss the indicators to measure the status of Maternal and child health- MMR, PMR, NMR, PNMR, IMR and Under 5 Mortality rate
- b) Define Maternal mortality rate and maternal mortality ratio.
- c) Discuss the approaches for measuring maternal mortality.
- d) Discuss the status of maternal mortality in India and rest of the world
- e) Discuss the direct and indirect causes of maternal mortality
- f) Discuss the global strategy for women’s , children’s and adolescents health(2016-2030)
- g) Describe the various interventions to prevent and reduce maternal mortality
- h) Define foetal deaths
- i) Define still birth rate
- j) Define Perinatal Mortality rate, neonatal and post neonatal mortality rate
- k) Discuss causes of PMR, NMR and PNMR

**Content and TL methods**

Sl No	Content	TL methods	Time allotted
1	Current status of Reproductive, maternal, new born and child health	Lecture	1 hour

**Integration**

Obstetrics and Gynaecology  
Paediatrics

## **Competency 10.2:**

Enumerate and describe the methods of screening high-risk groups and common health problems.  
Level: Knows

**Specific Learning Objectives**

At the end of the session, the learner should be able to:

- a) Enumerate the screening methods for high-risk groups among antenatal women.
- b) Describe high risk approach in antenatal care
- c) Discuss the preventive services for antenatal mother- Antenatal checkup, investigations and prenatal advices.
- d) Enumerate common health problems among antenatal women and its management and prevention- Iron deficiency anemia, PIH, GDM, Rh incompatibility
- e) Discuss the complications of post- partal period and its management

**Content and TL methods**

Sl No	Content	TL methods	Time allotted
1	The methods of screening high-risk groups among antenatal women	Lecture	30 minutes
2	Common health problems among antenatal women	Lecture	30 minutes

**Integration**

Obstetrics and Gynaecology

**Competency 10.3:**

Describe local customs and Practices during Pregnancy, Child birth, Lactation and Child feeding practices

Level: Knows

**Specific Learning Objectives**

At the end of the session, the learner should be able to:

- a) Describe the Dietary Practices for a pregnant woman
- b) List the Pre-natal customs and Practices in detail
- c) List the Child Bearing Practices that a mother should know
- d) Enumerate the importance of Institutional delivery
- e) Enumerate the Advantages and Disadvantages of the Practice of Domiciliary Mid wifery services
- f) Describe the Nutritional Practices of a Post-natal mother
- g) Describe the practice of Post-natal exercises as well as the Psychological and Social support in a Post-natal women

- h) Enumerate the Benefits of the Practice of “Rooming In”
- i) Enlist the Advantages of Practice of Breast Feeding both Exclusive Breast Feeding and later
- j) Describe the various Family Planning Practices that a mother should adopt, according to her convenience.

**Content and TL methods**

Sl No	Content	TL methods	Time allotted
1	Prenatal customs and practices	Lecture	30 minutes
2	Child bearing practices and Child care	Lecture	30 minutes

**INTEGRATION**

Obstetrics and Gynaecology  
Paediatrics

**Competency 10.4:**

Describe the RMNCH and CSSM interventions Level: Knows

**Specific Learning Objectives**

At the end of the session, the learner should be able to:

**I REPRODUCTIVE**

- 1) Enlist causes of STI
- 2) Describe the syndromic approach
- 3) Enumerate various FP methods

**II MATERNAL HEALTH**

- 1) Enlist objectives of Antenatal Care
- 2) Enlist objectives of Intra natal Care and Postnatal Care
- 3) Define Maternal Mortality Rate (MMR) and describe causes of maternal mortality
- 4) List out preventive services for mothers
- 5) Describe High Risk Approach
- 6) Describe Essential and Emergency Obstetric Care

**III NEWBORN**

- 1) Describe Essential New Born Care
- 2) Discuss Baby Friendly Hospital Initiative
- 3) Define Exclusive Breastfeeding

**IV CHILD**

- 1) Define IMR and discuss causes of infant mortality and its prevention.

- 2) Discuss causes of Under-five mortality
- 3) Discuss causes and prevention of ARI and diarrhoeal diseases
- 4) List objectives of Under-five clinics
- 5) Demonstrate ORS preparations
- 6) Classify ARI and diarrhoeal diseases

#### **V ADOLESCENT**

- 1) Enlist adolescent health problem
- 2) Describe adolescent health program

#### **Content and TL methods**

Sl No	Content	TL methods	Time allotted
1	STI and Family planning methods	Lecture	60 minutes
2	Antenatal, Intranatal and Postnatal care	Lecture	90 minutes
3	Newborn care, Child and Adolescent health	Lecture	90 minutes

#### **Integration**

Obstetrics and Gynaecology  
Paediatrics

### **Competency 10.5:**

**Level:** Shows how

#### **Specific Learning Objectives**

#### **A. UNIVERSAL IMMUNIZATION PROGRAMME**

At the end of the session, the learner should be able to:

11. Outline the National Immunization Schedule.
12. Explain goals and targets of Mission Indradhanush and Intensified Mission Indradhanush.
13. Describe schedule, dose, route, site of administration, storage and AEFI of different vaccines.
14. Identify different components of Cold Chain.

#### **Content and TL methods**

Sl No	Content	TL methods	Time allotted
1	National immunization schedule	Small group discussion	30minutes

2	Visit to UHTC and Demonstrate steps in vaccine administration and storage	Small group activity and interactive discussion	60 minutes
3	Steps in surveillance of AFP and reporting and management of AEFI	Small group discussion	30 minutes

### Integration

- Paediatrics
- Obstetrics

### B. INTEGRATED MANAGEMENT OF NEONATAL AND CHILDHOOD ILLNESS (IMNCI)

At the end of the session, the learner should be able to:

- Enlist the principles of IMNCI.
- Classify the childhood illnesses according to colour coding of IMNCI.
- Describe salient features of Navjat Shishu Suraksha Karyakram, Janani Shishu Suraksha Karyakram, Baby Friendly Hospital Initiative
- Interpretation of growth charts.

### Content and TL methods

Sl No	Content	TL methods	Time allotted
1	IMNCI-STRATEGY, STEPS, COMPONENTS	SMALL GROUP DISCUSSION	30 Minutes
2	IMNCI CASE MANAGEMENT WITH SCENARIO	SMALL GROUP ACTIVITY AND INTERACTIVE DISCUSSION	30 minutes
3	NEWBORN & CHILD HEALTH PROGRAMS	SMALL GROUP DISCUSSION	30 minutes
4	GROWTH MONITORING & GROWTH CHART	SMALL GROUP DISCUSSION	30 minutes

### Integration

- PAEDIATRICS



## CM10.6 Enumerate and describe various family planning methods, their advantages and shortcomings

Domain – Knowledge,  
Level - Knows How, Core  
competency – Y

### Specific Learning objectives

At the end of the session the learner should be able to

1. Classify and enumerate the different Family planning methods / contraception (Spacing methods and Permanent methods)
2. Describe the various family planning methods – including ideal candidates for each method
3. Enumerate the disadvantages and failure rates for the family planning methods
4. Explain the concept of failure rates of contraceptives (Pearl index) and the method of calculating the same
5. Describe Medical termination of Pregnancy, its legal basis. The circumstances/ indications under which it can be performed. The setting where it can be performed and qualifications to perform the same. The role of MTP in Reproductive and Child health care
6. Explain the concept of emergency contraception and various methods.

### Content and teaching learning methods

Sl	Content	Teaching Method	Time Allotted
1	List the contraceptive methods. Describe 'Condom', 'Mala N/Mala D', 'Saheli' & 'Antara' under the following headings (a) Description (b) Method of use (c) Advantages (d) Disadvantages (e) Failure Rate (f) Social Marketing	SGD	1 hour
2	Describe Contraceptive Methods 'Copper T 380A', 'No Scalpel Vasectomy' & 'Minilap' under the following headings (a) Description (b) Method of use (c) Advantages (d) Disadvantages (e) Failure Rate (f) Incentives	SGD	1 hour
3	Describe the various methods of emergency contraceptive methods. Describe the various methods of Medical Termination of Pregnancy (MTP). Describe the circumstances under which MTP can be performed. Describe the settings & qualifications required to perform MTP.	Lecture	1 hour
			3 hrs

**Integration** – no integration has been suggested in the NMC document

## CM 10.7 Enumerate and describe the basis and principles of the Family Welfare Program including the organization, technical and operational aspects

Domain – Knowledge,  
Level - Knows How, Core  
competency – Y

### Specific Learning objectives

At the end of the session the learner should be able to

1. Describe the historical evolution of family planning/ family welfare programme in India
2. Define family planning. Explain the sociological and demographical basis of family planning
3. Explain how family planning programme is planned at various levels (National, State, District and PHC level, including various fertility related statistics)
4. Explain how family planning programme is implemented at the district level and below
5. Explain basics of evaluation of family planning programme (needs, plans, performance, effects and impact)
6. Explain the National Population Policy – historical evolution, current NPP2000. Goals, objectives and targets

### Content and teaching learning methods

Sl No	Content	TL methods	Time allotted
1	Definition, demographic & Sociological basis of family planning in India and evolution of FP/FW program	Lecture	30 mins
2	Indicators used for calculation of Family welfare targets. Actual calculation of eligible couple number, indenting of FP methods	Practical / Lecture	60 mins
3	Organizational pattern of Family planning Program at District level and below.	SDL	30 mins
4	Community needs assessment survey. Types & Steps of health program evaluation	Lecture	60 Mins
5	NPP 2000 Historical evolution, current NPP2000. Goals, objectives and targets	Lecture	30 mins

			3 hrs 30 mins
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## CM 10.8 Describe the physiology, clinical management and principles of adolescent health including ARSH (total hrs of teaching required 2 hrs 30 mins)

Domain – Knowledge,  
Level - Knows How, Core  
competency – Y

### Specific Learning objectives

At the end of the session the learner should be able to

1. Enumerate the physiological changes taking place during adolescence in male and females and how it is assessed
2. List the priority interventions under Adolescent Health Programme and describe the various services provided at clinic, outreach/ sub center, family and community level
3. Explain the need for a separate adolescent reproductive and sexual health programme (ARSH) under RMNCH+A and how it is to be delivered.
4. Explain the topics to be covered while counseling for adolescent health.
5. Describe the global strategy for women's, children's and adolescents's health 2016-2030

### Content and teaching learning methods

Sl No	Content	TL methods	Time allotted
1	Physiological changes in adolescence and its assessment	Lecture	15 min
2	Adolescent health programme – components and services delivered	Lecture, SGD, Field visits	30 min
3	Sensitivity involved in delivering reproductive and sexual health programme for adolescents, components of ARSH, service delivery in PHCs, CHCs, THs and District Hospitals	SGD	45 min
4	Counselling Adolescents – steps in counselling, contents of adolescent health education (physiological changes, changes in personality, both males and females, general health, reproductive and sexual health, counselling regarding not using habit forming substances)	SGD	45 mins

5	Global strategy for Women's, children's and adolescents' health 2016-2030	Lecture	15 mins
			2hrs 30mins (total)

**Integration – no integration has been suggested in the NMC document**

## CM10.9 Describe and discuss gender issues and women empowerment

Domain – Knowledge,

Level - Knows How, Core

competency – Y

### Specific Learning objectives

At the end of the session the learner should be able to

1. Explain the difference between “sex” and “gender” in terms of biological and social perspective.
2. Explain the difference between patriarchal and matriarchal societies with positive and negative aspects of both.
3. Explain how “gender” is a determinant of health and why it has been mentioned (specifically women and children) in the Directive principles of state policy of the Constitution of India
4. Describe the concept of women empowerment with examples

### Content and teaching learning methods

sl.no	Content	TL Methods	Time allocated
1	Explain the difference between sex and gender in terms of biological and social perspective	Lecture/SGD	30minutes
2	Explain the difference between patriarchal and matriarchal society and its adv and disadvantages	SGD	30minutes
3	Explain how gender is the determinant of health and why the importance of girl child have been mentioned as the directive policy of constitution of India	Lecture	1 hour
4	Discuss the concept of women empowerment and role of self help group in empowering women	Small group discussion	30 minutes

5	Explain about gender bias and medical and social problem faced by girl child at different ages	Group discussion	30 minutes
			3 hrs

For CM 10.1 to CM 10.9 (total 21 hrs – Lecture 10 hrs and SGD/ Practicals/ SDL – 11 hrs)

## GERIATRIC SERVICES [(CM 12) - 12.1 TO 12.4]

Sl No.	Classes	Teaching method	Competency	Integration	Misc.	Assessment
<b>GERIATRIC SERVICES [CM 12 - 12.1 TO 12.4]</b>						
1	Define and describe the concept of Geriatric services	Lecture-1	CM 12.1	V.I with General Medicine		Written/ Viva-voce
2	Describe health problems of aged population	SGD-1	CM 12.2	V.I with General Medicine	CSCD	Written/ Viva-voce
3	Describe the prevention of health problems of aged population. Describe National program for elderly	SGD-2	CM 12.3 & 12.4	V.I with General Medicine	CSCD	Written/ Viva-voce

### Competency 12.1:

Define and describe the concept of Geriatric services

#### Specific Learning Objectives

At the end of the session, the learner should be able to:

1. Delineate the age group that is described as elderly.
2. Discuss the characteristic features of geriatric health care services
3. Discuss the challenges in providing geriatric health care services.

#### Content

1. Who can be called an elderly?
2. Classify the elderly as young old, old old and old older.
3. Discuss the impact of demographic and epidemiologic transition on providing geriatric health care services
4. Discuss accessibility, availability, acceptability and quality of health care services with respect to geriatric health services
5. Discuss the economic, logistic, psychosocial, socio cultural challenges in providing geriatric health care services.
6. Discuss comprehensive geriatric health care services.

### **TL methods**

Lecture discussion or SGD 6th term

## **Competency 12.2:**

Describe health problems of aged population

### **Specific Learning Objectives**

At the end of the session, the learner should be able to:

1. Classify the problems faced by the elderly.
2. Discuss the health problems of the elderly

### **Content**

1. Health problems due to ageing
2. Problems due to chronic illness.
3. Health problems specific to gender.

### **TL methods**

Lecture discussion or SGD 6th term

## **Competency 12.3 & 4:**

Describe the prevention of health problems of aged population.

Describe National program for elderly

### **Specific Learning Objectives**

At the end of the session, the learner should be able to:

1. Explain the concept of healthy ageing
2. Describe the multipronged approach to prevention of health problems of the elderly
3. State the objectives and strategies of National health program for the aged.

### **Content**

1. Multipronged approach for prevention of health problems of the elderly including health, social sectors.
2. Concept of healthy ageing
3. Explain the policies and welfare programs applicable to elderly
4. Objectives, strategies and implementation of national program for the elderly
5. Importance of creation of elderly friendly environment in terms of elderly friendly walkways, elderly friendly homes, elderly friendly public transport system
6. Discuss the policies for the elderly.

## TL methods

Lecture discussion or SGD 6th term

# HOSPITAL WASTE MANAGEMENT [CM 14 - 14.1 TO 14.3]

Sl No.	Classes	Teaching method	Competency	Integration	Misc.	Assessment
1	Define and classify hospital waste	Lecture-1	CM 14.1	H.I with Microbiology		Written/ Viva-voce
2	Describe various methods of treatment of hospital waste	SGD-1	CM 14.2	H.I with Microbiology	Field visit	Written/ Viva-voce
3	Describe laws related to hospital waste management	SGD-2	CM 14.3	H.I with Microbiology	Field visit	Written/ Viva-voce
4	Observe the hospital waste management done at hospital and Common Biomedical Waste Treatment Facility(CBWTF)	SDL-1	CM 14.2	H.I with Microbiology	Assignment	Written/ Viva-voce

## Competency 14.1:

Define and classify hospital waste

### Specific Learning Objectives

At the end of the session, the learner should be able to:

3. Define Biomedical Waste
4. Differentiate between Biomedical waste, Health care waste and Hospital waste
5. Describe effects of improper management of biomedical waste on environment and human health.
6. Enlist the different types of waste generated in the hospital
7. Classify biomedical waste

### Content

7. Definition of Biomedical waste, Health care waste and Hospital waste
8. Effect of improper management of Biomedical waste on the environment such as Air, water and soil pollution.
9. Effect of Persistent organic pollutants on human health in terms of cancers and endocrine disorders.
10. List the different types of waste generated in the Hospital
11. Classification of biomedical waste as per WHO classification and BMWM Rules 2016

## TL methods

Lecture discussion or SDL, 6<sup>th</sup> term

## Competency 14.2:

Describe various methods of treatment of hospital waste

### Specific Learning Objectives

At the end of the session, the learner should be able to:

1. Enlist the various methods of treatment of Biomedical waste.
2. Explain the advantages and disadvantages between burn and non burn technologies for treatment of biomedical waste
3. Explain the importance of pre-treatment of certain categories of Biomedical waste.

### Content

1. Describe the available technologies for treatment of various categories of biomedical waste such as- Chemical treatment, Incineration, disinfection and shredding.
2. Describe the working of incineration and the difference between incineration and burning.
3. Describe the working of autoclave and microwave. Discuss the difference between sterilization and disinfection.
4. Discuss the advantages and disadvantages of autoclave and microwave over incineration
5. Discuss the treatment methods available for waste water treatment from the hospital
6. Discuss specifically the treatment to be followed as per the BMW Rules 2016 for the various categories of waste.

### TL methods

Lecture discussion 6th term

## Competency 14.3:

Describe laws related to hospital waste management

### Specific Learning Objectives

At the end of the session, the learner should be able to:

1. Describe the scope and applicability of BMW Rules 2016.
2. Discuss the processes of segregation, collection, transportation and final disposal mechanisms as per BMW Rules 2016
3. Discuss the roles and responsibilities of Regulatory authorities in implementation of BMW Rules 2016

### Content

1. Describe the Scope and applicability of BMW Rules 2016
2. Explain the role and process of segregation in Biomedical waste management as per BMW 2016.
3. Describe the process of collection and transportation as per BMW Rules 2016
4. Describe the role of bar coding and tracking of waste as described in BMW Rules 2016.
5. Describe the roles of various committees such as Infection control committee or Biomedical waste



- management
- Describe Spill management process.

#### TL methods

Lecture discussion 6th term

### Competency 14.4:

Observe the Biomedical waste management done at hospital or Common Biomedical Waste Treatment Facility (CBWTF)

#### Specific Learning Objectives

At the end of the observation session, the learner should be able to:

- Identify the steps involved in biomedical waste management in a hospital as per BMW Rules 2016
- Enlist the documents that are to be maintained at the hospital as per BMW Rules 2016

#### Content

- Student will use an observation check list and observe the segregation, collection, in house transportation, temporary storage, documentation process and use of personal protective equipment by the personnel.
- Student will visit various locations in the hospital to observe the biomedical waste management process.

#### TL methods

Demonstration of Biomedical waste management processes in the hospital. Interaction with nursing personnel.

#### Evaluation

Evaluate the report of the visit submitted by the student

## Topic: Health planning and management (CM 16)

Competency No	Competency	Domain K/S/A/ C	Level	Phase	TLmethod	Integration	Assessment *	Remarks
16.1	Define and describe the concept of Health Planning	K	K	3	Interactive lecture		SAQ SEQ	
16.2	Describe planning Cycle	K	K	3	Interactive lecture		LAQ SEQ SAQ	

16.3	Describe Health Management Techniques	K/S	KH/S H	2 and 3	SGD Practical PHC/DH O visit		LAQ SEQ SAQ MCQ Assignment and log book entry Reflection writing	
16.4	Describe Health planning in India and National policies related to health and health planning	K	KH	3	Interactive lecture		SA Q SEQ MC Q	<a href="#">Pandemic module, PM 2.4)</a>  <a href="#">FC 3.1 (foundation course)</a>

Total time allotted - 4 hours (2 hours large group and 2 hours small group learning)

\* Formative Assessment tools for Interactive lecture

- Quiz/MCQ test (app or google form)
- One minute paper
- Directed paraphrasing
- Muddiest point
- Buzz groups
- Exit slip/ticket
- Yes/No response (color cards)
- Log book/portfolio

Formative assessment for small group learning (some of them are used both for teaching and assessment)

- Checklist completion
- Peer assessment
- Think, Pair and share
- Round robin charts
- Jigsaw method
- Feedback forms
- Informal presentations
- Group discussions
- Poster making
- Role play
- Debates
- Logbook/practical record/portfolio

## CM 16.1- Define and Describe the concept of Health Planning

SLOs: *At the end of teaching learning session the student should be able to*

1. Define Health planning as per WHO
2. Identify the purpose of health planning
3. Define health needs (Postings during second year/family survey)
4. Define health demands (Postings during second year/family survey)
5. Differentiate between Goal, Target and Objective using suitable examples.

Content:

- Need for planning in health
- Pre requisites for planning
- Examples of planning in health care (national programs, hospitals and during health crisis)
- Health needs and demands

Assessment:

Sample Short answer Question:

Differential between goal, target and objective using suitable examples- 3 marks

## CM 16.2- Describe planning cycle

SLOs: *At the end of teaching learning session the student should be able to*

1. Define Planning Cycle
2. Describe the 8 steps of the Planning Cycle in the correct order with an example

Content:

- Planning cycle at various levels with examples'
- Gantt chart
- Types of planning

Assessment:

Sample Long answer question:

Describe the steps of planning cycle with an example – 10 marks

## CM 16.3- Describe Health management techniques

SLOs: *At the end of teaching learning session the student should be able to*

1. Define health management
2. Describe the principles of health management

3. Differentiate between management, organisation and administration in health
4. Describe the modern health management techniques with suitable examples

Content:

- Management and administration
- Organisational control
- Budgeting
- Inventory management
- Network analysis
- Time management.

## CM 16.4- Describe health planning in India and National policies related to health and health planning

SLOs: *At the end of teaching learning session the student should be able to*

1. Describe the steps to prepare a micro plan for vaccination activity at PHC level (Pandemic module, PM 2.4)
2. List the goal, key principles and objectives of National Health Policy 2017
3. Demonstrate the understanding of the national health goals and policies FC 3.1 (foundation course)
4. Describe the thrust areas under National Health Policy 2017
5. Enumerate the recommendations of the various Health Committees in India
6. List the functions of NITI in Health planning in India
7. Describe role of Five-year plans with respect to health care in India

Content:

- NITI AYOG and health
- Five-year plans and health
- Health committee recommendations
- National Health policy 2017 highlights

**Faculty Guide:**

**Sample lesson plan**

Topic: Health Planning

Competency:

CM16.1- Define and describe the concept of Health planning

CM16.2- Describe planning cycle

Specific Learning Objective:

At the end of teaching learning session, a Phase 3 student should be able to

1. Define Health planning correctly as per WHO definition.
2. Identify the purpose of health planning correctly.
3. Define health needs and health demands.
4. Differentiate between Goal, Target and Objective correctly using examples.
5. Define the Planning Cycle correctly.
6. Describe the steps of the Planning Cycle correctly.

Domain - Knowledge

Level – Knows, Knows how

Core – Yes

Integration: NIL

LESSON PLAN

Sl. No.	Content	TL Method	TL Media	Time
1.	Set induction- Need/ Purpose for Health Planning	Brainstorming	Black/white board	5 min
2.	Define Health planning as per WHO definition	Lecture	PPT	5 min
3.	Differentiate between Goal, Target and Objective using examples	Lecture	PPT	5 min

4.	Define planning Cycle	Lecture	PPT	5 min
5.	Formative assessment	MCQ	Kahoot	5 min
6.	Describe the steps of the Planning Cycle	Lecture	PPT	20 min
7	Assessment	Summative: Q&A session		5 min
8	Summary	Brainstorming	PPT, White/ Black board	5 min
9	Attendance			5 min

**Faculty guide:**

**Assessment of small group learning:**

### Rubric for Small group Discussion

Score	Criteria for assessment
5	Is a proactive participant showing a balance between listening, initiating, and focusing discussion. Displays a proactive use of the whole range of discussion skills to keep discussion going and to involve everyone in the group. Understands the purpose of the discussion and keeps the discussion focused and on topic. Applies skills with confidence, showing leadership and sensitivity.
4	Is an active participant showing a balance between listening, initiating, and focusing discussion. Demonstrates all the elements of discussion skills but uses them less frequently and with less confidence than the above level. Keeps the discussion going but more as a supporter than a leader. Tries to involve everyone in the group. Demonstrates many skills but lacks the confidence to pursue them so that the group takes longer than necessary to reach consensus. Demonstrates a positive approach but is more focused on getting done than on having a positive discussion.
3	Is an active listener but defers easily to others and lacks confidence to pursue personal point of view even when it is right. Participates but doesn't use skills such as summarizing and clarifying often enough to show confidence. Limits discussion skills to asking questions, summarizing, and staying on topic. Lacks balance between discussion and analytical skills. Either displays good analysis skills and poor discussion skills or good discussion skills and poor analysis skills.
2	Is an active listener but defers easily to others and tends not pursue personal point of view, lacking confidence. Limits discussion skills to asking questions, summarizing, and staying on topic. Rarely demonstrates analysis skills because doesn't understand the purpose of the discussion, and as a result, offers little evidence to support any point of view.
1	Demonstrates no participation or effort. Participates only when prompted by the teacher. Only responds to others and initiates nothing. Provides limited responses that are often off topic. Participates minimally so that it is impossible to assess analysis skills or understanding of the issues.

**1 to 3 =Below Expectations**

**4 =Meets Expectations**

**5 =Above Expectations**

# HEALTH CARE OF THE COMMUNITY (CM 17)

## Competency 17.1/2/3

Define and describe the concept of health care to community/ Describe community diagnosis/ Describe primary health care, its components and principles.

### Specific learning Objectives

At the end of the session the learner will be able to:

- a. Define Health care.
- b. Classify levels of health care.
- c. Define Primary Health Care.
- d. Describe Principles and Elements of Primary Health Care.
- e. Define community diagnosis

## Competency 17.4

Describe National policies related to health and health planning and millennium development goals.

### Specific learning Objectives

At the end of the session the learner will be able to:

- a. Describe National Population Policy.
- b. Describe National Children Policy.
- c. Describe National policy for older persons.
- d. Describe Sustainable Development Goals (SDG) and targets.

## Competency 17.5

Describe health care delivery in India.

### Specific learning Objectives

At the end of the session the learner will be able to:

- a. Describe Health Systems in India – Centre, State,
- b. District Level: Panchayati Raj and Rural Development
- c. Describe Health Care Systems, Indigenous systems of medicine and its advantages and disadvantages in India.
- d. Describe the IPHS standards for PHC and Health and wellness centre, subcentre
- e. Describe the voluntary health agencies working in India
- f. Define evaluation
- g. Describe steps involved in evaluation of Health Service
- h. Describe Health Systems Research and Health Forecasting



## CM 20.1- List important public health events of last five years

SLOs: *At the end of teaching learning session the student should be able to*

1. List the important public health events
2. Know the importance of it and the theme of that year
3. Events conducted in their college or district and participate

Assessment:

Log book – Reflective writing

## CM 20.2- Describe various issues during outbreaks and their prevention

SLOs: *At the end of teaching learning session the student should be able to*

1. Define Pandemic and should be able to describe the steps taken in containment of the pandemic
2. Should know the various government bodies and non Govt agencies which help in the outbreaks
3. Various problems faced by the health care professionals in during

pandemic Assessment:

Log book – reflective writing

## CM 20.3 - Describe any event important to Health of the Community

SLOs: *At the end of teaching learning session the student should be able to*

1. List the important health event
2. Know the importance of it and

participate in it Assessment:

Log book – reflective writing

## CM 20 .4- Demonstrate awareness about laws pertaining to practice of medicine such as Clinical establishment Act and Human Organ

Transplantation Act and its implications

SLOs: *At the end of teaching learning session the student should be able to*

8. Demonstrate awareness about various laws in the state and in India
9. And the implications on health Assessment:

Log book – reflective writing

# AETCOM

## **The Foundations of Communication- 3**

### **A. Healthcare as a right:**

- 1) What are the implications of healthcare as a right?
- 2) What are social and economic implications of healthcare as a right?
- 3) What are the implications of doctor?

### **Evaluation:**

Write a short note on barriers of implementation of healthcare as a universal right.

### **B. Working In a healthcare team:**

- 1) Demonstrate ability to work in a team of peers and superiors.
- 2) Demonstrate respect in relationship with patients, fellow team members, superiors and other healthcare workers.

### **C. Doctor-patient relationship**

- 1) Demonstrate empathy in patient encounters.
- 2) Communicate care options to patient and family with a terminal illness in a simulated environment.

## **3.3 The Foundations of Communication-4**

(For Assessment of AETCOM competency please refer "AETCOM- Competency for the Indian medical Graduate 2018, MCI New Delhi Document)

# Reference Books

## Level I

1. K. Park, Park's textbook of preventive and social medicine, M/s Banarasidas Bhanot Publishers, Jabalpur. -
2. B.K. Mahajan & M. Gupta Textbook of preventive and social medicine, Jaypee Brothers.
3. Mahajan's Methods in Biostatistics for Medical Students and Research Workers. Jaypee Publishers
- 4). D.K Mahabalaraju., Essentials of Community Medicine, Practicals.
- 5) Sundar Lal, Textbook of Community Medicine, CBS Publishers.

## Level II

- 1) A M Kadri.IAPSM's Textbook of Community Medicine.
- 2) J Kishore.Kishore's National Health Programs of India
- 3) Rajvir Bhalwar, Textbook of Public Health and Community Medicine, Published in Collaboration with WHO.
- 4) Principles of Medical Education: Dr. T Singh
- 5) A H Suryakanth Community Medicine with Recent Advances.
- 6) P S S Sundar Rao. Introduction to biostatistics and research methods

## Level-III

1. Donald Hunter, (2018) The Disease of Occupations, Latest Edition, Hodder & Stoughton London, Sydney, Auckland, Toronto.
2. International Labour Organization, Encyclopaedia of Occupational Health and Safety, Volume 1 & 2. ILO, Geneva, Switzerland
3. Jallifee, Clinical Nutrition, WHO., Geneva

# Otorhinolaryngology Curriculum

## Goals

The Goal of training in this subject is to make the candidate familiar with common ENT problems. The IMG should be competent enough to diagnose and treat routine ENT diseases and should be able to identify the cases, which require specialist care and identify deaf individuals at the earliest and refer them for proper rehabilitation

## Competencies

The Learner must demonstrate :-

1. Knowledge of the common Otorhinolaryngological(ENT) emergencies and problems
2. Ability to recognize, diagnose and manage common ENT emergencies and problems in primary care setting
3. Ability to perform simple ENT procedures as applicable in a primary care setting
4. Ability to recognize hearing impairment and refer to the appropriate Hearing impairment rehabilitation programme.

## Skills

1. Examine and diagnose common disorders of the Ear, Nose and Throat region and manage at first level of care.
2. Recognize premalignant and malignant cases of head and neck region at an early stage.
3. Remove foreign bodies in the ear and nose.
4. Perform life saving surgical procedures in patients with airway emergencies.
5. Should be familiar with drainage of intra oral and neck abscesses.
6. Able to do anterior and posterior nasal packing to control Epistaxis

## Integration

The teaching should be aligned and integrated horizontally and vertically in order to allow the learner to understand the structural basis of ENT problems, their management and correlation with function, rehabilitation and quality of life

## Attitude and communication skills

At the end of the course the student should be able to:

- a. Communicate effectively with patients, their families and the public at large.
- b. Communicate effectively with peers and teachers; demonstrate the ability to work effectively with peers in a team.
- c. Demonstrate professional attributes of punctuality, accountability and respect for teachers and peers.
- d. Appreciate the issues of equity and social accountability while undergoing early clinical exposure.

**Interactive Lectures – 25 hours**  
**Proposed topics**

<b>Sl No</b>	<b>Topics</b>
1	<b>Anatomy &amp; Physiology of Ear</b>
2	<b>Anatomy &amp; Physiology of Nose</b>
3	<b>Anatomy &amp; Physiology of Throat</b>
4	<b>Anatomy &amp; Physiology of Head &amp; Neck</b>
5	<b>Diseases of the External Ear</b>
6	<b>Non-infectious disorders of Middle Ear</b>
7	<b>Infections of Middle Ear</b>
8	<b>Diseases of Inner Ear</b>
9	<b>Hearing Loss &amp; Tinnitus</b>
10	<b>Vertigo &amp; Balance Disorders</b>
11	<b>Facial Nerve Paralysis</b>
12	<b>Diseases of Nasal Septum</b>
13	<b>Non-infectious Rhinitis</b>
14	<b>Acute &amp; Chronic Rhinosinusitis</b>
15	<b>Epistaxis &amp; Head &amp; neck Trauma</b>
16	<b>Tumors of Nose &amp; PNS</b>
17	<b>Tumors of Nasopharynx &amp; JNA</b>
18	<b>Diseases of Salivary glands</b>
19	<b>Acute &amp; chronic Pharyngitis &amp; Tonsillitis</b>
20	<b>Head &amp; Neck Space Infections</b>
21	<b>Laryngeal Infections &amp; Benign disorders of Larynx</b>
22	<b>Malignancy of Larynx &amp; Hypopharynx</b>
23	<b>Stridor &amp; management of Airway Emergencies</b>
24	<b>Diseases of Oesophagus</b>
25	<b>HIV manifestation of the ENT</b>

**Small Group Teaching– 40 hours  
Proposed topics**

Sl No	Topics	No of hours	SG TL methods
1	Anatomy & Physiology of Ear	2	Seminars & Model/chart making
3	Otoscopic examination of the Tympanic membrane	2	Simulation (DOAP)
4	Otomicroscopic examination in a simulated environment	2	Simulation (DOAP)
5	Tuning fork Tests	2	DOAP
6	Foreign body removal from ear / Syringing wax from ear	2	Simulation (DOAP)
7	Assessment & Rehabilitation of Hearing impaired & NPP	2	Seminars & SGD (DOAP)
8	Interpretation of Pure Tone Audiograms & Impedance audiograms	2	SGD (Discussion of patient reports)
9	Surgical Procedures of the Ear	3	Seminars & Video demonstration
10	Diagnostic nasal endoscopy & anatomy of Nose	3	Seminars, Video demonstration & Simulation
11	Smell and taste perception	2	Seminars, SGD – chart making
12	Epistaxis & Anterior Nasal packing	3	Seminars, Video demonstration & Simulation
13	Foreign bodies in the nose & Upper respiratory tract & their management	3	Video demonstration & Simulation
14	Surgical procedures of the Nose	2	Seminars & Video demonstration
15	Anatomy & Physiology of throat	2	Seminars & Model/chart making
16	Surgical procedures of the throat	2	Seminars & Video demonstration
17	Airway emergencies & management of Stridor (including Tracheostomy)	3	Seminars, Video demonstration & Simulation
18	Counsel & Administer informed consent	1	Simulation -DOAP
19	Malignant & pre- malignant ENT diseases	1	Seminars, SGD
20	The national programs for prevention of deafness, cance noise & environmental pollution	1	Seminars, Awareness activities (Post making)

## Topics for Integration with Otorhinolaryngology from other Departments

Sl. No	Integrated Teaching	Integrated with (Department)
1	Describe the (1) morphology, relations, blood supply and applied anatomy of palatine tonsil and (2) composition of soft palate	Human Anatomy
2	Describe the components and functions of Waldeyer's lymphatic ring	Human Anatomy
3	Describe the boundaries and clinical significance of pyriform fossa	Human Anatomy
4	Describe the anatomical basis of tonsillitis, tonsillectomy, adenoids and peritonsillar abscess	Human Anatomy
5	Describe the clinical significance of Killian's dehiscence	Human Anatomy
6	Describe & demonstrate features of nasal septum, lateral wall of nose, their blood supply and nerve supply	Human Anatomy
7	Describe location and functional anatomy of paranasal sinuses	Human Anatomy
8	Describe anatomical basis of sinusitis & maxillary sinus tumours	Human Anatomy
9	Describe the morphology, identify structure of the wall, nerve supply, blood supply and actions of intrinsic and extrinsic muscles of the larynx	Human Anatomy
10	Describe the anatomical aspects of laryngitis	Human Anatomy
11	Describe anatomical basis of recurrent laryngeal nerve injury	Human Anatomy
12	Explain the anatomical basis of hypoglossal nerve palsy	Human Anatomy
13	Describe & identify the parts, blood supply and nerve supply of external ear	Human Anatomy
14	Describe & demonstrate the boundaries, contents, relations and functional anatomy of middle ear and auditory tube	Human Anatomy
15	Describe the features of internal ear	Human Anatomy
16	Explain anatomical basis of otitis externa and otitis media	Human Anatomy
17	Explain anatomical basis of myringotomy	Human Anatomy
18	Describe and discuss perception of smell and taste sensation	Physiology
19	Describe and discuss functional anatomy of ear and auditory pathways & physiology of hearing	Physiology
20	Describe and discuss pathophysiology of deafness. Describe hearing tests	Physiology
21	Demonstrate (i) hearing (ii) testing for smell and (iii) taste sensation in volunteer/ simulated environment	Physiology
22	Describe the health hazards of air, water, noise, radiation and pollution.	Community Medicine
23	Discuss the prevalence of oral cancer and enumerate the common types of cancer that can affect tissues of the oral cavity	Dentistry

24	Discuss the role of etiological factors in the formation of precancerous /cancerous lesions	Dentistry
25	Identify potential pre-cancerous /cancerous lesions	Dentistry
26	Counsel patients to risks of oral cancer with respect to tobacco, smoking, alcohol and other causative factors	Dentistry
27	Describe and discuss the etiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of hearing loss in the elderly	General Medicine
28	Discuss the risk factors, clinical features, Diagnosis and management of Kerosene ingestion	Paediatrics/General Medicine
29	Discuss the etio-pathogenesis, clinical features and management of Naso pharyngitis	Paediatrics
30	Discuss the etio-pathogenesis of Pharyngo Tonsillitis	Paediatrics
31	Discuss the clinical features and management of Pharyngo Tonsillitis	Paediatrics
32	Discuss the etio-pathogenesis, clinical features and management of Acute Otitis Media (AOM)	Paediatrics
33	Discuss the etio-pathogenesis, clinical features and management of Epiglottitis	Paediatrics
34	Discuss the etio-pathogenesis, clinical features and management of Acute laryngo-trachea-bronchitis	Paediatrics
35	Discuss the etiology, clinical features and management of Stridor in children	Paediatrics
36	Discuss the types, clinical presentation, and management of foreign body aspiration in infants and children	Paediatrics
37	Elicit, document and present age appropriate history of a child with upper respiratory problem including Stridor	Paediatrics
38	Perform otoscopic examination of the ear	Paediatrics
39	Perform throat examination using tongue depressor	Paediatrics
40	Perform examination of the nose	Paediatrics
41	Interpret X-ray of the paranasal sinuses and mastoid; and /or use written report in case of management. Interpret CXR in foreign body aspiration and lower respiratory tract infection, understand the significance of thymic shadow in pediatric chest X-rays	Paediatrics
42	Describe the etio-pathogenesis, management and prevention of Allergic Rhinitis in Children	Paediatrics
43	Describe the etio-pathogenesis, clinical features and management of Atopic dermatitis in children	Paediatrics
44	Describe etiopathogenesis of oral cancer, symptoms and signs of pharyngeal cancer. Enumerate the appropriate investigations and discuss the principles of treatment.	General Surgery



# Self-Directed Learning

## Proposed topics

Sl. No	Topics
1	Hearing Loss
2	Vertigo
3	Allergy
4	Rhinosinusitis
5	Head & Neck Tumors

# OTORHINOLARYNGOLOGY

Core competencies – color Blue

Non - Core competencies – color Green

**TOPIC: ANATOMY AND PHYSIOLOGY OF EAR, NOSE, THROAT, HEAD & NECK**

Number of competencies: (02)

Number of procedures that require certification :(NIL)

EN1.1 Describe the Anatomy & physiology of ear, nose, throat, head & neck

Domain – K

Level - KH

Vertical Integration – Human Anatomy

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN1.1.1	Describe the Anatomy of ear	Lecture, Demonstration	Written, viva-voce
EN1.1.2	Describe the Anatomy of nose	Lecture, Demonstration	Written, viva-voce
EN1.1.3	Describe the Anatomy of throat	Lecture, Demonstration	Written, viva-voce
EN1.1.4	Describe the Anatomy of head & neck	Lecture, Demonstration	Written, viva-voce
EN1.1.5	Describe the Physiology of ear	Lecture, Demonstration	Written, viva-voce
EN1.1.6	Describe the Physiology of nose	Lecture, Demonstration	Written, viva-voce
EN1.1.7	Describe the Physiology of throat	Lecture, Demonstration	Written, viva-voce
EN1.1.8	Describe the Physiology of head & neck	Lecture, Demonstration	Written, viva-voce

EN1.2 Describe the patho- physiology of common diseases in ENT

Domain – K

Level - KH

Vertical Integration – Pathology

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN1.2.1	Describe the patho-physiology of common diseases of the ear	Lecture, Demonstration, Bedside clinics	Written, viva-voce
EN1.2.2	Describe the patho-physiology of common diseases of the nose	Lecture, Demonstration, Bedside clinics	Written, viva-voce
EN1.2.3	Describe the patho-physiology of common diseases of the throat	Lecture, Demonstration, Bedside clinics	Written, viva-voce
EN1.2.4	Describe the patho-physiology of common diseases of the head & neck	Lecture, Demonstration, Bedside clinics	Written, viva-voce

## TOPIC: CLINICAL SKILLS

Number of competencies: (15) Number of procedures that require certification: (NIL) **To be taught and assessed in bed-side clinics and / or simulated environment.**

**EN2.1 Elicit document and present an appropriate history in a patient presenting with an ENT complaint Domain – K/S/A/C Level – SH**

**EN2.2 Demonstrate the correct use of a headlamp in the examination of the ear, nose and throat Domain – S Level – SH**

**EN2.3 Demonstrate the correct technique of examination of the ear including Otoscopy Domain – K/S/A Level – SH**

**EN2.4 Demonstrate the correct technique of performance and interpret tuning fork tests Domain – K/S/A Level – SH**

**EN2.5 Demonstrate the correct technique of examination of the nose & paranasal sinuses including the use of nasal speculum Domain – S Level – SH**

**EN2.6 Demonstrate the correct technique of examining the throat including the use of a tongue depressor Domain – S Level – SH**

**EN2.7 Demonstrate the correct technique of examination of neck including elicitation of laryngeal crepitus Domain – S Level – SH**

**EN2.8 Demonstrate the correct technique to perform and interpret pure tone audiogram & impedance audiogram Domain –K/S Level – SH**

**EN2.9 Choose correctly and interpret radiological, microbiological & histological investigations relevant to the ENT disorders Domain –K/S Level – SH**

**EN2.10 Identify and describe the use of common instruments used in ENT surgery Domain –K Level – SH**

**EN2.11 Describe and identify by clinical examination malignant & pre- malignant ENT diseases Domain –K/S Level – SH**

**EN2.12 Counsel and administer informed consent to patients and their families in a simulated environment Domain –S/A/C Level – SH**

**EN2.13 Identify, resuscitate and manage ENT emergencies in a simulated environment (including tracheostomy, anterior nasal packing, removal of foreign bodies in ear, nose, throat and upper respiratory tract) Domain –K/S/A Level – SH**

**EN2.14 Demonstrate the correct technique to instilling topical medications into the ear, nose and throat in a simulated environment Domain –K/S Level – SH**

**EN2.15 Describe the national programs for prevention of deafness, cancer, noise & environmental pollution Domain –K Level – KH**

## TOPIC: DIAGNOSTIC AND THERAPEUTIC PROCEDURES IN ENT

Number of competencies:(06)

Number of procedures that require certification: (NIL)

To be taught and assessed in bed-side clinics and / or simulated environment.

EN3.1 Observe and describe the indications for and steps involved in the performance of Oto-microscopic examination in a simulated environment **Domain –S Level – KH**

EN3.2 Observe and describe the indications for and steps involved in the performance of diagnostic nasal Endoscopy **Domain –S Level – KH**

EN3.3 Observe and describe the indications for and steps involved in the performance of Rigid/Flexible Laryngoscopy **Domain –K Level – KH**

EN3.4 Observe and describe the indications for and steps involved in the removal of foreign bodies from ear, nose & throat **Domain –K Level – KH**

EN3.5 Observe and describe the indications for and steps involved in the surgical procedures in ear, nose & throat **Domain –K Level – KH**

EN3.6 Observe and describe the indications for and steps involved in the skills of emergency procedures in ear, nose & throat **Domain –K Level – KH**

**TOPIC: MANAGEMENT OF DISEASES OF EAR, NOSE & THROAT**

Number of competencies: (53)

Number of procedures that require certification: (NIL)

EN4.1 Elicit, document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Otalgia **Domain – K/S Level - SH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.1.1	List the causes of Otalgia	Lecture	Written, viva-voce
EN4.1.2	Elicit correct history in patients with Otalgia	Bedside clinic	Skill assessment
EN4.1.3	Document and present correct history in patients with Otalgia	Bedside clinic	Skill assessment
EN4.1.4	Describe the clinical features in a patient presenting with Otalgia	Bedside clinic	Skill assessment
EN4.1.5	Choose the correct investigations in a patient presenting with Otalgia	Bedside clinic	Viva voce
EN4.1.6	Describe the principles of management of Otalgia	Lecture ,Bedside clinic	Viva voce

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 **Domain – K/S Level - SH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.2.1	List the diseases of external ear	Lecture	Written, viva-voce

EN4.2.2	Elicit correct history in patients presenting with disease of the external Ear	Bedside clinic	Skill assessment
EN4.2.3	Document and present correct history in patients with diseases of the external Ear	Bedside clinic	Skill assessment
EN4.2.4	Describe the clinical features in a patient presenting with diseases of the external Ear	Bedside clinic	Skill assessment
EN4.2.5	Choose the correct investigations in a patient presenting with diseases of the external Ear	Bedside clinic	Viva voce
EN4.2.6	Describe the principles of management of diseases of the external Ear	Lecture ,Bedside clinic	Viva voce

EN4.3 Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of ASOM

Domain – K/S

Level - SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.3.1	Elicit correct history in patients presenting with ASOM	Bedside clinic	Skill assessment
EN4.3.2	Document and present correct history in patients with ASOM	Bedside clinic	Skill assessment
EN4.3.3	Describe the clinical features in a patient presenting with ASOM	Bedside clinic	Skill assessment
EN4.3.4	Choose the correct investigations in a patient presenting with ASOM	Bedside clinic	Viva voce
EN4.3.5	Describe the principles of management of ASOM	Lecture ,Bedside clinic	Viva voce/Written

EN 4.4 Demonstrate the correct technique to hold visualize and assess the mobility of the tympanic membrane and its mobility and interpret and diagrammatically represent the findings

Domain – K/S/A

Level - SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.4.1	Describe the normal appearance of Tympanic membrane	Lecture	Viva voce
EN4.4.2	Demonstrate the correct technique to hold & visualize the tympanic membrane	DOAP session	Skill assessment
EN4.4.3	Demonstrate the correct technique to assess the mobility of the tympanic membrane	DOAP session	Skill assessment
EN4.4.4	Interpret and diagrammatically represent the findings of the tympanic membrane assessment	Bedside clinics	Viva voce

EN4.5

Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of OME

Domain – K/S

Level - SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.5.1	Elicit correct history in patients presenting with OME	Bedside clinics	Skill assessment
EN4.5.2	Document and present correct history in patients with OME	Bedside clinics	Skill assessment

EN4.5.3	Describe the clinical features in a patient presenting with OME	Lecture, Bedside clinics	Skill assessment
EN4.5.4	Choose the correct investigations in a patient presenting with OME	Bedside clinics	Viva voce
EN4.5.5	Describe the principles of management of OME	Lecture	Written, viva voce

EN4.6 Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Discharging ear

Domain – K/S

Level - SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.6.1	List the causes of Discharging ear	Lecture	Written, viva-voce
EN4.6.2	Elicit correct history in patients presenting with Discharging ear	Bedside clinic	Skill assessment
EN4.6.3	Document and present correct history in patients with Discharging ear	Bedside clinic	Skill assessment
EN4.6.4	Describe the clinical features in a patient presenting with Discharging ear	Bedside clinic	Skill assessment
EN4.6.5	Choose the correct investigations in a patient presenting with Discharging ear	Bedside clinic	Viva voce
EN4.6.6	Describe the principles of management of Discharging ear	Lecture ,Bedside clinic	Written, Viva voce

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 mucosal type of CSOM

Domain – K/S

Level - SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.7.1	Elicit correct history in patients presenting with mucosal type of CSOM	Bedside clinic	Skill assessment
EN4.7.2	Document and present correct history in patients with mucosal type of CSOM	Bedside clinic	Skill assessment
EN4.7.3	Describe the clinical features in a patient presenting with mucosal type of CSOM	Bedside clinic	Skill assessment
EN4.7.4	Choose the correct investigations in a patient presenting with mucosal type of CSOM	Bedside clinic	Viva voce, written
EN4.7.5	Describe the principles of management of mucosal type of CSOM	Lecture ,Bedside clinic	Written, Viva voce

EN 4.8 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

Domain – K/S Level - SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.8.1	Elicit correct history in patients presenting with squamosal type of CSOM	Bedside clinic	Skill assessment
EN4.8.2	Document and present correct history in patients with squamosal type of CSOM	Bedside clinic	Skill assessment
EN4.8.3	Describe the clinical features in a patient presenting with squamosal type of CSOM	Bedside clinic	Skill assessment
EN4.8.4	Choose the correct investigations in a patient presenting with squamosal type of CSOM	Bedside clinic	Viva voce, written
EN4.8.5	Describe the principles of management of squamosal type of CSOM	Lecture ,Bedside clinic	Written, Viva voce

**EN 4.9 Demonstrate the correct technique for syringing wax from the ear in a simulated environment**  
**Domain –S Level - SH**

<b>Number</b>	<b>Specific Learning objective</b>	<b>Teaching-Learning methods</b>	<b>Assessment methods</b>
EN4.9.1	Describe the correct technique for syringing wax from the ear	DOAP	Skill assessment
EN4.9.2	Demonstrate the correct technique for syringing wax from the ear in a simulated environment	DOAP	Skill assessment

EN 4.10 Observe and Describe the indications for and steps involved in myringotomy and myringoplasty

Domain –S Level - KH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.10.1	Enumerate the indications for myringotomy	Lecture	Written , viva voce
EN4.10.2	Describe the steps of myringotomy	Lecture, video demonstration	Written , viva voce
EN4.10.3	Observe steps involved in myringotomy	Clinical (OT)	Written , viva voce
EN4.10.4	Enumerate the indications for myringoplasty	Lecture	Written , viva voce
EN4.10.5	Describe the steps of myringoplasty	Lecture, video demonstration	Written , viva voce
EN4.10.6	Observe steps involved in myringoplasty	Clinical (OT)	Written , viva voce

EN4.11 Enumerate the indications describe the steps and observe a Mastoidectomy Domain – K/S Level - KH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.11.1	Enumerate the indications for Mastoidectomy	Lecture	Written , viva voce
EN4.11.2	Describe the steps of Mastoidectomy	Lecture	Written , viva voce
EN4.11.3	Observe steps involved in Mastoidectomy	Clinical (OT)	Written , viva voce

EN4.12 Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Hearing loss Domain – K/S Level - SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.12.1	List the causes of Hearing loss	Lecture	Written, viva-voce
EN4.12.2	Elicit correct history in patients presenting with Hearing loss	Bedside clinic	Skill assessment
EN4.12.3	Document and present correct history in patients with Hearing loss	Bedside clinic	Skill assessment
EN4.12.4	Describe the clinical features in a patient presenting with Hearing loss	Bedside clinic	Skill assessment
EN4.12.5	Choose the correct investigations in a patient presenting with Hearing loss	Bedside clinic	Viva voce
EN4.12.6	Describe the principles of management of Hearing loss	Lecture ,Bedside clinic	Written, Viva voce

EN4.13 Describe the clinical features, investigations and principles of management of Otosclerosis Domain – K Level - KH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.13.1	Describe the clinical features of Otosclerosis	Lecture	Written
EN4.13.2	Describe the investigations required for patient with Otosclerosis	Bedside clinic	Viva voce
EN4.13.3	Describe the principles of management of Otosclerosis	Lecture ,Bedside clinic	Written, Viva voce



EN 4.14 Describe the clinical features, investigations and principles of management of Sudden Sensorineural Hearing Loss **Domain – K** **Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.14.1	Describe the clinical features of Sudden Sensorineural Hearing Loss	Lecture	Written
EN4.14.2	Describe the investigations required for patient presenting with Sudden Sensorineural Hearing Loss	Bedside clinic	Viva voce
EN4.14.3	Describe the principles of management of Sudden Sensorineural Hearing Loss	Lecture ,Bedside clinic	Written, Viva voce

EN 4.15 Describe the clinical features, investigations and principles of management of Noise Induced Hearing Loss **Domain – K** **Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.15.1	Describe the clinical features of Noise Induced Hearing Loss	Lecture	Written
EN4.15.2	Describe the investigations required for patient presenting with Noise Induced Hearing Loss	Bedside clinic	Viva voce
EN4.15.3	Describe the principles of management of Noise Induced Hearing Loss	Lecture ,Bedside clinic	Written, Viva voce

EN 4.16 Observe and describe the indications for and steps involved in the performance of pure tone audiometry **Domain –S** **Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.16.1	Enumerate the indications for pure tone audiometry	Lecture	Written, viva voce
EN4.16.2	Describe the steps involved in the performance of pure tone audiometry	DOAP	viva voce
EN4.16.3	Observe the steps involved in the performance of pure tone audiometry	DOAP	viva voce

EN 4.17 Enumerate the indications and interpret the results of an audiogram **Domain –S** **Level - SH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.17.1	Enumerate the indications for an audiogram	Bedside clinics, DOAP	Viva voce
EN4.17.2	Interpret the results of an audiogram	DOAP	Skill assessment

EN 4.18 Describe the clinical features, investigations and principles of management of Facial Nerve palsy **Domain – K** **Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.18.1	Describe the clinical features of Facial Nerve palsy	Lecture	Written, viva voce
EN4.18.2	Describe the investigations required for patient presenting with Facial Nerve palsy	Bedside clinics	Written, viva voce

EN4.18.3	Describe the principles of management of Facial Nerve palsy	Lecture ,Bedside clinic	Written, Viva voce
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EN4.19 Describe the clinical features, investigations and principles of management of Vertigo **Domain – K**  
**Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.19.1	Describe the clinical features of patient presenting with Vertigo	Lecture	Written, viva voce
EN4.19.2	Describe the investigations required for patient presenting with Vertigo	Bedside clinics	Written, viva voce
EN4.19.3	Describe the principles of management of Vertigo	Lecture ,Bedside clinic	Written, Viva voce

EN 4.20 Describe the clinical features, investigations and principles of management of Meniere's Disease **Domain – K**  
**Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.20.1	Describe the clinical features of patient presenting with Meniere's Disease	Lecture	Written, viva voce
EN4.20.2	Describe the investigations required for patient presenting with Meniere's Disease	Bedside clinics	Written, viva voce
EN4.20.3	Describe the principles of management of Meniere's Disease	Lecture ,Bedside clinic	Written, Viva voce

EN 4.21 Describe the clinical features, investigations and principles of management of Tinnitus **Domain – K**  
**Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.21.1	Describe the clinical features of patient presenting with Tinnitus	Lecture	Written, viva voce
EN4.21.2	Describe the investigations required for patient presenting with Tinnitus	Bedside clinics	Written, viva voce
EN4.21.3	Describe the principles of management of Tinnitus	Lecture ,Bedside clinic	Written, Viva voce

EN 4.22 Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Nasal Obstruction **Domain – K/S**  
**Level - SH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.22.1	List the causes of Nasal obstruction	Lecture	Written, viva-voce
EN4.22.2	Elicit correct history in patients presenting with Nasal obstruction	Bedside clinic	Skill assessment
EN4.22.3	Document and present correct history in patients with Nasal obstruction	Bedside clinic	Skill assessment
EN4.22.4	Describe the clinical features in a patient presenting with Nasal obstruction	Bedside clinic	Skill assessment
EN4.22.5	Choose the correct investigations in a patient presenting with Nasal obstruction	Bedside clinic	Viva voce
EN4.22.6	Describe the principles of management of Nasal obstruction	Lecture ,Bedside clinic	Written, Viva voce

EN 4.23 Describe the clinical features, investigations and principles of management of DNS **Domain – K Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.23.1	Describe the clinical features of patient presenting with DNS	Lecture	Written, viva voce
EN4.23.2	Describe the investigations required for patient presenting with DNS	Bedside clinics	Written, viva voce
EN4.23.3	Describe the principles of management of DNS	Lecture ,Bedside clinic	Written, Viva voce

EN4.24 EN 4.24 Enumerate the indications observe and describe the steps in a septoplasty

Domain –S Level - KH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.24.1	Enumerate the indications for septoplasty	Lecture	Written , viva voce
EN4.24.2	Describe the steps of septoplasty	DOAP - video demonstration	Written , viva voce
EN4.24.3	Observe steps involved in septoplasty	DOAP - Clinical (OT)	Written , viva voce

EN 4.25 Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Nasal Polyps

Domain – K/S

Level - SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.25.1	Elicit correct history in patients presenting with Nasal polyps	Bedside clinic	Skill assessment
EN4.25.2	Document and present correct history in patients with Nasal polyps	Bedside clinic	Skill assessment
EN4.25.3	Describe the clinical features in a patient presenting with Nasal polyps	Bedside clinic	Skill assessment
EN4.25.4	Choose the correct investigations in a patient presenting with Nasal polyps	Bedside clinic	Viva voce
EN4.25.5	Describe the principles of management of Nasal polyps	Lecture ,Bedside clinic	Written, Viva voce

EN 4.26 document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Adenoids

Domain – K/S

Level - SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.26.1	Elicit correct history in patients presenting with Adenoids	Bedside clinic	Skill assessment
EN4.26.2	Document and present correct history in patients with Adenoids	Bedside clinic	Skill assessment
EN4.26.3	Describe the clinical features in a patient presenting with Adenoids	Bedside clinic	Skill assessment
EN4.26.4	Choose the correct investigations in a patient presenting with Adenoids	Lecture, DOAP	Viva voce
EN4.26.5	Describe the principles of management of Adenoids	Lecture ,Bedside clinic	Written, Viva voce

EN 4.27 document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Allergic Rhinitis

Domain – K/S

Level - SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.27.1	Elicit correct history in patients presenting with Allergic Rhinitis	Bedside clinic	Skill assessment
EN4.27.2	Document and present correct history in patients with Allergic Rhinitis	Bedside clinic	Skill assessment
EN4.27.3	Describe the clinical features in a patient presenting with Allergic Rhinitis	Bedside clinic	Skill assessment
EN4.27.4	Choose the correct investigations in a patient presenting with Allergic Rhinitis	Lecture, DOAP	Viva voce
EN4.27.5	Describe the principles of management of Allergic Rhinitis	Lecture ,Bedside clinic	Written, Viva voce

EN 4.28 document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Vasomotor Rhinitis

Domain – K/S

Level - SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.28.1	Elicit correct history in patients presenting with Vasomotor Rhinitis	Bedside clinic	Skill assessment
EN4.28.2	Document and present correct history in patients with Vasomotor Rhinitis	Bedside clinic	Skill assessment
EN4.28.3	Describe the clinical features in a patient presenting with Vasomotor Rhinitis	Bedside clinic	Skill assessment
EN4.28.4	Choose the correct investigations in a patient presenting with Vasomotor Rhinitis	Lecture, DOAP	Viva voce
EN4.28.5	Describe the principles of management of Vasomotor Rhinitis	Lecture ,Bedside clinic	Written, Viva voce

EN 4.29 Elicit document and present a correct history demonstrate an describe the clinical features, choose the correct investigations and describe the principles of management of Acute & Chronic Rhinitis

Domain – K/S

Level - SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.29.1	Elicit correct history in patients presenting with Acute Rhinitis	Bedside clinic	Skill assessment
EN4.29.2	Document and present correct history in patients with Acute Rhinitis	Bedside clinic	Skill assessment
EN4.29.3	Describe the clinical features in a patient presenting with Acute Rhinitis	Bedside clinic	Skill assessment
EN4.29.4	Choose the correct investigations in a patient presenting with Acute Rhinitis	Lecture, DOAP	Viva voce
EN4.29.5	Describe the principles of management of Acute Rhinitis	Lecture ,Bedside clinic	Written, Viva voce
EN4.29.6	Elicit correct history in patients presenting with Chronic Rhinitis	Bedside clinic	Skill assessment
EN4.29.7	Document and present correct history in patients with Chronic Rhinitis	Bedside clinic	Skill assessment
EN4.29.8	Describe the clinical features in a patient presenting with Chronic Rhinitis	Bedside clinic	Skill assessment
EN4.29.9	Choose the correct investigations in a patient presenting with Chronic Rhinitis	Lecture, DOAP	Viva voce
EN4.29.10	Describe the principles of management of Chronic Rhinitis	Lecture ,Bedside clinic	Written, Viva voce

EN 4.30 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

Domain – K/S

Level - SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
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EN4.30.1	Enumerate the causes of Epistaxis	Lecture	Written, Viva voce
EN4.30.2	Elicit correct history in patients presenting with Epistaxis	Bedside clinic	Skill assessment
EN4.30.3	Document and present correct history in patients with Epistaxis	Bedside clinic	Skill assessment
EN4.30.4	Describe the clinical features in a patient presenting with Epistaxis	Bedside clinic	Skill assessment
EN4.30.5	Choose the correct investigations in a patient presenting with Epistaxis	Lecture, DOAP	Viva voce
EN4.30.6	Describe the principles of management of Epistaxis	Lecture ,Bedside clinic	Written, Viva voce

EN4.31 Describe the clinical features, investigations and principles of management of trauma to the face & neck  
**Domain – K/S** **Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.31.1	Describe the clinical features in a patient presenting with trauma to face	Lecture	Written, Viva voce
EN4.31.2	Choose the correct investigations in a patient presenting with trauma to face	Lecture, DOAP	Viva voce
EN4.31.3	Describe the principles of management of trauma to face	Lecture ,Bedside clinic	Written, Viva voce
EN4.31.4	Describe the clinical features in a patient presenting with trauma to neck	Lecture	Written, Viva voce
EN4.31.5	Choose the correct investigations in a patient presenting with trauma to neck	Lecture, DOAP	Viva voce
EN4.31.6	Describe the principles of management of trauma to neck	Lecture ,Bedside clinic	Written, Viva voce

EN 4.32 Describe the clinical features, investigations and principles of management of nasopharyngeal Angiofibroma **Domain – K** **Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.32.1	Describe the clinical features in a patient presenting with nasopharyngeal Angiofibroma	Lecture	Written, Viva voce
EN4.32.2	Choose the correct investigations in a patient presenting with nasopharyngeal Angiofibroma	Lecture, DOAP	Viva voce
EN4.32.3	Describe the principles of management of nasopharyngeal Angiofibroma	Lecture ,Bedside clinic	Written, Viva voce

EN4.33 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  
**Domain – K/S** **Level - SH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.33.1	Elicit correct history in patients presenting with Acute Sinusitis	Bedside clinic	Skill assessment
EN4.33.2	Document and present correct history in patients with Acute Sinusitis	Bedside clinic	Skill assessment
EN4.33.3	Describe the clinical features in a patient presenting with Acute Sinusitis	Bedside clinic	Skill assessment

EN4.33.4	Choose the correct investigations in a patient presenting with Acute Sinusitis	Lecture, DOAP	Viva voce
EN4.33.5	Describe the principles of management of Acute Sinusitis	Lecture ,Bedside clinic	Written, Viva voce
N4.33.6	Elicit correct history in patients presenting with Chronic Sinusitis	Bedside clinic	Skill assessment
EN4.33.7	Document and present correct history in patients with Chronic Sinusitis	Bedside clinic	Skill assessment
EN4.33.8	Describe the clinical features in a patient presenting with Chronic Sinusitis	Bedside clinic	Skill assessment
EN4.33.9	Choose the correct investigations in a patient presenting with Chronic Sinusitis	Lecture, DOAP	Viva voce
EN4.33.10	Describe the principles of management of Chronic Sinusitis	Lecture ,Bedside clinic	Written, Viva voce

EN4.34 Describe the clinical features, investigations and principles of management of Tumors of Maxilla **Domain – K** **Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.34.1	Describe the clinical features in a patient presenting with Tumors of Maxilla	Lecture	Written, Viva voce
EN4.34.2	Choose the correct investigations in a patient presenting with Tumors of Maxilla	Lecture, DOAP	Viva voce
EN4.34.3	Describe the principles of management of Tumors of Maxilla	Lecture ,Bedside clinic	Written, Viva voce

EN 4.35 Describe the clinical features, investigations and principles of management of Tumors of Nasopharynx **Domain – K** **Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.35.1	Describe the clinical features in a patient presenting with Tumors of Nasopharynx	Lecture	Written, Viva voce
EN4.35.2	Choose the correct investigations in a patient presenting with Tumors of Nasopharynx	Lecture, DOAP	Viva voce
EN4.35.3	Describe the principles of management of Tumors of Nasopharynx	Lecture ,Bedside clinic	Written, Viva voce

EN 4.36 Describe the clinical features, investigations and principles of management of diseases of the Salivary glands **Domain – K** **Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.36.1	Describe the clinical features in a patient presenting with Diseases of salivary glands	Lecture	Written, Viva voce
EN4.36.2	Choose the correct investigations in a patient presenting with Diseases of salivary glands	Lecture, DOAP	Viva voce
EN4.36.3	Describe the principles of management of Diseases of salivary glands	Lecture ,Bedside clinic	Written, Viva voce

EN 4.37 Describe the clinical features, investigations and principles of management of Ludwig's angina **Domain – K** **Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.37.1	Describe the clinical features in a patient presenting with Ludwig's angina	Lecture	Written, Viva voce
EN4.37.2	Choose the correct investigations for a patient presenting with Ludwig's angina	Lecture, DOAP	Viva voce
EN4.37.3	Describe the principles of management of Ludwig's angina	Lecture ,Bedside clinic	Written, Viva voce

EN4.38 Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of type of dysphagia

**Domain – K/S** **Level - SH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.38.1	Enumerate the causes of Dysphagia	Lecture	Written, Viva voce
EN4.38.2	Elicit correct history in patients presenting with Dysphagia	Bedside clinic	Skill assessment
EN4.38.3	Document and present correct history in patients with Dysphagia	Bedside clinic	Skill assessment
EN4.38.4	Describe the clinical features in a patient presenting with Dysphagia	Bedside clinic	Skill assessment
EN4.38.5	Choose the correct investigations for a patient presenting with Dysphagia	Lecture, DOAP	Viva voce
EN4.38.6	Describe the principles of management of Dysphagia	Lecture ,Bedside clinic	Written, Viva voce

EN4.39 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 Tonsillitis

**Domain – K/S** **Level - SH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.39.1	Elicit correct history in patients presenting with Acute Tonsillitis	Bedside clinic	Skill assessment
EN4.39.2	Document and present correct history in patients with Acute Tonsillitis	Bedside clinic	Skill assessment
EN4.39.3	Describe the clinical features in a patient presenting with Acute Tonsillitis	Bedside clinic	Skill assessment
EN4.39.4	Choose the correct investigations in a patient presenting with Acute Tonsillitis	Lecture, DOAP	Viva voce
EN4.39.5	Describe the principles of management of Acute Tonsillitis	Lecture ,Bedside clinic	Written, Viva voce
EN4.39.6	Elicit correct history in patients presenting with Chronic Tonsillitis	Bedside clinic	Skill assessment

EN4.40 Observe and describe the indications for and steps involved in a tonsillectomy / adenoidectomy

Domain – S

Level – KH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.40.1	Enumerate the indications for tonsillectomy	Lecture, Bedside clinic	Written, Viva voce
EN4.40.2	Observe the steps involved in a tonsillectomy	Video demonstration, DOAP (OT)	Viva voce
EN4.40.3	Describe the steps involved in a tonsillectomy	DOAP (OT), Bedside clinic	Viva voce
EN4.40.4	Enumerate the indications for adenoidectomy	Lecture, Bedside clinic	Written, Viva voce
EN4.40.5	Observe the steps involved in an adenoidectomy	Video demonstration, DOAP (OT)	Viva voce
EN4.40.6	Describe the steps involved in an adenoidectomy	DOAP (OT), Bedside clinic	Viva voce

EN4.41 Describe the clinical features, investigations and principles of management of Acute & chronic abscesses in relation to Pharynx

Domain – K/S

Level – KH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.41.1	List the abscesses in relation to pharynx	Lecture, Bedside clinic	Written, Viva voce
EN4.41.2	Describe the clinical features of acute abscesses in relation to pharynx	Bedside clinic	Viva voce
EN4.41.3	Choose the correct investigations in a patient presenting with an acute abscess related to the pharynx	DOAP, Bedside clinic	Viva voce
EN4.41.4	Describe the principles of management of a patient presenting with an acute abscess related to the pharynx	Lecture, DOAP	Viva voce
EN4.41.5	Describe the clinical features of chronic abscesses in relation to pharynx	Bedside clinic	Viva voce
EN4.41.6	Choose the correct investigations in a patient presenting with chronic abscess related to the pharynx	DOAP, Bedside clinic	Viva voce
EN4.41.7	Describe the principles of management of a patient presenting with chronic abscess related to the pharynx	Lecture, DOAP	Viva voce

EN4.42 Elicit, document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of hoarseness of voice

Domain – K/S

Level – SH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.42.1	Enumerate the causes of hoarseness of voice	Lecture	Written, Viva voce
EN4.42.2	Elicit correct history in patients presenting with hoarseness of voice	Bedside clinic	Skill assessment
EN4.42.3	Document and present correct history in patients with hoarseness of voice	Bedside clinic	Skill assessment
EN4.42.4	Describe the clinical features in a patient presenting with hoarseness of voice	Bedside clinic	Skill assessment
EN4.42.5	Choose the correct investigations for a patient presenting with hoarseness of voice	Lecture, DOAP	Viva voce
EN4.42.6	Describe the principles of management of a patient with hoarseness of voice	Lecture, Bedside clinic	Written, Viva voce



EN4.43 Describe the clinical features, investigations and principles of management of Acute & Chronic Laryngitis **Domain – K** **Level - KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.43.1	Describe the clinical features in a patient presenting with Acute Laryngitis	Lecture ,Bedside clinic	Written, Viva voce
EN4.43.2	Choose the correct investigations in a patient presenting with Acute Laryngitis	Lecture, DOAP	Viva voce
EN4.43.3	Describe the principles of management of Acute Laryngitis	Lecture ,Bedside clinic	Written, Viva voce
EN4.43.4	Describe the clinical features in a patient presenting with Chronic Laryngitis	Lecture ,Bedside clinic	Written, Viva voce
EN4.43.5	Choose the correct investigations in a patient presenting with Chronic Laryngitis	Lecture, DOAP	Viva voce
EN4.43.6	Describe the principles of management of Chronic Laryngitis	Lecture ,Bedside clinic	Written, Viva voce

EN4.44 Describe the clinical features, investigations and principles of management of benign lesions of the vocal cord **Domain – K** **Level – KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.44.1	Enumerate the benign lesions of the vocal cord	Lecture ,Bedside clinic	Written, Viva voce
EN4.44.2	Describe the clinical features in a patient presenting with benign lesions of the vocal cord	Lecture ,Bedside clinic	Written, Viva voce
EN4.44.3	Choose the correct investigations for a patient presenting with benign lesions of the vocal cord	Lecture, DOAP	Viva voce
EN4.44.4	Describe the principles of management of benign lesions of the vocal cord	Lecture ,Bedside clinic	Written, Viva voce

EN4.45 Describe the clinical features, investigations and principles of management of Vocal cord palsy **Domain – K** **Level – KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.45.1	Enumerate the causes of Vocal cord palsy	Lecture ,Bedside clinic	Written, Viva voce
EN4.45.2	Describe the clinical features in a patient presenting with Vocal cord palsy	Lecture ,Bedside clinic	Written, Viva voce
EN4.45.3	Choose the correct investigations for a patient presenting with Vocal cord palsy	Lecture, DOAP	Viva voce
EN4.45.4	Describe the principles of management of Vocal cord palsy	Lecture ,Bedside clinic	Written, Viva voce

EN 4.46 Describe the clinical features, investigations and principles of management of Malignancy of the Larynx & Hypopharynx **Domain – K** **Level – KH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.46.1	Describe the clinical features in a patient presenting with Malignancy of the Larynx	Lecture ,Bedside clinic	Written, Viva voce
EN4.46.2	Choose the correct investigations for a patient presenting with Malignancy of the Larynx	Lecture, DOAP	Viva voce
EN4.46.3	Describe the principles of management of Malignancy of the Larynx	Lecture ,Bedside clinic	Written, Viva voce
EN4.46.4	Describe the clinical features in a patient presenting with Malignancy of the Hypopharynx	Lecture ,Bedside clinic	Written, Viva voce
EN4.46.4	Choose the correct investigations for a patient presenting with Malignancy of the Hypopharynx	Lecture, DOAP	Viva voce
EN4.46.4	Describe the principles of management of Malignancy of the Hypopharynx	Lecture ,Bedside clinic	Written, Viva voce

**EN4.47 Describe the clinical features, investigations and principles of management of Stridor****Domain – K****Level – KH**

<b>Number</b>	<b>Specific Learning objective</b>	<b>Teaching-Learning methods</b>	<b>Assessment methods</b>
EN4.47.1	Enumerate the causes of Stridor	Lecture ,Bedside clinic	Written, Viva voce
EN4.47.2	Describe the clinical features in a patient presenting with Stridor	Lecture ,Bedside clinic	Written, Viva voce
EN4.47.3	Choose the correct investigations for a patient presenting with Stridor	Lecture, DOAP	Viva voce
EN4.47.4	Describe the principles of management of Stridor	Lecture ,Bedside clinic	Written, Viva voce

EN 4.48 Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Airway Emergencies

**Domain –S**

**Level - SH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.48.1	Enumerate the causes of Airway emergencies	Bedside clinic, DOAP	Viva voce
EN4.48.2	Elicit correct history in patients presenting with Airway emergencies	Bedside clinic	Skill assessment
EN4.48.3	Document and present correct history in patients with Airway emergencies	Bedside clinic	Skill assessment
EN4.48.4	Describe the clinical features in a patient presenting with Airway emergencies	Bedside clinic	Skill assessment
EN4.48.5	Choose the correct investigations for a patient presenting with Airway emergencies	DOAP	Viva voce
EN4.48.6	Describe the principles of management of Airway emergencies	Bedside clinic	Viva voce

EN 4.49 Elicit, document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of foreign bodies in the air & food passages

**Domain –S**

**Level - SH**

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.49.1	Elicit correct history in patients presenting with foreign bodies in the air passages	Bedside clinic	Skill assessment
EN4.49.2	Document and present correct history in patients presenting with foreign bodies in the air passages	Bedside clinic	Skill assessment
EN4.49.3	Describe the clinical features in a patient presenting with foreign bodies in the air passages	Bedside clinic	Skill assessment
EN4.49.4	Choose the correct investigations in a patient presenting with foreign bodies in the air passages	DOAP	Viva voce
EN4.49.5	Describe the principles of management of foreign bodies in the air passages	Bedside clinic	Viva voce
EN4.49.6	Elicit correct history in patients presenting with foreign bodies in the food passages	Bedside clinic	Skill assessment
EN4.49.7	Document and present correct history in patients presenting with foreign bodies in the food passages	Bedside clinic	Skill assessment
EN4.49.8	Describe the clinical features in a patient presenting with foreign bodies in the food passages	Bedside clinic	Skill assessment
EN4.49.9	Choose the correct investigations in a patient presenting with foreign bodies in the food passages	DOAP	Viva voce
EN4.49.10	Describe the principles of management of foreign bodies in the food passages	Bedside clinic	Viva voce

EN 4.50 Observe and describe the indications for and steps involved in tracheostomy

Domain – S

Level - KH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.50.1	Enumerate the indications for Tracheostomy	Bedside clinics	Viva voce
EN4.50.3	Observe steps involved in Tracheostomy	DOAP - Clinical (OT), video demonstration	Viva voce
EN4.50.3	Describe the steps of Tracheostomy	DOAP - video demonstration	Viva voce

EN 4.51 and describe the care of the patient with a tracheostomy Domain

- S Level – KH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.51.1	Observe steps involved in care of the patient with a tracheostomy	DOAP - Clinical (OT), video demonstration	Viva voce
EN4.51.2	Describe the steps involved in care of the patient with a tracheostomy	DOAP - video demonstration	Viva voce

EN 4.52 Describe the Clinical features, Investigations and principles of management of diseases of Oesophagus Domain – K

Domain – K

Level – KH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.52.1	Enumerate the Diseases of Oesophagus	Lecture ,Bedside clinic	Written, Viva voce
EN4.52.2	Describe the clinical features in a patient presenting with Disease of Oesophagus	Lecture ,Bedside clinic	Written, Viva voce
EN4.52.3	Choose the correct investigations for a patient presenting with Disease of Oesophagus	Lecture, DOAP	Viva voce
EN4.52.4	Describe the principles of management of Diseases of Oesophagus	Lecture ,Bedside clinic	Written, Viva voce

EN 1.53 Describe the clinical features, investigations and principles of management of HIV manifestations of the ENT (vertical integration- General Medicine)

Domain – K

Level – KH

Number	Specific Learning objective	Teaching-Learning methods	Assessment methods
EN4.53.1	Enumerate the HIV manifestations of the ENT	Lecture ,Bedside clinic	Written, Viva voce
EN4.53.2	Describe the clinical features in a patient presenting with HIV manifestations of the ENT	Lecture ,Bedside clinic	Written, Viva voce
EN4.53.3	Choose the correct investigations for a patient presenting with HIV manifestations of the ENT	Lecture, DOAP	Viva voce
EN4.53.4	Describe the principles of management of HIV manifestations of the ENT	Lecture ,Bedside clinic	Written, Viva voce

**Summary of course content, teaching and learning methods and student assessment for the undergraduate (MBBS) Curriculum in Otorhinolaryngology**

**Teaching-Learning methods and Time allotted –Otorhinolaryngology**

Lectures	Small group discussion	Self-directed learning	Total hours	Clinical postings
25 hours	40 hours	5 hours	70 hours	Two postings of 4 weeks each. First posting in II MBBS(15hours /week) and Second posting II MBBS Part I(18hours/week)

**Teaching-learning methods** shall be learner centric and shall predominantly include small group learning, interactive teaching methods and case-based learning. Didactic lectures not to exceed one-third of the total teaching time. The teaching learning activity focus should be on application of knowledge rather than acquisition of knowledge.

The curricular contents shall be vertically and horizontally **aligned and integrated** to the maximum extent possible to enhance learner’s interest and eliminate redundancy and overlap. Acquisition and certification of skills shall be through experiences in patient care, diagnostic and skill laboratories.

The **clinical postings** in the second professional shall be 15 hours per week (3 hrs per day from Monday to Friday)

The clinical postings in the third professional part II shall be 18 hours per week (3 hrs per day from Monday to Saturday)

Newer T-L method like Learner-doctor method (Clinical clerkship) should be mandatorily implemented, from 1<sup>st</sup> clinical postings in Otorhinolaryngology itself. The goal of this type of T-L activity is to provide learners with experience in longitudinal patient care, being part of the health care team, and participate in hands-on care of patients in outpatient and inpatient setting. During the 1<sup>st</sup> clinical postings, the students are oriented to the working of the department. During the second clinical posting the students are allotted patients, whom they follow-up through their stay in the hospital, participating in that patients care including case work-up, following-up on investigations, presenting patient findings on rounds, observing surgeries if any till patient is discharged.

**AETCOM module.** The purpose is to help the students apply principles of bioethics, systems based care, apply empathy and other human values in patient care, communicate effectively with patients and relatives and to become a professional who exhibits all these values.

**Assessment**

Eligibility to appear for University examinations is dependent on fulfilling criteria in two main areas –

attendance and internal assessment marks

### Attendance

Attendance requirements are 75% in theory and 80% in clinical postings for eligibility to appear for the examinations in Otorhinolaryngology.

75% attendance in AETCOM Module is required for eligibility to appear for final examination in 3<sup>rd</sup> professional year 3 part 1.

### Internal Assessment

Formative and summative assessments should be carried out periodically. Log book of skill-based training shall be also maintained.

There shall be no less than three internal assessment examinations (Theory and Clinical) in Otorhinolaryngology. Learners must secure at least 50% marks of the total marks (combined in theory and clinical; not less than 40 % marks in theory and practical separately) assigned for internal assessment in Otorhinolaryngology in order to be eligible for appearing at the final University examination.

Learners must have completed the required certifiable competencies for that phase of training and Otorhinolaryngology logbookentry completed to be eligible for appearing at the final university examination.

### University examinations

Third Professional Part I shall be held at end of third Professional part 1 of training (12 months) in the subjects of Ophthalmology, Otorhinolaryngology, Community Medicine and Forensic Medicine and Toxicology

### Marks allotted

Otorhinolaryngology	Theory	Clinical examination
Total marks	100	100
	Long essay 2X10= 20	Two cases x40marks=80marks
	Short essay 6x5=30 marks	Viva voce 2x10=20marks
	Short answer question 10x3=30marks	
	MCQs 20x1=10marks	

The theory paper should include different types such as structured essays, short essays, Short Answers Questions (SAQ) and MCQs (Multiple Choice Questions). Marks for each part should be indicated separately.

A minimum of **80%** of the marks should be from the **must know** component of the curriculum. A maximum of **20%** can be from the **desirable to know** component. All **main essay questions** to be from the **must know component** of the curriculum.

**One main essay question** to be of the **modified variety** containing a clinical case scenario. At least 30% of questions should be clinical case scenario based. Questions to be constructed to test higher cognitive

levels.

Clinical examinations will be conducted in the hospital wards. Clinical cases kept in the examination must be common conditions that the learner may encounter as a physician of first contact in the community. Emphasis should be on candidate's capability to elicit history, demonstrate physical signs, write a case record, analyze the case and develop a management plan.

Viva/oral examination should assess approach to patient management, emergencies, and attitudinal, ethical and professional values. Candidate's skill in interpretation of common investigative data, X-rays, identification of specimens, etc. is to be also assessed.

### **Pass criteria**

Internal Assessment: 50% combined in theory and practical (not less than 40% in each) for eligibility for appearing for University Examinations

University Examination: Mandatory 50% marks separately in theory and clinicals (clinicals = clinical + viva)

### **References:**

1. Diseases of Ear, Nose & Throat. Mohan Bansal, 3<sup>rd</sup> Edition.
2. Diseases of Ear, Nose and Throat & Head and Neck Surgery. P L Dhingra, 8th Edition.

# OPHTHALMOLOGY CURRICULUM

## Goals

The broad goal of the ophthalmology curriculum is to equip the IMG with sufficient knowledge, skills and attitude to diagnose and appropriately treat common ophthalmic disorders affecting our population.

## Objectives

### A) Knowledge

At the end of the course student should be able to:

- a. Describe the applied anatomy, physiology and biochemical attributes of the normal eye and adnexa.
- b. Describe the pathophysiology, clinical features, and management of diseases of the eye, orbit and adnexa.
- c. Demonstrate the ability to apply the knowledge in a clinical setting.

### B) Skills

At the end of the course the student should be able to:

- a. Elicit a detailed clinical history and perform an ocular examination in both outpatient and ward setting.
- b. Apply the elicited history and examination to arrive at correct diagnosis and plan treatment.
- c. Perform minor diagnostic and therapeutic procedures in an emergency situation prior to referral to higher centres

### C) Attitude and communication skills

At the end of the course the student should be able to:

- a. Communicate effectively with patients, their families and the public at large.
- b. Communicate effectively with peers and teachers demonstrate the ability to work effectively with peers in a team.
- c. Demonstrate professional attributes of punctuality, accountability and respect for teachers and peers.
- d. Appreciate the issues of equity and social accountability while undergoing all clinical encounters.



### Topic: Visual Acuity Assessment

OP1.1	Describe the physiology of vision	Anatomy of retina and fovea Visual pathway Mechanism of vision Theories of color vision	Lecture, Small group discussion	Written/ Viva voce	6th term	MCQs at the end of lecture
OP1.2	Define, classify and describe the types and methods of correcting refractive errors	Definition of myopia, hypermetropia and astigmatism Describe the Types of myopia Describe Types of hypermetropia Describe Types of astigmatism Enumerate the Treatment options for myopia Enumerate the retinal findings in myopia Enumerate the Treatment options of hypermetropia Describe the treatment of astigmatism List the indications and advantages, complications of contact lenses	Lecture, Small group discussion	Written/ Viva voce	6th term	MCQs/S AQ's at the end of lecture or a group of lectures
OP1.3	Demonstrate the steps in performing the visual acuity assessment for distance vision, near vision, colour vision, the pin hole test and the menace and blink reflexes	Assess visual acuity using Snellen's chart Demonstrate use of pin hole in visual acuity testing and interpret the findings Assess near vision using Times new Roman charts Elicit the blink reflex and menace reflex in an adult patient Assess color vision using Ishihara's color plates	DOAP session, Lecture	Skill assessment/ Logbook	1 <sup>st</sup> posting	Skill assessment during clinics Logbook
OP1.4	Enumerate the indications and describe the principles of refractive surgery	Enumerate the types of refractive surgery Enumerate the indication for refractive surgery Briefly describe the principle of LASIK	Lecture, Small group discussion	Written/ Viva voce	6th term	MCQ's/S AQ/ Viva voce at the end of lecture
OP1.5	Define, enumerate the types and the mechanism by which strabismus leads to amblyopia	Define amblyopia Enumerate the types of amblyopia Describe briefly the mechanism of strabismic amblyopia	Lecture, Small group discussion	Written/ Viva voce	6th term	MCQ's/S AQ/ Viva voce at the end of lecture

**Topic: Lids and Adnexa, Orbit**

OP2.1	Enumerate the causes, describe and discuss the aetiology, clinical presentations and diagnostic features of common conditions of the lid and adnexa including Hordeolum externum/ internum, blepharitis, preseptal cellulitis, dacryocystitis, hemangioma, dermoid, ptosis, entropion, lid lag, lagophthalmos	Describe the etiology, clinical features of common conditions of the lid and adnexa including Hordeolum externum/ internum, blepharitis, preseptal cellulitis, dacryocystitis, hemangioma, dermoid, ptosis, entropion, lid lag, lagophthalmos	Lecture, Small group discussion	Written/ Viva voce	6th term	MCQs/SAQ/ Viva voce
OP2.2	Demonstrate the symptoms & clinical signs of conditions enumerated in OP2.1	Elicit signs and symptoms of common eyelid conditions Diagnose accurately common lid conditions based on the elicited signs and symptoms Accurately prescribe the local medication for common lid conditions Counsel a patient with lagophthalmos the need for tarsorrhaphy	DOAP session	Skill assessment	Skill Assessment during clinics Logbook	End of 1st posting – OSCE or short case
OP2.3	Demonstrate under supervision clinical procedures performed in the lid including: bells phenomenon, assessment of entropion/ ectropion, perform the regurgitation test of lacrimal sac. massage technique in cong. dacryocystitis, and trichiatric cilia removal by epilation	Elicit Bell's phenomenon perform lacrimal sac regurgitation test Demonstrate the correct technique of lacrimal sac massage for congenital nasolacrimal duct obstruction to the mother	DOAP session, Lecture	Skill assessment	Skill Assessment during clinics Logbook	End of 1st posting – OSCE or short case
OP2.4	Describe the aetiology, clinical presentation, complications and management of orbital cellulitis	Discuss the etiopathogenesis of orbital cellulitis Describe the clinical features of OC Discuss the management of OC	Lecture, Small group discussion	Written/ Viva voce	7th term	MCQs/SAQ/ Viva voce
OP2.5	Describe the clinical features on ocular examination and management of a patient with cavernous sinus thrombosis	Enumerate the predisposing factors for cavernous sinus thrombosis Compare and contrast clinical features of OC and cavernous sinus thrombosis Describe the management of CST	Lecture, Small group discussion	Written/ Viva voce	7th term	MCQs/SAQ/ Viva voce

OP2.6	Enumerate the causes and describe the differentiating features, and clinical features and management of proptosis	Discuss causes of unilateral proptosis Enumerate the causes of bilateral proptosis	Lecture, Small group discussion	Written/ Viva voce	7th term	MCQs/ SAQ/ Viva voce
OP2.7	Classify the various types of orbital tumours. Differentiate the symptoms and signs of the presentation of various types of ocular tumours		Lecture, Small group discussion	Written/ Viva voce	7th term	Short essay/viva voce
OP2.8	List the investigations helpful in diagnosis of orbital tumors. Enumerate the indications for appropriate referral		Lecture, Small group discussion	Written/ Viva voce	7th term	Short essay/viva voce

**Topic: Conjunctiva**

OP3.1	Elicit document and present an appropriate history in a patient presenting with a "red eye" including congestion, discharge, pain	Elicit appropriate history in a patient presenting with "Red eye" Perform ocular examination including vision assessment, pupil examination in a patient with "red eye" Counsel a patient with conjunctivitis on appropriate hand hygiene to prevent spread of infection	DOAP session	Skill Assessment	1st clinical posting	Skill assessment Logbook
OP3.2	Demonstrate document and present the correct method of examination of a "red eye" including vision assessment, corneal lustre, pupil abnormality, ciliary tenderness	Demonstrate correct method of digital tonometry Discuss the differential diagnosis of "red eye"	DOAP session	Skill Assessment	1st clinical posting	Skill assessment Logbook
OP3.3	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications. and management of various causes of conjunctivitis	Describe the clinical features of ophthalmia neonatorum according to the pathogenetic agent Describe the management of Ophthalmia neonatorum Compare the clinical features of conjunctivitis of different aetiologies Describe the management of bacterial conjunctivitis	Lecture, Small group discussion	Written/ Viva voce	6th term	SAQ Viva voce
OP3.4	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of trachoma.	Describe the clinical features of Trachoma Describe the management of Trachoma Describe the WHO classification of Trachoma Discuss the National programme for control of blindness due to Trachoma	Lecture, Small group discussion	Written/ Viva voce	6th term	MCQs/ SAQ/ Viva voce

OP3.5	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of vernal catarrh	Describe the clinical features of vernal catarrh How will you manage a patient with vernal catarrh	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	Written/ Viva voce
OP3.6	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of pterygium	Elicit appropriate history and clinical signs of pterygium Enumerate causes of decreased vision due to pterygium Describe the different surgical options for pterygium	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	Skill assessment Logbook
OP3.7	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of symblepharon	Enumerate causes and complications of symblepharon	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	MCQs/S AQ/ Viva voce
OP3.8	Demonstrate correct technique of removal of foreign body from the eye in a simulated environment	Demonstrate correct technique of removal of foreign body from the eye in a simulated environment	DOAP session	Skill assessment	1 <sup>st</sup> posting	Skill assessment Logbook
OP3.9	Demonstrate the correct technique of instillation of eye drops in a simulated environment	Demonstrate the correct technique of instillation of eye drops in a simulated environment	DOAP session	Skill assessment	1 <sup>st</sup> posting	Skill assessment Logbook
OP3.10	Demonstrate the correct technique of applying an eye pad	Demonstrate the correct technique of applying an eye pad	DOAP session	Skill assessment	1 <sup>st</sup> posting	Skill assessment Logbook

### Topic: Corneas

OP4.1	Enumerate, describe and discuss the types and causes of corneal ulceration	Discuss the pathogenesis of corneal ulcer Discuss the clinical features based on etiological agent Elicit signs and symptoms of corneal ulcer Describe the general principles of management of corneal ulcers	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	MCQs/S AQ/ Viva voce Skill assessment
OP4.2	Enumerate and discuss the differential diagnosis of infective keratitis	Enumerate the causes of infective keratitis Compare and contrast the clinical features of bacterial and fungal corneal ulcer	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	Written/ Viva voce
OP4.3	Enumerate the causes of corneal edema	Enumerate the causes of corneal edema	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	Written/ Viva voce
OP4.4	Enumerate the causes and discuss the management of dry eye	Describe briefly the Physiology of Tear film Describe briefly the tests done to detect dry eyes Enumerate different modalities of treatment of dry eyes	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	SAQs/ Viva voce
OP4.5	Enumerate the causes of corneal blindness	Enumerate the causes of corneal blindness	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	Written/ Viva voce
OP4.6	Enumerate the indications and the types of keratoplasty	Enumerate the indications and the types of keratoplasty	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	Viva voce
OP4.7	Enumerate the indications and describe the methods of tarsorrhaphy	Enumerate the indications and describe the methods of tarsorrhaphy	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	Written/ Viva voce
OP4.8	Demonstrate technique of removal of foreign body in the cornea in a simulated environment	Demonstrate technique of removal of foreign body in the cornea in a simulated environment	DOAP session	Skill assessment	6 <sup>th</sup> term	Logbook
OP4.9	Describe and discuss the importance and protocols involved in eye donation and eye banking	Enumerate the contraindications for eye donation List all methods of corneal button storage	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	Written/ Viva voce
OP4.10	Counsel patients and family about eye donation in a simulated environment	Counsel patients and family about eye donation in a simulated environment	DOAP session	Skill assessment	1st clinical posting	Logbook

### Topic: Sclera

OP5.1	Define, enumerate and describe the aetiology, associated systemic conditions, clinical features complications indications for referral and management of episcleritis	Define scleritis Discuss the etiology of scleritis	Lecture, Small group discussion	Written/ Viva voce	6th term	Written/ Viva voce
OP5.2	Define, enumerate and describe the aetiology, associated systemic conditions, clinical features, complications, indications for referral and management of scleritis	Describe the clinical features, and treatment of scleritis Enumerate the complications of scleritis	Lecture, Small group discussion	Written/ Viva voce	6th term	Written/ Viva voce

### Topic: Iris and Anterior chamber

OP6.1	Describe clinical signs of intraocular inflammation and enumerate the features that distinguish granulomatous from non-granulomatous inflammation. Identify acute iridocyclitis from chronic condition	Describe the etiology, clinical features of iridocyclitis Describe the distinguishing features of granulomatous and non- granulomatous iridocyclitis What is the etiology of granulo matous iridocyclitis	Lecture, Small group discussion	Written/ Viva voce	6th term	MCQs/SAQ/ Viva voce
OP6.2	Identify and distinguish acute iridocyclitis from chronic iridocyclitis	Define acute and chronic irido Mention the differentiating features between acute and chronic iridocyclitis	Lecture, Small group discussion	Written/ Viva voce	6th term	MCQs/SAQ/ Viva voce
OP6.3	Enumerate systemic conditions that can present as iridocyclitis and describe their ocular manifestations	Enumerate the systemic conditions associated with iridocyclitis Enumerate the other ocular manifestations	Lecture, Small group discussion	Written/ Viva voce	6th term	MCQs/SAQ/ Viva voce
OP6.4	Describe and distinguish hyphema and hypopyon	What is hyphema and what are the causes How will you manage a case of hyphema What is a hypopyon and what are its causes	Lecture, Small group discussion	Written/ Viva voce	6th term	MCQs/SAQ/ Viva voce
OP6.5	Describe and discuss the angle of the anterior chamber and its clinical correlates	Describe the anatomy of the anterior chamber How will you grade the angle of the anterior chamber	Lecture, Small group discussion	Written/ Viva voce	6th term	MCQs/SAQ/ Viva voce
OP6.6	Identify and demonstrate the clinical features and distinguish and diagnose common clinical conditions affecting the anterior chamber	Describe the clinical features of Primary open angle glaucoma Describe the management of angle closure glaucoma What is Trabeculectomy and describe its steps Describe the clinical features management of Primary angle glaucoma Describe the clinical features management of congenital gla	DOAP session, Bedside clinic	Skill assessment	6th term	MCQs/SAQ/ Viva voce

OP6.7	Enumerate and discuss the aetiology, the clinical distinguishing features of various glaucomas associated with shallow and deep anterior chamber. Choose appropriate investigations and treatment for patients with above conditions.	What are the causes of shallow deep anterior chamber What is gonioscopy What is perimetry and what a visual field changes in glaucoma What is tonometry and how is measured Demonstrate digital tonometry	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	MCQs/SAQ/ Viva voce
OP6.8	Enumerate and choose the appropriate investigation for patients with conditions affecting the Uvea	Describe the investigations in a patient with iridocyclitis	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	MCQs/SAQ/ Viva voce
OP6.9	Choose the correct local and systemic therapy for conditions of the anterior chamber and enumerate their indications, adverse events and interactions	Describe the management of a patient with iridocyclitis Enumerate the side effects of steroid use Discuss various routes of administration of steroids in ocular disease	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	MCQs/SAQ/ Viva voce
OP6.10	Counsel patients with conditions of the iris and anterior chamber about their diagnosis, therapy and prognosis in an empathetic manner in a simulated environment	Counsel a patient with uveitis regarding the need for compliance	DOAP session	Skill assessment	1 <sup>st</sup> posting	OSCE

### Topic: Lens

OP7.1	Describe the surgical anatomy and the metabolism of the lens	Describe the anatomy of the lens Describe the metabolism of the lens	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	Essay, SAQ
OP7.2	Describe and discuss the aetio-pathogenesis, stages of maturation and complications of cataract	Describe the etiopathogenesis senile cataract Stages of cortical and nuclear cataract Complications of senile cataract Discuss etiology and morphology of complicated cataract	Lecture, Small group discussion	Written/ Viva voce	6 <sup>th</sup> term	Essay, SAQ
OP7.3	Demonstrate the correct technique of ocular examination in a patient with a cataract	Differentiate between immature mature and hypermature cataract Demonstrate the presence of shadow Macular function tests	DOAP session	Skill assessment	1 <sup>st</sup> posting	OSCE/short case examination

OP7.4	Enumerate the types of cataract surgery and describe the steps, intra-operative and post-operative complications of extracapsular cataract extraction surgery.	Describe the steps of cataract surgery Mention the intraoperative complications Mention the early and late postoperative complications Treatment of After cataract	DOAP session, Lecture, Small group discussion	Written/ Viva voce	6th term	MCQs/SAQ/ Viva voce
OP7.5	To participate in the team for cataract surgery	Discuss the preoperative preparation of a patient for cataract surgery Experience a walkthrough of a patient from advising for surge discharge of the patient	DOAP session	Skill assessment/ Logbook documentation	2 <sup>nd</sup> posting	OSCE
OP7.6	Administer informed consent and counsel patients for cataract surgery in a simulated environment	Administer informed consent and counsel patients for cataract surgery in a simulated environment	DOAP session	Skill Assessment	2 <sup>nd</sup> posting	OSCE

**Topic: Retina & optic Nerve**

OP8.1	Discuss the aetiology, pathology, clinical features and management of vascular occlusions of the retina	Describe the etiology, pathology, clinical features, and management of Retinal vein occlusions Describe the etiology, pathology, clinical features, and management of Retinal artery occlusions What is cherry red spot and what are its causes	Lecture, Small group discussion	Written/ Viva voce	7 <sup>th</sup> term	MCQs/SAQ/ Viva voce
OP8.2	Enumerate the indications for laser therapy in the treatment of retinal diseases (including retinal detachment, retinal degenerations, diabetic retinopathy & hypertensive retinopathy)	What is the pathogenesis of diabetic retinopathy What are the stages of diabetic retinopathy and maculopathy What is the management for each of the stages What are the grades of hypertensive retinopathy? What is Keith Wagner classification Enumerate the types of retinal detachment and its management What is age related macular degeneration? What are the cl features and management	Lecture, Small group discussion	Written/ Viva voce	7 <sup>th</sup> term	MCQs/SAQ/ Viva voce
OP8.3	Demonstrate the correct technique of a fundus examination and describe and distinguish the fundoscopic features in a normal condition and in conditions causing an abnormal retinal exam	Demonstrate the correct technique of using a direct ophthalmoscope Describe a normal fundus with help of a diagram	Lecture, Small group discussion	Skill Assessment	6-7 <sup>th</sup> term	OSCE



OP8.4	Enumerate and discuss treatment modalities in management of diseases of the retina	Enumerate the various disease conditions of the retina Enumerate the treatment mode the above conditions	Lecture, Small group discussion	Written/ Viva voce	7 <sup>th</sup> term	MCQs/SAQ/ Viva voce
OP8.5	Describe and discuss the correlative anatomy, aetiology, clinical manifestations, diagnostic tests, imaging and management of diseases of the optic nerve and visual pathway	Describe the anatomy of the Optic nerve Describe the clinical features, investigations and management of Optic neuritis Describe the clinical features, stages and fundus picture, investigation and management of Papilledema Describe the clinical features, classification, investigations a management of Optic Atrophy Describe the anatomy of the visual pathway Describe the visual field defect occurring in diseases affecting visual pathway Describe the pupillary pathway Describe the clinical features of various pupillary abnormalities Hutchisons pupil, ARP, Adies pupil, Marcus Gunn Pupil Demonstrate swinging flashlight test	Lecture, Small group discussion	Written/ Viva voce	7 <sup>th</sup> term	MCQs/SAQ/ Viva voce

**Topic: Miscellaneous**

OP9.1	Demonstrate the correct technique to examine extra ocular movements (Uniocular & Binocular)	List the extraocular muscles, their insertions, and their actions Demonstrate the correct technique to examine extra ocular movement (Uniocular & Binocular)	DOAP session	Skill Assessment	1 <sup>st</sup> and 2 <sup>nd</sup> posting	Log book
OP9.2	Classify, enumerate the types, methods of diagnosis and indications for referral in a patient with heterotropia/ strabismus	List the types of strabismus What are the differences between Paralytic squint and Concomitant squint Enumerate and demonstrate the tests done in a case of Squint (Hirschberg test, Head posture) List the conditions in which a patient with strabismus has to be referred	Lecture, Small group discussion	Written/ Viva voce/ skill assessment	7 <sup>th</sup> term	MCQs/SAQ/ Vivavoce

OP9.3	Describe the role of refractive error correction in a patient with headache and enumerate the indications for referral	Enumerate the causes of headache and list the differentiating features suggest an ocular cause List the type of headaches which require referral	Lecture, Small group discussion	Written/ Viva voce	7 <sup>th</sup> term	MCQs/SAQ/ Vivavoce
OP9.4	Enumerate, describe and discuss the causes of avoidable blindness and the National Programs for Control of Blindness (including vision 2020)	What are the causes of avoidable blindness What is NPCB. What are the diseases included in this What is vision 2020	Lecture, Small group discussion	Written/ Viva voce	7 <sup>th</sup> term	MCQs/SAQ/ Vivavoce
OP9.5	Describe the evaluation and enumerate the steps involved in the stabilisation, initial management and indication for referral in a patient with ocular injury	List the types of ocular injuries List the effects of blunt trauma to the eye List the steps of initial management of chemical injuries Demonstrate the correct method of eye irrigation List the steps of initial management of an open globe injury	Lecture, Small group discussion	Written/ Viva voce	7 <sup>th</sup> term	MCQs/SAQ/ Vivavoce

**Summary of course content, teaching and learning methods and student assessment for the undergraduate (MBBS) Curriculum in Ophthalmology**

**Teaching-Learning methods and Time allotted**

	Lectures	Small group discussion	Self- directed learning	Total hours	Clinical postings
<b>Ophthalmology</b>	30hours	60hours	10hours	100 hours	Two postings of 4 weeks each. First posting in 3-4 <sup>th</sup> terms (15hours/week) and Second posting in 6-7 <sup>th</sup> terms (18hours/week)

The clinical postings in the second professional shall be 15 hours per week (3 hrs per day from Monday to Friday)

The clinical postings in the third professional part II shall be 18 hours per week (3 hrs per day from Monday to Saturday)

Newer T-L method like Learner-doctor method (Clinical clerkship) should be mandatorily implemented, from 1<sup>st</sup> clinical postings in ophthalmology itself.

The goal of this type of T-L activity is to provide learners with experience in longitudinal patient care, being part of the health care team, and participate in hands-on care of patients in outpatient and inpatient setting. During the 1<sup>st</sup> clinical postings, the students are oriented to the working of the department. During the second clinical posting the students are allotted patients, whom they follow-up through their stay in the hospital, participating in that patient's care including case work-up, following-up on investigations, presenting patient findings on rounds, observing surgeries if any till patient is discharged.

The development of ethical values and overall professional growth as integral part of curriculum shall be emphasized through a structured longitudinal and dedicated programme on professional development including attitude, ethics, and communication which is called the AETCOM module. The purpose is to help the students apply principles of bioethics, systems-based care, apply empathy and other human values in patient care, communicate effectively with patients and relatives and to become a professional who exhibits all these values. This will be a longitudinal programme spread across the continuum of the MBBS programme including internship. MBBS Phase 3 Part 1, has to complete 5 modules of 5hours each. The Ophthalmology faculty will have the responsibility of conducting 1-2 modules as per the decision and logistics of each institution.

**Assessment**

Eligibility to appear for university examinations is dependent on fulfilling criteria in two main areas –

attendance and internal assessment marks

### **Attendance**

Attendance requirements are 75% in theory and 80% in clinical postings for eligibility to appear for the examinations in Ophthalmology.

75% attendance in AETCOM Module is required for eligibility to appear for final examination in 3<sup>rd</sup> professional year 3 part 1.

### **Internal Assessment**

Progress of the medical learner shall be documented through structured periodic assessment that includes formative and summative assessments. Logs of skill-based training shall be also maintained.

There shall be no less than three internal assessment examinations in Ophthalmology. An end of posting clinical assessment shall be conducted for each of the Ophthalmology clinical posting. Day to day records and logbook (including required skill certifications) should be given importance in internal assessment. Internal assessment should be based on competencies and skills.

Learners must secure at least 50% marks of the total marks (combined in theory and clinical; not less than 40 % marks in theory and practical separately) assigned for internal assessment in Ophthalmology in order to be eligible for appearing at the final University examination.

Internal assessment marks will reflect as separate head of passing at the summative examination.

The results of internal assessment should be displayed on the notice board within 1-2 weeks of the test.

Remedial measures should be offered to students who are either not able to score qualifying marks or have missed on some assessments due to any reason.

Learners must have completed the required certifiable competencies for that phase of training and Ophthalmology logbook entry completed to be eligible for appearing at the final university examination.

AETCOM assessment will include: (a) Written tests comprising of short notes and creative writing experiences, (b) OSCE based clinical scenarios / viva voce.

### **University examinations**

Third Professional Part I shall be held at end of third Professional part 1 of training (12 months) in the subjects of Ophthalmology, Otorhinolaryngology, Community Medicine and Forensic Medicine and Toxicology

#### **Marks allotted**

<b>Total marks</b>	100 marks	100 marks
	Long essay 2X10= 20	Two cases x40marks=80marks
	Short essay 6x5=30 marks	Viva voce 2x10=20marks
	Short answer question 10x3=30marks	
	MCQs 20x1=10marks	

The theory paper should include different types such as structured essays, short essays, Short Answers Questions (SAQ) and MCQs (Multiple Choice Questions). Marks for each part should be indicated

separately. All the question papers to follow the suggested **blueprint. It is desirable that** the marks allotted to a particular topic are adhered to.

A minimum of **80%** of the marks should be from the **must know** component of the curriculum. A maximum of **20%** can be from the **desirable to know** component. All **main essay questions** to be from the **must know component** of the curriculum.

**One main essay question** should be **modified variety** containing a clinical case scenario. At least 30% of questions should be clinical case scenario based. Questions are to be constructed to test higher cognitive levels.

Clinical examinations will be conducted in the hospital wards. Clinical cases kept in the examination must be common conditions that the learner may encounter as a physician of first contact in the community. Selection of rare syndromes and disorders as examination cases is to be discouraged. Emphasis should be on candidate's capability to elicit history, demonstrate physical signs, write a case record, analyze the case and develop a management plan.

Viva/oral examination should assess approach to patient management, emergencies, attitudinal, ethical and professional values. Candidate's skill in interpretation of common investigative data, X-rays, identification of specimens, ECG, etc. is to be also assessed.

At least one question in each paper of the clinical specialties in the University examination should test knowledge competencies acquired during the professional development programme. Skill competencies acquired during the Professional Development Programme must be tested during the clinical, practical and viva voce.

There shall be one main examination in an academic year and a supplementary to be held not later than 90 days after the declaration of the results of the main examination.

#### **Pass criteria**

Internal Assessment: 50% combined in theory and practical (not less than 40% in each) for eligibility for appearing for University Examinations

University Examination: Mandatory 50% marks separately in theory and clinicals (clinicals = clinical + viva)

The grace marks up to a maximum of five marks may be awarded at the discretion of the University to a learner for clearing the examination as a whole but not for clearing a subject resulting in exemption.

## APPENDIX 1: Blueprint for Ophthalmology theory

### Examinations

Topics	Marks allotted
<b>Eyelids disorders</b>	6
<b>Conjunctival diseases</b>	10
<b>Corneal disorders</b>	10
<b>Refractive errors</b>	6
<b>Lacrimal Drainage system</b>	6
<b>Tear Film abnormalities</b>	5
<b>Diseases of Sclera</b>	3
<b>Diseases of Lens</b>	8
<b>Glaucoma</b>	10
<b>Uveitis</b>	5
<b>Diseases of Retina and choroid</b>	10
<b>Orbital diseases</b>	5
<b>Neuroophthalmological conditions</b>	8
<b>Community Ophthalmology</b>	5
<b>Strabismus</b>	3
<b>Total</b>	100