

Faculty of Medicine



JSS Academy of Higher Education & Research

(Deemed to be University)

Accredited "A*" Grade by NAAC

Sri Shivarathreshwara Nagar, Mysuru – 570 015

MBBS 2019: Regulations & Syllabus

PHASE III PART I - CBME SYLLABUS

(THEORY, PRACTICALS AND CLINICALS)

COMPILED BY : MEDICAL EDUCATION UNIT

VOLUME 1

MBBS 2019: Regulations & Syllabus
Phase III Part I - CBME Syllabus
(Theory, Practicals and Clinicals)
Compiled by : Medical Education Unit

VOLUME 1

Subjects	Page No
----------	---------

Forensic Medicine and Toxicology	03
----------------------------------	----

Community Medicine	75
--------------------	----

ENT	137
-----	-----

Ophthalmology	209
---------------	-----

University Exam at the end of Phase III Part I	
--	--

FORENSIC MEDICINE & TOXICOLOGY

PREAMBLE

Forensic Medicine and Toxicology is considered as an interface of medicine, Science and Law. It thus bridges the gap between scientific evidence of medical origin and its interpretation at the Court of Law. Hence a proper understanding of Forensic Medicine and Toxicology is crucial for medical practice. The chief goal of undergraduate teaching of Forensic Medicine have always been to provide a concrete framework for the description and interpretation of scientific facts so as to provide students with knowledge of its application in the ultimate administration of Justice. The understanding of the Legal aspects of Medicine is so vital for practice of medicine that its teaching needs to be integrated throughout the medical course.

The new Graduate Medical Education Regulations provides for an outcome driven undergraduate curriculum, to provide the orientation and the skills necessary for life-long learning, to enable proper care of the patient. The undergraduate medical curriculum has thus evolved from being teacher-centered to student centered, from discipline-based to integrated core and options-based and from passive acquisition of knowledge imparted by teachers to active problem-based learning. Skill acquisition is an indispensable component of the learning process in modern medicine. However, the need for development of professional attitude, behaviour and communication skills befitting a medical practitioner is well perceived and emphasized by the new curriculum with incorporation of AETCOM sessions.

While the Undergraduate Teaching of Forensic Medicine and Toxicology has always been perceived as fact-based, the present CBME curriculum has evolved the Forensic Medicine and Toxicology into clinical oriented specialty and has been expanded to Phase III, Part I of MBBS. The key elements of the curriculum such as integrating with other subjects, clinical oriented learning, direct faculty feedback, interactive with experiential learning and competency-based student assessments will bring in remarkable changes in the teaching and learning of Forensic Medicine and Toxicology. These changes will provide the Indian Medical Graduate a strong foundation in the Medical Jurisprudence and Legal Medicine, which is critical to the formation of a competent clinician.

CURRICULUM OF FORENSIC MEDICINE & TOXICOLOGY FOR PHASE III Part I MBBS

Topics and outcomes of Forensic Medicine and Toxicology in Phase III part I MBBS.

Subject	Number of Topics	Outcomes
Forensic Medicine& Toxicology	8	100

Course content

i. Goal

The goal of teaching the undergraduate student in forensic medicine is to impart such knowledge and skills that may enable them to identify and manage common medico-legal problems in day-to-day medical practice. To acquire competence to draw conclusions from autopsy, issuing various medico-legal certificates, understanding ethics, etiquette, negligence in medical practice and basic law system of India for medical practice.

ii. Objectives

At the end of the third year MBBS, the students should be able to accomplish the following objectives

A. Cognitive domain

- a. Describe the types of asphyxial deaths and its medico-legal interpretation.
- b. Describe different types of mechanical and regional injuries and their medicolegal implications.
- c. Discuss different types of sexual offences and the procedure of medical examination of the victim and offender.
- d. Discuss the Forensic implication in clinical practice and describe the various laws applicable to it.
- e. Discuss the ethical and moral principles applicable to medical practice.
- f. Describe the forensic aspects as applicable to psychiatry.
- g. Describe the principles and procedure of various technological methods used in Forensic Work.

B. Affective domain

- h. Demonstrate self-awareness and personal development in the routine conduct.
- i. Communicate effectively with peers and teachers in various teaching learning activities.
- j. Demonstrate ability to communicate adequately, sensitively, effectively, respectfully to follow the ethical principles in dealings with patients, corpses, police personnel, relatives and other health personnel.
- k. Demonstrate ability to function as a part of a team member.

C. Psychomotor domain

- l. To identify and describe weapons of medicolegal importance and prepare medicolegal report on weapons produced.
- m. To Record and certify dying declaration.
- n. Writing appropriate cause of death in a particular scenario and effective documentation in the prescribed format.
- o. Estimating the age of foetus by post-mortem examination.
- p. Examining and preparing of Medico-legal report of an injured person with different etiologies, victim of sexual offence and alleged accused of rape.
- q. To identify and prepare medico-legal inference from histo-pathological slides of conditions causing sudden death.
- r. To give expert medical/medico-legal evidence in Court of law.

iii. Course outcome:

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

- s. Understand the medicolegal duties of a medical practitioner.
- t. Identify ethical issues in day-to-day practice and handle them effectively.
- u. Have competence in effective documentation in medical practice.
- v. Understand the different aspects of unnatural deaths.
- w. Assist effectively the police personnel in solving medico-legal issues.

iv. Syllabus

Teaching Method	Hours
Lecture	25
Small group Discussion	45
Self-directed learning	05
Total	75

Distribution of teaching hours for theory and practical's/ small group teaching is as follows

SI No	Topic	Lecture	Small group discussion	SDL	Total
1.	General Information	2 hr	4 hr	1	7 hr
2.	Forensic Pathology	2 hr	11 hr	0	13 hr
3.	Clinical Forensic Medicine	10 hr	21 hr	2	33 hr
4.	Medical Jurisprudence	8 hr	5 hr	0	13 hr
5.	Forensic Psychiatry	2 hr	0	1	3 hr
6.	Forensic Laboratory investigation in medical and legal practice	1 hr	1 hr	0	2 hr
7.	Emerging technologies in Forensic Medicine	0	0	1	1 hr
8.	Skills in Forensic Medicine	0	3 hr	0	3 hr
Total		25 hr	45 hr	5 hr	75 hr
FMT Postings (Autopsy, Moot Court, Crime Scene Visit, Crime Scene Simulation, Regional Forensic Science Laboratory Visit)		3 Hours/DayX2 Weeks			

Syllabus at glance for MBBS Phase III Part I

Theory:

SI No	Topic Number	Name of the topic	Description of competencies
1	1	General Information	<p>FM1.5 Describe Court procedures including issue of Summons, conduct money, types of witnesses, recording of evidence oath, affirmation, examination in chief, cross examination, re-examination and court questions, recording of evidence & conduct of doctor in witness box</p>
			<p>FM1.7 Describe Dying Declaration & Dying Deposition</p>
			<p>FM1.8 Describe the latest decisions/ notifications/ resolutions/ circulars/ standing orders related to medico-legal practice issued by Courts/ Government authorities etc.</p>
			<p>FM1.9 Describe the importance of documentation in medical practice in regard to medicolegal examinations, Medical Certificates and medicolegal reports especially</p> <ul style="list-style-type: none"> x. maintenance of patient case records, discharge summary, y. prescribed registers to be maintained in Health Centres. z. maintenance of medico-legal register like accident register. <ul style="list-style-type: none"> aa. documents of issuance of wound certificate ab. documents of issuance of drunkenness certificate. ac. documents of issuance of sickness and fitness certificate. ad. documents for issuance of death certificate. ae. documents of Medical Certification of Cause of Death - Form Number 4 and 4A <ul style="list-style-type: none"> ● documents for estimation of age by physical, dental and radiological examination and issuance of certificate

			FM1.10 Select appropriate cause of death in a particular scenario by referring ICD 10 code
			FM1.11 Write a correct cause of death certificate as per ICD 10 document
2	2	Forensic Pathology	FM2.20Mechanical asphyxia: Define, classify and describe asphyxia and medico-legal interpretation of post-mortem findings in asphyxial deaths
			FM2.21Mechanical 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
			FM2.22Mechanical asphyxia: Describe and discuss patho-physiology, clinical features, postmortem findings and medico-legal aspects of traumatic asphyxia, obstruction of nose & mouth, suffocation and sexual asphyxia
			FM2.23Describe and discuss types, patho-physiology, clinical features, postmortem findings and medico-legal aspects of drowning, diatom test and, gettler test.
			FM2.24Thermal 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)
			FM2.25Describe types of injuries, clinical features, patho-physiology, postmortem findings and medico-legal aspects in cases of burns, scalds, lightening, electrocution and radiations

			FM2.26 Describe and discuss clinical features, post-mortem findings and medico-legal aspects of death due to starvation and neglect
			FM2.27 Define and discuss infanticide, foeticide and stillbirth
			FM2.28 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 Infants Death syndrome and Munchausen's syndrome by proxy
			FM 2.29 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
			FM 2.30 Have knowledge/awareness of latest decisions/ notifications/ resolutions/circulars/standing orders related to medico-legal practice issued by Courts/Government authorities etc
			FM 2.34 Demonstrate ability to use local resources whenever required like in mass disaster situations
3	3	Clinical Forensic Medicine	FM3.3 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
			FM3.4 Mechanical injuries and wounds: Define injury, assault & hurt. Describe IPC pertaining to injuries

			FM3.5 Mechanical injuries and wounds: Describe accidental, suicidal and homicidal injuries. Describe simple, grievous and dangerous injuries. Describe ante-mortem and post-mortem injuries
			FM 3.6 Mechanical injuries and wounds: Describe healing of injury and fracture of bones with its medico-legal importance
			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
			FM 3.8 Mechanical injuries and wounds: Describe and discuss different types of weapons including dangerous weapons and their examination
			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
			FM 3.10 Firearm injuries: 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
			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

			<p>FM 3.12 Regional Injuries Describe and discuss injuries related to fall from height and vehicular injuries – Primary and Secondary impact, Secondary injuries, crush syndrome, railway spine</p>
			<p>FM3.13 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</p>
			<p>FM3.14 SEXUAL OFFENCES 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</p>
			<p>FM3.15 SEXUAL OFFENCES Describe and discuss examination of accused and victim of sodomy, preparation of report, framing of opinion, preservation and dispatch of trace evidences in such cases.</p>
			<p>FM3.16 SEXUAL OFFENCES 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 despatch of trace evidences in such cases</p>
			<p>FM3.17 Describe and discuss the sexual perversions fetishism, transvestism, voyeurism, sadism, necrophagia, masochism, exhibitionism, frotteurism, Necrophilia</p>
			<p>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</p>

			FM 3.19 Discuss the medicolegal aspects of pregnancy and delivery, signs of pregnancy, precipitate labour, superfetation, superfecundation and signs of recent and remote delivery in living and dead
			FM 3.20 Discuss disputed paternity and maternity
			FM 3.21 Discuss Pre-conception and Pre Natal-Diagnostic Techniques (PC&PNDT) - Prohibition of Sex Selection Act 2003 and Domestic Violence Act 2005
			FM 3.22 Define and discuss impotence, sterility, frigidity, sexual dysfunction, premature ejaculation. Discuss the causes of impotence and sterility in male and female
			FM 3.23 Discuss Sterilization of male and female, artificial insemination, Test Tube Baby, surrogate mother, hormonal replacement therapy with respect to appropriate national and state laws
			FM3.24 Discuss the relative importance of surgical methods of contraception (vasectomy and tubectomy) as methods of contraception in the National Family Planning Programme
			FM3.25 Discuss the major results of the National Family Health Survey
			FM3.26 Discuss the national Guidelines for accreditation, supervision & regulation of ART Clinics in India
			FM3.27 Define, classify and discuss abortion, methods of procuring MTP and criminal abortion and complication of abortion. MTP Act 1971

			FM3.28 Describe evidences of abortion - living and dead, duties of doctor in cases of abortion, investigations of death due to criminal abortion
			FM3.29 Describe and discuss child abuse and battered baby syndrome
			FM3.30 Describe and discuss issues relating to torture, identification of injuries caused by torture and its sequelae, management of torture survivors
			FM3.31 Torture and Human rights Describe and discuss guidelines and Protocols of National Human Rights Commission regarding torture
			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
			FM3.33 Should be able to demonstrate the professionalism while dealing with victims of torture and human right violations, sexual assaults psychological consultation, rehabilitation
4	4	Medical Jurisprudence (Medical Ethics and Law)	FM 4.1 Describe Medical Ethics and explain its historical emergence
			FM 4.2 Describe the Code of Medical Ethics 2002 conduct, Etiquette and Ethics in medical practice and unethical practices & the dichotomy
			FM 4.3 Describe the functions and role of Medical Council of India and State Medical Councils

			FM4.4 Describe the Indian Medical Register
			FM 4.5 Rights/privileges of a medical practitioner, penal erasure, infamous conduct, disciplinary Committee, disciplinary procedures, warning notice and penal erasure
			FM 4.6 Describe the Laws in Relation to medical practice and the duties of a medical practitioner towards patients and society
			FM 4.7 Describe and discuss the ethics related to HIV patients
			FM 4.8 Describe the Consumer Protection Act-1986 (Medical Indemnity Insurance, Civil Litigations and Compensations), Workman’s Compensation Act & ESI Act
			FM 4.9 Describe the medico - legal issues in relation to family violence, violation of human rights, NHRC and doctors
			FM 4.10 Describe communication between doctors, public and media
			FM 4.11 Describe and discuss euthanasia
			FM4.12Discuss legal and ethical issues in relation to stem cell research
			FM4.13Describe social aspects of Medico-legal cases with respect to victims of assault, rape, attempted suicide, homicide, domestic violence, dowry- related cases
			FM4.14Describe & discuss the challenges in managing medico-legal cases including development of skills in relationship management – Human behaviour, communication skills, conflict resolution techniques

			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
			FM4.16 Describe and discuss Bioethics
			FM4.17 Describe and discuss ethical Principles: Respect for autonomy, non-maleficence, beneficence & justice
			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
			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
			FM4.20 Describe therapeutic privilege, Malingering, Therapeutic Misadventure, Professional Secrecy, Human Experimentation
			FM4.21 Describe Products liability and Medical Indemnity Insurance
			FM4.22 Explain Oath – Hippocrates, Charaka and Sushruta and procedure for administration of Oath
			FM4.23 Describe the modified Declaration of Geneva and its relevance

			FM4.24 Enumerate rights, privileges and duties of a Registered Medical Practitioner. Discuss doctor-patient relationship: professional secrecy and privileged communication
			FM4.25 Clinical research & Ethics Discuss human experimentation including clinical trials
			FM4.26 Discuss the constitution and functions of ethical committees
			FM4.27 Describe and discuss Ethical Guidelines for Biomedical Research on Human Subjects & Animals
			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
			FM4.29 Demonstrate ability to communicate appropriately with media, public and doctors
			FM4.30 Demonstrate ability to conduct research in pursuance to guidelines or research ethics
5	5	Forensic Psychiatry	FM5.1 Classify common mental illnesses including post-traumatic stress disorder (PTSD)
			FM5.2 Define, classify and describe delusions, hallucinations, illusion, lucid interval and obsessions with exemplification
			FM5.3 Describe Civil and criminal responsibilities of a mentally ill person

			FM5.4 Differentiate between true insanity from feigned insanity
			FM5.5 Describe & discuss Delirium tremens
			FM5.6 Describe the Indian Mental Health Act, 1987 with special reference to admission, care and discharge of a mentally ill person
6	6	Forensic Laboratory investigation in medical legal practice	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. i. Describe Locard's Exchange Principle
			FM6.2 Describe the methods of sample collection, preservation, labeling, dispatch, and interpretation of reports
			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
7	7	Emerging technologies in Forensic Medicine	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

8	14	Skills in Forensic Medicine & Toxicology	FM14.5 Conduct & prepare post-mortem examination report of varied aetiologies (at least 15) in a simulated/ supervised environment.
			FM 14.21 To collect, preserve, seal and dispatch exhibits for DNA-Finger printing using various formats of different laboratories.

Practicals

Sl. No	Topic Number	Name of the topic	Description of competencies
2	14	Skills in Forensic Medicine & Toxicology	FM14.1 Examine and prepare Medico-legal report of an injured person with different etiologies in a simulated/ supervised environment
			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
			FM14.11 To identify & describe weapons of medicolegal importance which are commonly used e.g. lathi, knife, kripa, axe, gada, 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)

			FM14.12 Describe the contents and structure of bullet and cartridges used & to provide medico-legal interpretation from these
			FM14.13 To estimate the age of foetus by post-mortem examination
			FM14.14 To examine & prepare report of an alleged accused in rape/ unnatural sexual offence in a simulated/ supervised environment
			FM14.15 To examine & prepare medico-legal report of a victim of sexual offence/unnatural sexual offence in a simulated/ supervised environment
			FM14.19 To identify & prepare medico-legal inference from histo-pathological slides of Myocardial Infarction, pneumonitis, tuberculosis, brain infarct, liver cirrhosis, brain haemorrhage, bone fracture, Pulmonary oedema, brain oedema, soot particles, diatoms & wound healing
			FM14.20 To record and certify dying declaration in a simulated/ supervised environment
			FM14.22 To give expert medical/ medico-legal evidence in Court of law

FMT Postings

Autopsy demonstration in Mortuary, documentation and description of injuries in EMD, Moot Court exercise, examination of Weapon of offence, Case Based Discussions on Common Medicolegal Issues, demonstration of examination procedure of victim and accused of sexual offences. Crime Scene Visit, Crime Scene Simulation, Regional Forensic Science Laboratory Visit.

Forensic Medicine & Toxicology

Competencies with SLOs for Phase III Part I MBBS

No.	COMPETENCY The student should be able to	Specific Learning Objectives	Dom-ain K/S/ A/C	Level K/ KH/ SH/P	Core (Y/ N)	Teaching Learning Methods	Assessment Method	Interation
1.	Topic: General Information							
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.	At the end of the session, learner shall be able to: 1.5.1: Define 'Summons'. 1.5.2: Describe the formalities to be followed by a doctor while receiving summons and consequence of not honouring the summons. 1.5.3: Define 'Witness'. 1.5.4: Describe the types of witness. 1.5.5: Define 'Evidence'. 1.5.6: Describe the types of evidence. 1.5.7: Describe the steps of recording evidence in the court of law. 1.5.8: Describe the conduct of a doctor in the witness box.	K	KH	N	SDL – 1 hr	Written, Viva Voce	

FM 14.22	To give expert medical/ medico-legal evidence in Court of law	<p>At the end of the session, learner shall be able to:</p> <p>14.22.1 : Describe the conduct of a doctor in the witness box during the process of deposing expert medical/ medico-legal evidence in Court of law.</p> <p>14.22.2 : Describe the steps / procedure of recording of expert medical/ medico-legal evidence in Court of law with relation to Court procedures.</p>	S	KH	Y	SGD – 2 h (Moot Court)	Practical book/ Log book Viva voce	
FM 1.7	Describe Dying Declaration and Dying Deposition	<p>At the end of the session, learner shall be able to:</p> <p>1.7.1 : Define dying declaration and dying deposition.</p> <p>1.7.2 : Describe the procedure of recording of dying declaration.</p> <p>1.7.3 : Differentiate between dying declaration and dying deposition</p>	K	KH	Y	SGD – 1 hr (Role play)	Written, Viva Voce	
FM 14.20	To record and certify dying declaration in a simulated/ supervised environment	<p>At the end of the session, learner shall be able to:</p> <p>14.20.1 : Certify compos mentis (sound mind) by examining higher mental functions before recording of dying declaration in a simulated environment.</p> <p>14.20.2 : Record dying declaration in a simulated environment.</p> <p>14.20.3 : Assist the executive magistrate in recording of dying declaration in a simulated environment</p>	S	KH	Y		Log book/skill station/ Viva voce/ OSCE	

FM 1.8	Describe the latest decisions/ notifications/ resolutions/circulars/ standing orders related to medico-legal practice issued by Courts/Government authorities etc.	<p>At the end of the session, learner shall be able to:</p> <p>1.8.1: Describe the latest decisions/notifications/resolutions/ circulars/ standing orders related to medico-legal practice issued by Courts.</p> <p>1.8.2 : Describe the latest decisions/notifications/resolutions/ circulars/standing orders related to medico-legal practice issued by Central Government authorities.</p> <p>1.8.3 : Describe the latest decisions/notifications/resolutions/ circulars/ standing orders related to medico-legal practice issued by State Government authorities.</p> <p>1.8.4 : Describe the latest decisions/notifications/resolutions/ circulars/standing orders related to medico-legal practice issued by NMC/MCI/ SMC.</p>	K	KH	Y	Lecture – 1 hr	Written, Viva Voce	
FM 1.9	Describe the importance of documentation in medical practice in regard to medicolegal examinations, Medical certificates & medicolegal reports especially	<p>At the end of the session, learner shall be able to:</p> <p>1.9.1: Enumerate various medical / medicolegal records to be maintained by hospital/ medical practitioner.</p>	K	KH	Y	Lecture – 1 hr	Written, Viva Voce	Radio diagnosis, General Surgery, General Medicine, Pediatrics

<ul style="list-style-type: none"> - 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 	<p>1.9.2 : 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).</p> <p>1.9.3 : 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).</p>						
---	--	--	--	--	--	--	--

FM 1.10	Select appropriate cause of death in a particular scenario by referring ICD 10 code	At the end of the session, learner shall be able to: 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.	K	KH	Y	SGD – 1 hr (Practical)	Written, Viva voce	
FM 1.11	Write a correct cause of death certificate as per ICD 10 document.	1.11.1 : Describe the objectives of MCCD certification. 1.11.2 : Draft the MCCD certificate in a particular scenario as per ICD-10. 1.11.3: Explain the procedure of dispatching MCCD certificate to the concerned authorities.	K	KH	Y		OSPE	
2.	2. Topic: Forensic Pathology							
FM 2.20	Mechanical asphyxia: Define, classify and describe asphyxia and medico-legal interpretation of post-mortem findings in asphyxial deaths.	At the end of the session, learner shall be able to: 2.20.1: Define asphyxia. 2.20.2: Mention the various types of asphyxial deaths (mechanical, pathological, toxic, environmental, traumatic, postural, iatrogenic). 2.20.3: Describe the pathophysiology (vicious cycle) of asphyxia. 2.20.4 : Explain the types of anoxia/ hypoxia (Gordon's classification). 2.20.5 : Discuss the classical post mortem findings in asphyxial deaths.	K	KH	Y	SGD – 5hr	Written, Vivavoce	

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.	At the end of the session, learner shall be able to: 2.21.1 : Define mechanical asphyxia death. 2.21.2 : Classify mechanical asphyxial deaths. 2.21.3 : Define hanging. 2.21.4 : Enumerate the types of hanging. 2.21.5 : Explain the symptoms experienced by the victim in hanging. 2.21.6 : Describe the causes of death, postmortem findings and medicolegal aspects of death due to hanging. 2.21.7 : Discuss on judicial hanging. 2.21.8: Define strangulation. 2.21.9 : Enumerate the types of strangulation. 2.21.10 : Describe the causes of death, postmortem findings and medicolegal aspects of death due to ligature strangulation 2.21.11: Describe the causes of death, postmortem findings and medicolegal aspects of death due to manual strangulation. 2.21.13 : Discuss on Banskola, Mugging, Garrotting, 2.21.14 : Describe the examination, preservation and dispatch of ligature material used in hanging and strangulation. 2.21.15 : Explain the fractures of hyoid bone.	K	KH	Y		Written, Vivavoce	
------------	---	--	---	----	---	--	----------------------	--

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.	At the end of the session, learner shall be able to: 2.22.1 : Define traumatic asphyxia. 2.22.2 : Describe the pathophysiology, postmortem findings and medicolegal aspects of traumatic asphyxia. 2.22.3 : Discuss on postural/positional asphyxia. 2.22.4: Discuss on Overlying. 2.22.5 : Define suffocation. 2.22.6 : Enumerate the types of suffocation. 2.22.7 : Describe the postmortem findings and medicolegal aspects of Environmental asphyxia, Smothering, Gagging and Choking. 2.22.8 : Discuss on Café-coronary. 2.22.9: Discuss on Burking. 2.22.10: Describe methods used, postmortem findings and medicolegal aspects of Sexual/ Auto-erotic asphyxia.	K	KH	Y		Written, Vivavoce	
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.							

		<p>At the end of the session, learner shall be able to:</p> <p>2.23.1: Define drowning. 2.23.2: Explain the mechanism of drowning. 2.23.3: Enumerate the types of drowning. 2.23.4 : Describe the pathophysiology, causes of death, postmortem findings and medicolegal aspects of drowning. 2.23.5 : Describe the clinical features and treatment of Post-immersion syndrome (Near drowning). 2.23.6 : Discuss on Diatom test and its medicolegal importance. 2.23.7 : Discuss on Gettler test and its medicolegal importance.</p>	K	KH	Y		Written, Vivavoce	
FM 2.24	<p>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).</p>	<p>At the end of the session, learner shall be able to:</p> <p>2.24.1 : Classify thermal injuries. 2.24.2 : Describe the local (frostbite, trench foot, immersion foot) and general effects (hypothermia) due to Cold. 2.24.3 : Describe the postmortem findings and medicolegal aspects of deaths due to Hypothermia. 2.24.4 : 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.</p>	K	KH	Y	SGD – 1 hr	Written, Vivavoce	

<p>FM 2.25</p>	<p>Describe types of injuries, clinical features, patho-physiology, postmortem findings and medico-legal aspects in cases of burns, scalds, lightening, electrocution and radiations.</p>	<p>At the end of the session, learner shall be able to: 2.25.1: Define Burn. 2.25.2 : Enumerate the types or causes of burns. 2.25.3 : Describe the degree of burns (Dupuytren’s, Wilson’s and Clinicalclassification). 2.25.4 : Explain the method of calculation of percentage of burns (Rule of Nine/Wallace, Lund and Browder chart). 2.25.5 : Describe the clinical features, management, causes of death, postmortem findings and medicolegal aspects of Dry burns and Scalds. 2.25.6: Differentiate between antemortem and postmortem burns. 2.25.7: Describe the factors affecting the electrical injuries. 2.25.8: Describe the postmortem findings, causes of death and medicolegal aspects in deaths due to electrocution. 2.25.9 : Describe the factors affecting the lightening injuries. 2.25.10 : Describe the postmortem findings, causes of death and medicolegal aspects in deaths due to lightening. 2.25.11 : Discuss on injuries caused by exposure to radiation.</p>	<p>K</p>	<p>KH</p>	<p>Y</p>	<p>SGD – 1 hr</p>	<p>Written, Vivavoce</p>	<p>General Surgery</p>
--------------------	---	---	----------	-----------	----------	-------------------	--------------------------	------------------------

FM 2.26	Describe and discuss clinical features, post-mortem findings and medico-legal aspects of death due to starvation and neglect.	At the end of the session, learner shall be able to: 2.26.1: Explain the meaning of starvation. 2.26.2: Enumerate the types of starvation. 2.26.3: Enumerate the causes of starvation. 2.26.4: Describe the factors modifying the effects of starvation. 2.26.5: Describe the clinical features, management, causes of death, postmortem findings and medicolegal aspects of starvation.	K	KH	Y	Lecture – 1 hr	Written, Vivavoce	
FM 2.27	Define and discuss infanticide, foeticide and stillbirth.	At the end of the session, learner shall be able to: 2.27.1: Define Foeticide, Neonaticide and infanticide. 2.27.2 : Define dead birth, still birth and live birth. 2.27.3 : Discuss on medicolegal aspects of infanticide.	K	KH	Y	SGD – 3 hr	Written, Vivavoce	Pediatrics
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.	At the end of the session, learner shall be able to: 2.28.1: Describe the causes of Intra Uterine Death (IUD). 2.28.2: Describe the features of 'Dead born foetus'. 2.28.3: Define 'Viability of foetus' and its medicolegal importance. 2.28.4: Describe the method of estimation of gestational age of foetus. 2.28.5: Describe the signs of 'Live birth'.	K	KH	Y		Written, Vivavoce	Pediatrics. Human Anatomy

	[Munchausen's syndrome by proxy is covered in FM 3.29]	2.28.6 : Describe the causes of infant death. 2.28.7 : Define Sudden Infant Death Syndrome (SIDS). 2.28.8 : Describe causes, postmortem findings & medicolegal aspects of SIDS.						
FM 14.13	To estimate the age of foetus by post-mortem examination.	At the end of the session, learner shall be able to: 14.13.1: Enumerate the objectives of foetal autopsy. 14.13.2 : Describe the procedure of foetal autopsy. 14.13.3 : Estimate the age of foetus by examination of ossification centres, anthropometric measurements, blood constituents, hair, nail, umbilical cord etc. 14.13.4 : Draft a medicolegal report and opinion after foetal autopsy.	S	KH	Y	SGD - 1 hr (Practical)	OSPE - Preparation of medicolegal report and opinion on foetal autopsy. Practical book/ Log book Viva voce	AETCOM
FM 2.29	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	At the end of the session, learner shall be able to: 2.29.1: Demonstrate the procedure of receiving summons. 2.29.2: Demonstrate the oath taking in the court of law. 2.29.3 : 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.	A & C	SH	Y	Moot court - Role Play	Viva Voce	

<p>FM 2.30 (Along with FM 1.8)</p>	<p>Have knowledge/ awareness of latest decisions/notifications/ resolutions/circulars/ standing orders related to medico- legal practice issued by Courts/ Government authorities etc.</p>	<p>At the end of the session, learner shall be able to: 2.30.1: Debate on the latest decisions/notifications/circulars/ standing orders related to medico- legal practice issued by Courts. 2.30.2 : Debate on the latest decisions/notifications/circulars/ standing orders related to medico- legal practice issued by Central Government. 2.30.3 : 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.</p>	<p>A</p>	<p>K</p>	<p>Y</p>	<p>Lecture – 1 hr with FM 1.8</p>	<p>Viva voce</p>	
<p>FM 2.34</p>	<p>Demonstrate ability to use local resources whenever required like in mass disaster situations</p>	<p>At the end of the session, learner shall be able to: 2.34.1: Define Mass disaster 2.34.2: Enumerate the types of Mass disaster. 2.34.3: List the objectives of foren- sic investigation in mass disasters. 2.34.4: Describe the procedure of examination at disaster site and autopsy. 2.34.5 : Describe the evidentiary materials to be preserved in mass disasters. 2.34.6 : Demonstrate the importance of team work in Mass Disasters.</p>	<p>A & C</p>	<p>KH</p>	<p>Y</p>	<p>Lecture – 1 hr (covered with FM 2.33)</p>	<p>Written, Viva voce</p>	<p>General Medicine AETCOM</p>

3.	1. Topic: Clinical Forensic Medicine							
FM 3.3	<p>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.</p>	<p>At the end of the session, learner shall be able to: 3.3.1: Define mechanical injury. 3.3.2: Classify mechanical injuries. 3.3.3: Define abrasion. 3.3.4 : Describe the characteristic features, types and medicolegal aspects of an abrasion 3.3.5 : Define contusion. 3.3.6 : Describe the characteristic features, types and medicolegal aspects of contusion. 3.3.7 : Describe the factors influencing the formation of contusion. 3.3.8 : Define laceration. 3.3.9 : Describe the characteristic features, types and medicolegal aspects of a laceration. 3.3.10 : Define an incised wound. 3.3.11: Describe the characteristic features, types and medicolegal aspects of an incised wound. 3.3.12: Define chop wound. 3.3.13: Describe the characteristic features and medicolegal aspects of chop wound. 3.3.14: Define stab wound. 3.3.15: Describe the characteristic features, types and medicolegal aspects of stab wound.</p>	K	KH	Y	SGD – 4 hr	Written, Vivavoce	General surgery

		<p>3.3.16: Define defense wound.</p> <p>3.3.17: Describe the characteristic features and medicolegal importance of defense wound.</p> <p>3.3.18: Define fabricated wound.</p> <p>3.3.19: Describe the characteristic features and medicolegal importance of fabricated wound.</p>						
FM 3.4	<p>Mechanical injuries and wounds: Define injury, assault & hurt. Describe IPC pertaining to injuries</p>	<p>At the end of the session, learner shall be able to:</p> <p>3.4.1: Define injury (S. 44 IPC), assault (S. 351 IPC) and hurt (S. 319 IPC).</p> <p>3.4.2: Define homicide.</p> <p>3.4.3: Describe the types of homicide.</p> <p>3.4.4 : Describe Grievous hurt (S. 320 IPC).</p> <p>3.4.5 : 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).</p>	K	KH	Y	Lecture – 2 hr	Written, Vivavoce	General surgery
FM 3.5	<p>Mechanical injuries and wounds: Describe accidental, suicidal and homicidal injuries. Describe simple, grievous and dangerous injuries. Describe ante-mortem and post-mortem injuries.</p>	<p>At the end of the session, learner shall be able to:</p> <p>3.5.1: Define medico-legal case (MLC) with examples.</p> <p>3.5.2 : Differentiate between the accidental, suicidal and homicidal injuries with examples.</p> <p>3.5.3 : Describe simple and grievous hurt.</p>	K	K/KH	Y		Written, Vivavoce	

		3.5.4: 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. 3.5.5: Describe the difference between ante-mortem and post-mortem wounds.						
FM 3.6	Mechanical injuries and wounds: Describe healing of injury and fracture of bones with its medico-legal importance	At the end of the session, learner shall be able to: 3.6.1 : Describe wound healing by primary and secondary intention and its medicolegal importance. 3.6.2 : Enumerate the types of fracture. 3.6.3 : Describe the healing of a fracture and its medicolegal importance. 3.6.4: Describe the difference between ante-mortem and post-mortem fracture.	K	K/KH	Y		Written, Vivavoce	General surgery
FM 3.7 (Along with FM 14.1)	Mechanical injuries and wounds: Describe factors influencing infliction of injuries and healing, examination and certification of wounds and wound as a cause of death: Primary and Secondary.	At the end of the session, learner shall be able to: 3.7.1: Describe the factors influencing the causation of an injury. 3.7.2 : Describe the factors that influence healing of an injury or fracture. 3.7.3 : Discuss the primary and secondary causes of death from a wound.	K	K/KH	Y		Written, Vivavoce	General surgery, Orthopaedics

FM 3.8 (Along with FM 14.11)	Mechanical injuries and wounds: Describe and discuss different types of weapons including dangerous weapons and their examination	At the end of the session, learner shall be able to: 3.8.1: Identify the weapons that cause blunt force and sharp force injuries. 3.8.2: Define dangerous weapon (S. 324 IPC and 326 IPC).	K	K/KH	Y		Written, Vivavoce	General surgery, Orthopaedics
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	At the end of the session, learner shall be able to: 3.9.1: Define Forensic ballistics, Proximal ballistics, Intermediate ballistics, and Terminal ballistics. 3.9.2: Define firearm. 3.9.3 : Classify firearms. 3.9.4 : Enumerate the parts of the basic firearms. 3.9.5 : Explain 'rifling' and 'calibre' of a firearm. 3.9.6 : Explain 'choking' in a firearm and its purpose. 3.9.7 : Enumerate the components of rifled firearm and shotgun cartridge, and its function. 3.9.8 : Describe the types of gunpowder. 3.9.9 : Discuss on types of bullets and pellets.	K	K/KH	Y	SGD – 3 hr	Written, Vivavoce	General surgery, Orthopaedics

FM 3.10	Firearm injuries: 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	At the end of the session, learner shall be able to: 3.10.1: Define wound ballistics. 3.10.2: Enumerate the factors affecting gunshot wound production. 3.10.3 : 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	K	K/KH	Y		Written, Vivavoce	General surgery, Orthopaedics
------------	---	---	---	------	---	--	----------------------	----------------------------------

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	At the end of the session, learner shall be able to: 3.11.1 : Define head injury. 3.11.2 : Discuss the forensic anatomy of scalp and scalp injuries. 3.11.3: Enumerate the types of skull fracture. 3.11.4 : Describe the intracranial hemorrhages and its medicolegal aspects. 3.11.5 : Describe the cerebral injuries and its medicolegal aspects. 3.11.6: Explain 'concussion of brain' and 'diffuse axonal injury'. 3.11.7: Discuss on 'Punch drunk syndrome'. 3.11.8: Describe the mechanism, clinical features and medicolegal aspects of whiplash injury. 3.11.9 : Discuss on 'railway spine'. 3.11.10 : Discuss on injuries to chest, abdomen and genital organs.	K	K/KH	Y	SGD – 4 hr	Written, Vivavoce	General surgery, Orthopaedics
FM 3.12	Regional injuries: Describe and discuss injuries related to fall from height and vehicular injuries – Primary and Secondary impact, Secondary injuries, crush syndrome, railway spine	At the end of the session, learners shall be able to: 3.12.1: Describe the injuries sustained to person in a fall from height. 3.12.2 : Describe the injuries to a pedestrian in vehicular accident (primary impact, second impact and secondary injuries). 3.12.3 : Describe the injuries to driver, front seat passenger and back seat passenger of a motor car. 3.12.4: Discuss on 'Crush syndrome'.	K	K/KH	Y		Written, Vivavoce	General surgery, Orthopaedics

FM 14.1	Examine and prepare Medico-legal report of an injured person with different etiologies in a simulated/ supervised environment	At the end of the session, learner shall be able to: 14.1.1: 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).	S	SH/P	Y	SGD – 2 hrPracticals	OSPE – Writing the informed consent for MLC	
		14.1.2: Perform the clinical examination of an injured person (history taking, general physical examination, systemic examination, laboratory investigations) in a simulated/ supervised environment.					OSPE – Part-task training with moulage in skill lab, OR Photographs of injuries with measuring tape	
		14.1.3: Prepare the wound certificate after documenting the clinical findings.					OSPE – Prepare wound certificate	
		14.1.4: Prepare the police intimation.					OSPE – Prepare police intimation	

FM 14.10	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.	At the end of the session, learner shall be able to: 14.10.1 : Prepare a medicolegal inference from photographs showing various types of injuries/ lesions/ postmortem findings. 14.10.2 : Prepare a medicolegal inference from wet specimens showing various types of injuries/ lesions/ postmortem findings. 14.10.3 : Prepare medicolegal inference from models showing various types of injuries/ lesions/ postmortem findings.	S	KH	Y	SGD – 1 hr (Practicals)	OSPE – Preparation of medicolegal inference from photograph/ wet specimen/ model. Practical book/Log book Viva voce	
FM 3.18	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.	At the end of the session, learner shall be able to: 3.18.1: Describe anatomy of male and female genitalia. 3.18.2: Describe the anatomical appearance and types of hymen. 3.18.3: Define virginity and defloration. 3.18.4 : Describe the signs of virginity and its medicolegal importance. 3.18.5 : Define legitimacy. 3.18.6: Discuss the medicolegal importance of legitimacy.	K	K/KH	Y	Lecture – 2 hr	Written, Viva voce	Obstetrics & Gynaecology,

FM 3.19	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.	<p>At the end of the session, learner shall be able to:</p> <p>3.19.1: Describe the presumptive, probable and positive signs of pregnancy.</p> <p>3.19.2: Describe pseudocyesis.</p> <p>3.19.3: Define superfoetation and superfecundation.</p> <p>3.19.4 : Describe the medicolegal aspects of pregnancy.</p> <p>3.19.5 : Define delivery.</p> <p>3.19.6: Describe the signs of recent and remote delivery in a living individual.</p> <p>3.19.7 : Enumerate the signs of recent & remote delivery in a dead individual.</p> <p>3.19.8 : Mention the medicolegal aspects of delivery.</p> <p>3.19.9 : Define precipitate labour.</p> <p>3.19.10 : Describe the signs and medicolegal aspects of precipitate labour.</p>	K	K/KH	Y		Written, Viva voce	Obstetrics &Gynaecology,
FM 3.20	Discuss disputed paternity and maternity	<p>At the end of the session, learner shall be able to:</p> <p>3.20.1: Discuss the medicolegal issues related to disputed paternity and maternity.</p> <p>3.20.2: Describe the method of identifying paternalism and maternalism.</p>	K	K/KH	Y		Written, Viva voce	Obstetrics &Gynaecology,

FM 3.21	Discuss Pre-conception and Pre Natal-Diagnostic Techniques (PC&PNDT)-Prohibition of Sex Selection Act 2003 and Domestic Violence Act 2005	<p>At the end of the session, learner shall be able to:</p> <p>3.21.1: Describe the objectives of PCPNDT Act, 1994.</p> <p>3.21.2: Enumerate the indications for prenatal diagnostic procedures.</p> <p>3.21.3: List the various prenatal diagnostic techniques.</p> <p>3.21.4 : Describe the guidelines for establishing and maintaining the centres to practice prenatal diagnostic procedures.</p> <p>3.21.5 : Describe the punishment for offences under PCPNDT Act.</p> <p>3.21.6: Discuss on amendments to the PCPNDT Act till date.</p> <p>3.21.7: Define domestic violence.</p> <p>3.21.8: Describe the salient features of The Protection of Women from Domestic Violence Act, 2005.</p> <p>3.21.9: Explain the medicolegal responsibilities of a medical practitioner in a domestic violence case.</p>	K	K/KH	Y	SDL – 30 min	Written, Viva voce	Obstetrics &Gynaecology, AETCOM
FM 3.22	Define and discuss impotence, sterility, frigidity, sexual dysfunction, premature ejaculation. Discuss the causes of impotence and sterility in male and female.	<p>At the end of the session, learner shall be able to:</p> <p>3.22.1 : Define impotence, sterility, frigidity, sexual/erectile dysfunction and premature ejaculation.</p> <p>3.22.2 : List the causes of impotence in male and female.</p> <p>3.22.3: Describe the medicolegal issues related to impotence,</p>	K	K/KH	Y	Lecture - 2 hr	Written, Viva voce	Obstetrics &Gynaecology, General Medicine

		<p>sexual/erectile dysfunction and premature ejaculation.</p> <p>3.22.4 : List the causes of sterility in male and female.</p> <p>3.22.5 : Describe the medicolegal issues related to sterility.</p> <p>3.22.6 : Describe procedure of examination in alleged case of impotency.</p>						
FM 3.23	<p>Discuss sterilization of male and female, artificial insemination, Test tube baby, surrogate mother, hormonal replacement therapy with respect to appropriate national and state laws.</p>	<p>At the end of the session, learner shall be able to:</p> <p>3.23.1: Describe the methods of sterilization in male and female.</p> <p>3.23.2: Discuss the medicolegal issues related to sterilization procedure.</p> <p>3.23.3 : Define artificial insemination.</p> <p>3.23.4 : Mention the types of artificial insemination.</p> <p>3.23.5 : Enumerate the indications for artificial insemination.</p> <p>3.23.6 : Discuss ethical issues and precautions to be taken during the artificial insemination.</p> <p>3.23.7 : Describe medicolegal issues related to artificial insemination.</p> <p>3.23.8 : Discuss on invitro fertilization/test tube baby and surrogate motherhood.</p>	K	K/KH	Y		Written, Viva voce	Obstetrics &Gynaecology,

FM 3.26	Discuss the National Guidelines for accreditation, supervision & regulation of ART Clinics in India.	At the end of the session, learner shall be able to: 3.26.1: Discuss the National Guidelines for accreditation, supervision & regulation of ART Clinics in India. 3.26.2: Explain the recent updates on laws related to ART and Surrogacy.	K	K/KH	Y		Written, Viva voce	Obstetrics &Gynaecology,
FM 3.24	Discuss the relative importance of surgical methods of contraception (vasectomy and tubectomy) as methods of contraception in the National Family Planning Programme.	At the end of the session, learner shall be able to: 3.24.1: Describe the salient features of the National Family Planning Programme related to vasectomy and tubectomy.	K	K/KH	N	SDL – 30 min	Written, Viva voce	Obstetrics &Gynaecology,
FM 3.25	Discuss the major results of National Family Health Survey	At the end of the session, learner shall be able to: 3.25.1: Discuss the major results of National Family Health Survey (NFHS).	K	K/KH	N		Written, Viva voce	Obstetrics &Gynaecology,
FM 3.13	Sexual offences: Describe different types of sexual offences. Describe various sections of IPC regarding rape including	At the end of the session, learner shall be able to: 3.13.1: Classify sexual offences. 3.13.2: Define 'rape' as per section 375 IPC. 3.13.3: Define 'statutory rape'. 3.13.4: Discuss on 'date rape'.	K	K/KH	Y	Lecture – 1 hr	Written, Viva voce	Obstetrics &Gynaecology,

	definition of rape (Section 375 IPC), Punishment for Rape (Section 376 IPC) and recent amendments notified till date.	3.13.5 : Describe the punishment for rape (Sec. 376 IPC). 3.13.6 : Explain the meaning of 'custodial rape' and punishment for it. 3.13.7: Explain the meaning of 'gang rape' and punishment for it. 3.13.8: Understand the salient features of section 354, 354-A, 354-B, 354-C and 354-D IPC. 3.13.9: Describe the salient features of Protection of Children from Sexual Offences Act (POCSO), 2012.						
FM 3.14	Sexual offences: 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.	At the end of the session, learner shall be able to: 3.14.1: Describe the findings in a victim of sexual violence. 3.14.2 : Describe the duties of doctor towards victim of sexual violence. 3.14.3 : 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). 3.14.4 : 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).	K	K/KH	Y	Lecture – 1 hr	Written, Viva voce	Obstetrics &Gynaecology, Psychiatry

		<p>3.14.5 : Describe the procedure of collecting, preservation and dispatch of evidentiary materials from a victim of sexual violence.</p> <p>3.14.6 : Understand the significance of SAFE kit in collecting evidentiary material from a victim of sexual assault.</p>						
FM 3.15	<p>Sexual offences: Describe and discuss examination of accused and victim of sodomy, preparation of report, framing of opinion, preservation and dispatch of trace evidences in such cases.</p>	<p>At the end of the session, learner shall be able to:</p> <p>3.15.1: Define sodomy.</p> <p>3.15.2 : Describe the findings in a victim of sodomy.</p> <p>3.15.3 : Describe the procedure of examination, contents of the format, and guidelines for opinion in a victim of sodomy.</p> <p>3.15.4 : Describe the procedure of collecting, preservation and dispatch of evidentiary materials from a victim of sodomy.</p> <p>3.15.5 : Describe the findings in an accused of sexual assault.</p> <p>3.15.6: Describe the procedure of examination, contents of the format, and guidelines for opinion in an accused of sexual assault.</p> <p>3.15.7: Understand the recent amendments in section 377 IPC.</p>	K	K/KH	Y	SGD – 3 hr	Written, Viva voce	Obstetrics &Gynaecology, Psychiatry

FM 3.16	Sexual offences: 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.	At the end of the session, learner shall be able to: 3.16.1: Explain the meaning of 'adultery' and its medicolegal importance. 3.16.2 : Explain the meaning of 'incest' and its medicolegal importance. 3.16.3 : Define unnatural sexual offence (Sec. 377 IPC). 3.16.4 : Discuss on 'lesbianism' and its medicolegal importance. 3.16.5: Discuss on 'buccal coitus' and its medicolegal importance. 3.16.6: Discuss on 'bestiality' and its medicolegal importance. 3.16.7: Describe the procedure of examination, collection, preservation and dispatch of evidentiary materials in a victim and accused of lesbianism, buccal coitus and bestiality.	K	K/KH	Y		Written, Viva voce	Obstetrics &Gynae- cology, Psychiatry
FM 3.17	Sexual offences: Describe and discuss the sexual perversions fetishism, transvestism, voyeurism, sadism, necrophagia, masochism, exhibitionism, frotteurism, Necrophilia.	At the end of the session, learner shall be able to: At the end of the session, learner shall be able to: 3.17.1: Define sexual paraphilia. 3.17.2: Explain the sexual perversions requiring partner for sexual gratification (sadism, masochism, frotteurism, pedophilia, necrophilia, necrophagia).	K	K/KH	Y		Written, Viva voce	Obstetrics &Gynae- cology, Psychiatry

		<p>3.17.3 : Explain the sexual perversions not requiring partner for sexual gratification (voyeurism, exhibitionism).</p> <p>3.17.4 : Explain the sexual perversions requiring object/article as a stimulus for sexual gratification (fetishism, transvestism).</p>						
FM 14.15	To examine & prepare medico-legal report of a victim of sexual offence/unnatural sexual offence in a simulated/ supervised environment	<p>14.15.1 : Take an informed consent for examination of a victim of sexual offence.</p> <p>14.15.2 : Describe the procedure of examination and collection of evidentiary material for medical and medicolegal purposes.</p> <p>14.15.3 : Prepare a medicolegal report and opinion in a victim of sexual offence.</p> <p>14.15.4 : Explain the procedure of handing over the evidentiary material to the investigating officer.</p>	S	KH	Y	SGD – 1 hr (practicals)	OSPE – Examination of victim of sexual assault (case vignette with analysis type of questions/ Part task trainer in skills lab). Practical book/ Log book Viva voce	

FM 14.14	To examine & prepare report of an alleged accused in rape/ unnatural sexual offence in a simulated/ supervised environment	<p>At the end of the session, learner shall be able to:</p> <p>14.14.1 : Take an informed consent for examination of an accused of sexual offence.</p> <p>14.14.2 : Describe the procedure of examination and collection of evidentiary material for medical and medicolegal purposes.</p> <p>14.14.3 : Prepare a medicolegal report and opinion in an alleged accused of sexual offence.</p> <p>14.14.4 : Explain the procedure of handing over the evidentiary material to the investigating officer.</p>	S	KH	Y	SGD – 1 hr (practicals)	OSPE – Examination of accused of sexual assault (case vignette with analysis type of questions/ Part task trainer in skills lab). Practical book/ Log book Viva voce	
FM 3.27	Define, classify and discuss abortion, methods of procuring MTP and criminal abortion, MTP Act 1971.	<p>At the end of the session, learner shall be able to:</p> <p>3.27.1: Define abortion.</p> <p>3.27.2 : Classify abortion.</p> <p>3.27.3 : Describe the methods used for therapeutic abortion.</p> <p>3.27.4 : Describe the methods used for criminal abortion & its complications.</p> <p>3.27.5 : Discuss the Medical termination of Pregnancy Act, 1971 and its amendments</p>	K	K/KH	Y	Lecture – 2 hr	Written, Viva voce	Obstetrics & Gynaecology, AETCOM

FM 3.28	Describe evidence of abortion – living and dead, duties of doctor in cases of abortion, investigations of death due to criminal abortion	<p>At the end of the session, learner shall be able to:</p> <p>3.28.1 : Describe evidences of abortion in living and dead individual.</p> <p>3.28.2 : Explain the circumstances under which a case of abortion is brought to the notice of medical officer.</p> <p>3.28.3 : Describe the medical and legal duties of doctor in a case of criminal abortion.</p> <p>3.28.4 : Describe the examination, method of collection, preservation and dispatch of evidentiary materials during investigation of death of woman in criminal abortion.</p>	K	K/KH	Y		Written, Viva voce	Obstetrics &Gynae- cology, Pathology
FM 3.29	Describe and discuss child abuse and battered baby syndrome	<p>At the end of the session, learner shall be able to:</p> <p>At the end of the session, a student shall be able to:</p> <p>3.29.1: Define child abuse or child maltreatment (as per WHO).</p> <p>3.29.2 : Enumerate different forms of child abuse.</p> <p>3.29.3: Define battered baby syndrome.</p> <p>3.29.4: Describe the clinical findings and medicolegal aspects of battered baby syndrome.</p> <p>3.29.5: Discuss on Shaken baby syndrome and Cinderella syndrome.</p> <p>3.29.6: Discuss on Munchausen’s Syndrome by proxy.</p> <p>3.29.7: Describe the medicolegal responsibilities of a doctor in child abuse cases.</p>	K	K/KH	Y	SGD – 1 hr	Written, Viva voce	Pediatrics

FM 3.30	Describe and discuss issues relating to torture, identification of injuries caused by torture and its sequelae, management of torture survivors	At the end of the session, learner shall be able to: 3.30.1: 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.	K	K/KH	Y	SDL – I hr	Written, Viva voce	
FM 3.31	Torture and Human rights: Describe and discuss guidelines & protocols of National human rights commission regarding torture	At the end of the session, learner shall be able to: 3.31.1: Describe the guidelines and protocols of National human rights commission in cases of torture.	K	K/KH	N		Written, Viva voce	
FM 3.32	Demonstrate the Professionalism while preparing reports in medicolegal situations, interpretation of findings and making inference/opinion, collection, preservation and dispatch of biological or trace evidences.	At the end of the session, learner shall be able to: 3.32.1: Demonstrate the professionalism to be shown by a doctor while preparing reports in medicolegal cases, interpretation of findings and making inference/ opinion. 3.32.2: Demonstrate the professionalism to be shown by a doctor during the collection, preservation and dispatch of biological or trace evidences.	A & C	SH	Y	SGD – 1 hr	Written, Viva voce	AETCOM

FM 3.33	Should be able to demonstrate the professionalism while dealing with victims of torture and human right violations, sexual assaults-psychological consultation, rehabilitation.	At the end of the session, learner shall be able to: 3.33.1: Demonstrate the professionalism to be shown by a doctor while dealing with victims of torture and human right violations. 3.33.2: Demonstrate the professionalism to be shown by a doctor during the examination, psychological consultation and rehabilitation of sexual victims.	A & C	K/ KH/ SH	Y		Written, Viva voce	AETCOM
4.	2. Topic: Medical Jurisprudence (Medical Ethics and Law)							
FM 4.1	Describe Medical Ethics and explain its historical emergence.	At the end of the session, learner shall be able to: 4.1.1: Define Ethics and Medical ethics. 4.1.2: Describe the historical emergence of medical ethics. 4.1.3: Discuss the need for and the emergence of World Medical Association's Declaration of Helsinki 1964 and its subsequent revisions.	K	KH	Y	Lecture – 3 hrs	Written, Viva voce	AETCOM
FM 4.2	Describe the Code of Medical Ethics 2002 conduct, Etiquette and Ethics in medical practice and unethical practices & the dichotomy.	At the end of the session, learner shall be able to: 4.2.1: Describe the 'Code of medical ethics' as per Indian Medical Council (Professional conduct, Etiquette and Ethics) Regulations, 2002.	K	KH	Y		Written, Viva voce	AETCOM

		<p>4.2.2: Enumerate the various practices of a medical practitioner which are considered as unethical.</p> <p>4.2.3: Explain the meaning of Dichotomy with examples.</p> <p>4.2.4: Mention guidelines laid down by MCI with respect to remuneration.</p>						
FM 4.3	Describe the functions and role of Medical Council of India and State Medical Councils.	<p>At the end of the session, learner shall be able to:</p> <p>4.3.1: Describe the constitution and functions of Medical Council of India/ National Medical Council.</p> <p>4.3.2: Describe the constitution and functions of State Medical Council.</p>	K	KH	Y		Written, Viva voce	AETCOM
FM 4.4	Describe the Indian Medical Register	<p>At the end of the session, learner shall be able to:</p> <p>4.4.1 : List the various particulars to be entered in Indian Medical Register (IMR).</p> <p>4.4.2 : Mention under which schedules, the degrees obtained by institutions in and outside India are recognized by MCI.</p> <p>4.4.3 : Describe the procedure for a foreign medical practitioner to get enrolled in IMR.</p> <p>4.4.4 : Mention the advantages to a doctor after enrolling in IMR.</p>	K	KH	Y		Written, Viva voce	AETCOM

FM 4.5	Rights/privileges of a medical practitioner, infamous conduct, disciplinary Committee, disciplinary procedures, warning notice and penal erasure.	At the end of the session, learner shall be able to: 4.5.1: Enumerate the Rights/privileges of a medical practitioner 4.5.2: Define Infamous conduct/ Professional misconduct with suitable examples (as per IMC regulations, 2002) 4.5.3 : Describe the composition of disciplinary committee and its procedure in dealing with cases of infamous conduct. 4.5.4 : Discuss the various punishments awarded by disciplinary committee for infamous conduct (warning notice, temporary erasure, penal erasure).	K	KH	Y		Written, Viva voce	AETCOM
FM 4.6	Describe the Laws in Relation to medical practice and the duties of a medical practitioner towards patients and society.	At the end of the session, learner shall be able to: 4.6.1 : Enumerate the laws related to medical practice in India. 4.6.2 : Describe the 'Duties of a medical practitioner' in general towards his patient, society and research.	K	K/KH	Y		Written, Viva voce	AETCOM
FM 4.7	Describe and discuss the ethics related to HIV patients.	At the end of the session, learner shall be able to: 4.7.1: Describe legal and ethical issues in HIV testing. 4.7.2 : Mention the rights of HIV positive patients. 4.7.3 : Discuss the duties of a doctor while treating HIV patients with respect to confidentiality & disclosure.	K	K/KH	Y	Lecture – 1 hr	Written, Viva voce	AETCOM

		4.7.4: Discuss the current policies related to the research and health care of HIV positive patients.						
FM 4.12	Discuss legal and ethical issues in relation to stem cell research	At the end of the session, learner shall be able to: 4.12.1: Enumerate the application of stem cells in research and therapy. 4.12.2: Discuss the ethical issues arising from stem cell research and therapy. 4.12.3: Discuss the legal status of stem cell therapy and research in India. 4.12.4: Describe the guidelines for stem cell research in India.	K	KH	Y		Written, Viva voce	AETCOM, Pharmacology
FM 4.13	Describe social aspects of Medico-legal cases with respect to victims of assault, rape, attempted suicide, homicide, domestic violence, dowry-related cases.	At the end of the session, learner shall be able to: 4.13.1 : Describe the social aspects and role of medical professionals with respect to victim of sexual violence. 4.13.2 : Describe the social aspects and role of medical professionals with respect to victim of attempted suicide. 4.13.3 : Describe the social aspects and role of medical professionals with respect to victim of attempted homicide. 4.13.4 : Describe the social aspects and role of medical professionals with respect to victim of domestic violence.	K	KH	Y		Written, Viva voce	AETCOM

FM 4.8	Describe the Consumer Protection Act-1986 (Medical Indemnity Insurance, Civil Litigations and Compensations), Workman's Compensation Act & ESI Act.	At the end of the session, learner shall be able to: 4.8.1: Discuss on Consumer Protection Act-1986 in view of medical services with latest amendments. 4.8.2: Describe the purpose of Medical Indemnity Insurance in civil litigations and compensations. 4.8.3: Discuss the role of a doctor in awarding compensation to workers or their dependents as per Workman's Compensation Act and ESI Act.	K	KH	Y	Lecture – 1 hr	Written, Viva voce	AETCOM
FM 4.9	Describe the medico - legal issues in relation to family violence, violation of human rights, NHRC and doctors.	At the end of the session, learner shall be able to: 4.9.1: Define Domestic Violence. 4.9.2 : Discuss the salient features of "Protection of women from domestic violence Act, 2005" in relation to medical and legal responsibilities of a medical practitioner. 4.9.3 : Enumerate the cases related to violation of human rights. 4.9.4: Discuss the responsibilities of a doctor in cases of violation of human rights.	K	KH	N	SGD – 1 hr	Written, Viva voce	AETCOM
FM 4.10	Describe communication between doctors, public and media.	At the end of the session, learner shall be able to: 4.10.1: Describe the communication skills by a doctor with the public and its importance.	K	KH	Y		Written, Viva voce	AETCOM

		4.10.2 : 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.						
FM 4.14	Describe & discuss the challenges in managing medico-legal cases including development of skills in relationship management – Human behaviour, communication skills, conflict resolution techniques.	At the end of the session, learner shall be able to: 4.14.1 : Discuss the challenges in managing the medico legal cases. 4.14.2: Describe the principles of doctor-patient relationship management. 4.14.3: Describe the development of human behavior and communication skills required for managing doctor-patient relationship. 4.14.4: Discuss the conflict resolution techniques in managing medico-legal cases.	K	KH	Y		Written, Viva voce	AETCOM
FM 4.15	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	At the end of the session, learner shall be able to: 4.15.1: Define stress. 4.15.2: Mention the types of pressure while dealing with medico-legal cases by a doctor. 4.15.3: List the causes/ sources of pressure in handling medico-legal cases. 4.15.4: Discuss the skills needed for managing the pressure situations in handling a medico-legal case.	K	KH	Y		Written, Viva voce	AETCOM

FM 4.16	Describe and discuss Bioethics	At the end of the session, learner shall be able to: 4.16.1 : Define bioethics. 4.16.2 : Enumerate the issues in medical practice wherein bioethics is applied. 4.16.3: Mention the four main principles of bioethics. 4.16.4: Discuss the medico-legal issues related to bioethics in patient care	K	KH	Y	Lecture – 1 hr	Written, Viva voce	AETCOM
FM 4.17	Describe and discuss ethical Principles: Respect for autonomy, non-maleficence, beneficence & justice	At the end of the session, learner shall be able to: 4.17.1 : Describe respect for patient's autonomy. 4.17.2 : Describe the role of beneficence as a guiding principle in patient care. 4.17.3: Describe the role of non-maleficence as a guiding principle in patient care. 4.17.4: Discuss the application of justice in distributing resources and benefits in medical practice and research.	K	KH	Y		Written, Viva voce	AETCOM, Pharmacology
FM 4.11	Describe and discuss euthanasia	At the end of the session, learner shall be able to: 4.11.1 : Define euthanasia. 4.11.2 : Describe various types of euthanasia. 4.11.3 : Debate around euthanasia- the arguments against and in favour.	K	KH	Y		Written, Viva voce	AETCOM, Pharmacology

		4.11.4: Mention the legal status of euthanasia in India and in other countries. 4.11.5: Discuss the landmark case of Aruna Shanbaug and its impact on the status of euthanasia in India.						
FM 4.18	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	At the end of the session, learner shall be able to: 4.18.1 : Define medical negligence. 4.18.2 : Describe the elements of medical negligence. 4.18.3 : Describe civil and criminal negligence with examples. 4.18.4: Describe contributory negligence with examples. 4.18.5: Describe the importance of Vicarious liability in medical practice. 4.18.6: Describe Corporate Negligence with examples. 4.18.7 : Describe Res Ipsa Loquitur with examples. 4.18.8 : Mention the precautionary measures to be taken to avoid medical negligence. 4.18.9 : 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).	K	KH	Y	SGD – 3 hrs	Written, Viva voce	AETCOM

FM 4.19	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	At the end of the session, learner shall be able to: 4.19.1 : Define consent. 4.19.2 : Describe the different types of consent with suitable examples. 4.19.3: Describe the ingredients of an informed consent. 4.19.4: Describe the rules and regulations associated with consent. 4.19.5: Explain the importance of consent in relation to age, emergency situation, mental illness and alcohol intoxication (with relevant sections of IPC).	K	KH	Y		Written, Viva voce	AETCOM
FM 4.20	Describe therapeutic privilege, Malingering, Therapeutic Misadventure (refer FM 4.18), Professional Secrecy (refer FM 4.24), Human Experimentation (refer FM 4.25)	At the end of the session, learner shall be able to: 4.20.1: Explain the concept of 'therapeutic privilege' in medical practice. 4.20.2: Discuss the legal aspects of Malingering during medical practice.	K	KH	Y		Written, Viva voce	AETCOM
FM 4.21	Describe Products liability and Medical Indemnity Insurance.	At the end of the session, learner shall be able to: 4.21.1: Discuss about 'product liability' in medical negligence. 4.21.2: Describe medical indemnity insurance and its purpose.	K	KH	Y	Lecture – 1 hr	Written, Viva voce	AETCOM

FM 4.24	Enumerate rights, privileges and duties of a Registered Medical Practitioner. Discuss doctor-patient relationship: professional secrecy and privileged communication	At the end of the session, learner shall be able to: 4.24.1: Enumerate the rights and privileges of Registered Medical Practitioner. 4.24.2: Describe the duties of a Registered Medical Practitioner. 4.24.3: Discuss on doctor-patient relationship in clinical practice. 4.24.4 : Explain professional secrecy with examples. 4.24.5 : Describe Privileged communication with examples.	K	KH	Y		Written, Viva voce	AETCOM
FM 4.22	Explain Oath – Hippocrates, Charaka and Sushruta and procedure for administration of Oath	At the end of the session, learner shall be able to: 4.22.1: Explain oath as described by Hippocrates, Charaka and Sushruta. 4.22.3: Describe the procedure for administration of oath for a medical practitioner.	K	KH	Y	Lecture – 1 hr	Written, Viva voce	AETCOM, Pharmacology
FM 4.23	Describe the modified Declaration of Geneva and its relevance	At the end of the session, learner shall be able to: 4.23.1 : Describe the components of declaration of Geneva. 4.23.2 : Describe the components of modified declaration of Geneva. 4.23.3: Explain the relevance of Declaration of Geneva in the medical profession.	K	KH	Y		Written, Viva voce	AETCOM, Pharmacology

FM 4.25	Clinical research & Ethics Discuss human experimentation including clinical trials	At the end of the session, learner shall be able to: 4.25.1 : Enumerate the need and drawbacks of different types of clinical research on humans. 4.25.2 : Describe the phases of clinical trials and its implications. 4.25.3 : Describe the ethical regulations and guidelines for clinical research. 4.25.4: Discuss the principles pertaining to human experimentation in Nuremberg code and Belmont report. 4.25.5: Discuss the steps to be taken for protection of vulnerable population in clinical trials/ research.	K	KH	N		Written, Viva voce	AETCOM, Pharmacology
FM 4.26	Discuss the constitution and functions of ethics committee	At the end of the session, learner shall be able to: 4.26.1: List the composition of Institutional Ethics Committee (IEC). 4.26.2: Mention the responsibilities and duties of IEC. 4.26.3: Describe the proposals that are required to be presented before IEC. 4.26.4: Discuss limitations of IEC.	K	KH	Y		Written, Viva voce	AETCOM, Pharmacology

FM 4.27	Describe and discuss Ethical Guidelines for Biomedical Research on Human Subjects & Animals	At the end of the session, learner shall be able to: 4.27.1 : Describe the international and national ethics guidelines for human and animal research. 4.27.2 : Discuss the principles of ICMR guidelines for research involving human participants. 4.27.3 : Discuss the rights of human research participants. 4.27.4 : Discuss the 5 R's of animal research ethics.	K	KH	N		Written, Viva voce	AETCOM, Pharmacology
FM 4.28 (Along with FM 4.24)	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.	At the end of the session, learner shall be able to: 4.28.1: Demonstrate the conduct of doctor with patients as per the Code of Medical Ethics prescribed by IMC.	A & C	SH	Y	SGD – 1 hr	OSPE	AETCOM
FM 4.29 (Along with FM 4.14, 4.15)	Demonstrate ability to communicate appropriately with media, public and doctors.	At the end of the session, learner shall be able to: 4.29.1: Demonstrate the skills of communication by a doctor with the public. 4.29.2 : Demonstrate the skills of communication by a doctor with the media. 4.29.3 : Demonstrate the skills of communication by a doctor with his/her colleagues.	A & C	KH/ SH	Y		OSPE	AETCOM

FM 4.30	Demonstrate ability to conduct research in pursuance to guidelines or research ethics.	At the end of the session, learner shall be able to: 4.30.1 : Prepare a research protocol for a study as per the ICMR guidelines. 4.30.2 : Demonstrate the procedure of taking informed consent for conducting a research.	A & C	KH/SH	Y		OSPE	AETCOM
5.	5. Topic: Forensic Psychiatry							
FM 5.1	Classify common mental illnesses including post-traumatic stress disorder (PTSD)	At the end of the session, learner shall be able to: 5.1.1: Define Forensic Psychiatry. 5.1.2: Define mental illness. 5.1.3 : Classify common mental illnesses. 5.1.4 : Explain PTSD with examples.	K	K/KH	Y	Lecture – 1 hr	Written, Viva voce	Psychiatry
FM 5.2	Define, classify and describe delusions, hallucinations, illusion, lucid interval and obsessions with exemplification	At the end of the session, learner shall be able to: 5.2.1: Define delusion. 5.2.2: Describe types of delusions and their medicolegal importance. 5.2.3: Define hallucination. 5.2.4: Describe types of hallucinations and their medicolegal importance. 5.2.5: Define illusion with examples. 5.2.6 : Define lucid interval. 5.2.7 : Describe the medicolegal importance of lucid interval. 5.2.8: Define Impulse.	K	K/KH	Y		Written, Viva voce	Psychiatry

		5.2.9 : Describe impulsive disorders with examples. 5.2.10 : Describe the obsessive-compulsive disorders with examples.						
FM 5.3	Describe Civil and Criminal responsibilities of a mentally ill person	At the end of the session, learner shall be able to: 5.3.1: Describe Civil responsibility of a mentally ill person. 5.3.2: Describe Criminal responsibility of a mentally ill person. 5.3.3 : Describe the McNaughten Rule and critics about it. 5.3.4 : Discuss the alternate hypotheses/tests in relation to criminal responsibility. 5.3.5 : Describe the criminal responsibility in Automatism, Somnambulism, Somnolentia, Hypnotism and Intoxication.	K	K/KH	Y	Lecture – 1 hr	Written, Viva voce	Psychiatry
FM 5.4	Differentiate between true insanity from feigned insanity	At the end of the session, learner shall be able to: 5.4.1: Differentiate between true and feigned insanity.	K	K/KH	Y		Written, Viva voce	Psychiatry
FM 5.5	Describe & discuss Delirium tremens	At the end of the session, learner shall be able to: 5.5.1: Define delirium tremens. 5.5.2: Describe the criminal responsibility in delirium tremens.	K	K/KH	Y		Written, Viva voce	Psychiatry, General Medicine

FM 5.6	Describe the Indian Mental Health Care Act, 2017 with special reference to admission, care and discharge of a mentally ill person.	<p>At the end of the session, learner shall be able to:</p> <p>5.6.1: Describe the important definitions mentioned in Mental Health Care Act, 2017 (MHCA).</p> <p>5.6.2: Describe the Rights of mentally ill person including 'Advance directive' as per the MHCA.</p> <p>5.6.3 : Describe the guidelines to start and run a 'Mental health establishment'.</p> <p>5.6.4 : Discuss on 'Admission, Treatment and Discharge of mentally ill person' as described in the MHCA.</p> <p>5.6.5 : Discuss on punishment for violation of provisions of MHCA.</p>	K	K/KH	N	SDL – 1 hr	Written, Viva voce	Psychiatry
6.	6. Topic: Forensic Laboratory investigation in medical legal practice							
FM 6.1	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,	<p>At the end of the session, learner shall be able to:</p> <p>6.1.1: Describe the importance of trace evidences in crime investigation.</p> <p>6.1.2 : Explain Locard's principle of exchange in crime investigation.</p> <p>6.1.3 : Enlist the various trace evidences seen in different type of crimes (living and dead).</p>	K	K/KH	Y	Lecture – 1 hr	Written, Viva voce	Pathology

	skull, specimen for histo-pathological examination, blood grouping, HLA Typing and DNA Fingerprinting. Describe Locard's Exchange Principle	6.1.4: Discuss the importance of DNA profiling in forensic investigation. 6.1.5: Enlist body tissue and body fluid suitable for DNA profiling. 6.1.6 : Discuss the importance of histopathology and cytology examination in forensic investigation. 6.1.7 : Discuss importance of blood grouping in forensic investigation. 6.1.8: Discuss significance of HLA typing in forensic investigation.						
FM 6.2	Describe the methods of sample collection, preservation, labeling, dispatch, and interpretation of reports.	At the end of the session, learner shall be able to: 6.2.1: Describe method of collection, packing, labelling, sealing and dispatch of evidentiary materials to the laboratory. 6.2.2: Describe the method of interpretation of investigation reports like Chemical analysis, Histopathological examination, Microbiological examination etc.	K	K/KH	Y		Written, Viva voce	
FM 6.3	Demonstrate professionalism while sending biological or trace evidences to Forensic Science lab, specifying the required tests to be carried out, objectives of preservation	At the end of the session, learner shall be able to: 6.3.1: 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.	A & C	KH/SH	Y	SGD – 1 hr	OSPE	

	of evidences sent for examination, personal discussions on interpretation of findings	6.3.2: Demonstrate professionalism while sending the samples for analysis such as maintaining confidentiality and chain of custody.						
FM 14.21	To collect, preserve, seal and dispatch exhibits for DNA-Finger printing using various formats of different laboratories.	<p>At the end of the session, learner shall be able to:</p> <p>14.21.1 : Describe the procedure involved in collecting, preserving, sealing and dispatching exhibits for DNA profiling from a living individual.</p> <p>14.21.2 : Describe the procedure involved in collecting, preserving, sealing and dispatching exhibits for DNA profiling from a dead individual after conducting medicolegal autopsy.</p> <p>14.21.3: 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,</p>	S	KH	Y		Practical book/Log book Viva voce	
7.	7. Topic: Emerging technologies in Forensic Medicine							

FM 7.1	Enumerate the indications and describe the principles and appropriate use for: <ul style="list-style-type: none"> - DNA profiling - Facial reconstruction - Polygraph (Lie Detector) - Narcoanalysis, - Brain Mapping, - Digital autopsy, - Virtual Autopsy, - Imaging technologies 	At the end of the session, learner shall be able to: 7.1.1 : Discuss principle, procedure and medico-legal significance of DNA profiling. 7.1.2 : Describe principle and medico-legal significance of Facial reconstruction. 7.1.3 : Enlist different Lie detection tests. 7.1.4 : Describe principle, procedure and medico-legal significance of Polygraph, Narcoanalysis and Brain mapping. 7.1.5: Describe principles of Virtual / Digital autopsy. 7.1.6: Describe the uses of different Imaging technologies in crime investigation.	K	K/KH	N	SDL- 1 Hr	Written, Viva voce	
8.	14. Topic: Skills in Forensic Medicine & Toxicology							

FM 14.5	Conduct & prepare post- mortem examination report of varied etiologies (at least 15) in a simulated/ supervised environment	<p>At the end of the session, learner shall be able to:</p> <p>14.5.1 : Describe the techniques of conducting a medicolegal autopsy.</p> <p>14.5.2 : Describe the postmortem findings (external and internal) in a medicolegal autopsy.</p> <p>14.5.3: Enumerate the ancillary investigations required (along with appropriate materials for such investigations) in a medicolegal autopsy.</p> <p>14.5.4: 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.</p>	S	KH	Y		OSPE – Case example with details of a medicolegal case (Containing history, postmortem findings, investigation details) – ask to draft PM report and few questions of analysing-category (based on given PM findings). Practical book/ Log book. Viva voce.	
------------	---	---	---	----	---	--	---	--

FM 14.11	To identify & describe weapons of medicolegal importance which are commonly used e.g. lathi, knife, kripan, axe, gadasa, gupti, 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)	At the end of the session, learner shall be able to: 14.11.1 : Document the information before commencing the weapon examination. 14.11.2 : Examine and document the details of weapons of medicolegal importance. 14.11.3 : Prepare a report on the weapon examined. 14.11.4 : Opine whether the injuries present in the wound certificate/ postmortem report are possible to be caused by the weapon examined. 14.11.5 : Explain the method of packing and handing over the weapon to concerned police (maintaining the chain of custody).	S	KH	Y	SGD – 2 hrs (Practical)	OSPE – Preparation of Medicolegal report and opinion on injuries mentioned in wound certificate/ postmortem report. Practical book/ Log book Viva voce	
FM 14.12	Describe the contents and structure of bullet and cartridges used & to provide medico-legal interpretation from these.	At the end of the session, learner shall be able to: 14.12.1: Describe the structure and contents of Rifled cartridge & prepare a medico-legal inference. 14.12.2: Describe the structure and contents of Shotgun cartridge & prepare a medico-legal inference.	S	KH	Y		OSPE – Identify The cartridge and write medico-legal inference related to inju	

							ries men- tioned inwound certifi- cate/ postmor- temre- port. Practical book/ Log book Viva voce	
FM 14.19	To identify & prepare medico-legal inference from histopathological slides of Myocardial Infarction, pneumonitis, tuberculosis, brain infarct, liver cirrhosis, brain haemorrhage, bone fracture, Pulmonary oedema, brain oedema, soot particles, diatoms & wound healing.	At the end of the session, learner shall be able to: 14.19.1 : List the microscopic identifying features after examining the histopathological slides of myocardial Infarction, pneumonitis, tuberculosis, brain infarct, liver cirrhosis, brain haemorrhage, bone fracture, pulmonary oedema, brain oedema, soot particles, diatoms & wound healing. 14.19.2 : Describe the medico-legal inferences after examining the above-mentioned histopathological slides.	S	KH	Y	SGD – 1 hr (Practical)	OSPE - Identifi- cation of agiven- histo- patholog- icalslide and it'smed- icole- galinfer- ence. Practical book/Log book Viva voce	

Practicals

- Demonstration of recording of evidence in the court of law.

	Theory	Marks	Total	Practicals	Marks	Total
Internal Assessment	Written Exam	70	100	Spotters, Age Determination, Sex Estimation, ML Certificates	60	100
	Continuous Assessment	20		Viva Voce	15	
	Professionalism*	10		Log Book, Practical Record, Moot Court Exercise	10+10+5	
University Exams	Written Exam	100	100	Spotters, Age Determination, Sex Estimation, ML Certificates	80	100
				Viva Voce	20	

*Break Up suggested for 10 Marks of Professionalism:

Attendance: 6 Marks (Aggregate of Theory and Practicals including FMT Postings): a. 90% to 95 %: 2 Marks. b: 95% to 99%: 4 Marks c. 100%: 6 Marks.

Grooming: 2 Marks

Behaviour with peers and teachers: 2 Marks

Question Paper Pattern for Internal Assessments Theory Examinations:

Type of questions	Marks per question	Number of questions	Total marks (70)
MCQs	1	15	15
Long Essay questions	10	1	10
Short essay questions	5	6	30
Short answer questions	3	5	15

Question Paper Pattern for University Theory Examinations:

Type of questions	Marks per question	Number of questions	Total marks (100)
MCQs	1	20	20
Long Essay questions	10	2	20
Short essay questions	5	6	30
Short answer questions	3	10	30

LEARNING RESOURCE MATERIALS:

Digital contents uploaded on the JSSAHER Online portal.

Suggested textbooks (Recent editions):

- K.S. Narayana Reddy, K Suganadevi, Malakpet. The Essentials of Forensic Medicine & Toxicology, Hyderabad.
- Textbook of Forensic Medicine & Toxicology - Krishan Vij, Elsevier Publication, New Delhi
- Rajesh Bardale. Principles of Forensic Medicine and Toxicology.
- V.V. Pillay. Text book of Forensic Medicine and Toxicology. Paras Medical Publishing, Hyderabad.
- J. P Modi. Modi's Textbook of medical jurisprudence and toxicology.

Reference Books(Recent editions):

- P. V. Guharaj, Sudhir K. Gupta. Forensic Medicine and Toxicology. Universities Press
- ApurbaNandy. Principles of Forensic Medicine, New Central Book Agency (P) Ltd.,
- PekkaSaukko and Bernard Knight. Knight's Forensic Pathology, Arnold Publication London, Co-published by Oxford Publications, USA

COMMUNITY MEDICINE

Curriculum of Community Medicine for the Third Professional Year – Part 1- MBBS

Topics and outcomes of Community Medicine in Third Professional Year

Subject	Number of topics	Outcomes
Community Medicine	16	61

Course content

GOAL

The aim of teaching the undergraduate student in Community Medicine is to impart such knowledge and skills that may enable him to diagnose and treat common medical illnesses and recognize the importance of community involvement. He/she shall acquire competence to deal effectively with an individual and the community in the context of primary health care.

Objectives

At the end of third year MBBS the students should be able to accomplish the following objectives,

II. Objectives

At the end of third year MBBS the students should be able to accomplish the following objectives,

Cognitive

1. Describe various methods of health education with their advantages and disadvantages
2. Describe the methods of organizing health promotion and education and counselling activities at individual family and community settings
3. Enumerate and describe various communicable and non-communicable diseases and discuss their preventive and control measures
4. Discuss various maternal and child health related problems in India and the ways to prevent and control these health problems
5. Describe health problems among adolescents, elderly and vulnerable population.
6. Describe the objectives, strategies and provisions under various national health programmes
7. Discuss the various steps involved in planning and evaluation of health interventions/programmes
8. Enlist and describe various qualitative and quantitative management techniques
9. Discuss various international health regulations
10. Enumerate various occupational health problems and ways to prevent and manage them
11. Elaborate on health care delivery system in India and discuss principles and practice of primary health care
12. Enumerate various mental health problems in India and discuss ways to prevent and control them

Affective

1. Communicate effectively with peers and teachers in various teaching learning activities
2. Effectively reflect on the situations of health impact of poverty and low standard of living
3. Communicate effectively with people in community during family health advisory survey
4. Function as a effective team member

Skills

1. Undertake assessment of environmental and socio-cultural influencers on health and disease at family and community setting
2. Evaluate an individual with communicable/non communicable/MCH/Under-5 to arrive at a medico-social diagnosis and provide recommendations at individual, family and community levels.
3. Plan and conduct health education session in simulated environment for people in the community or to special groups like school children/health workers/ ASHA/ elderly on a given health problem of public health importance
4. Demonstrate the methods of calculation and interpretation of various indicators morbidity and mortality
5. Apply basic knowledge of biostatistics in data presentation and interpretation
6. Demonstrate the steps in conducting outbreak investigation in a simulated setting

III. Course outcomes of third professional year

1. Ability to describe the magnitude, prevention and control measures of various communicable and non communicable diseases
2. Ability to arrive at a medico-social diagnosis of an individual with communicable/ noncommunicable disease/MCH aspect/ Under-five problem and provide recommendation at individual, family and community level.
3. Ability to discuss the steps in investigation of an outbreak
4. Describe the epidemiology and prevention of various communicable and non communicable diseases of public health importance
5. Discuss the principles of ergonomics and its application in occupational settings
6. Describe various international health regulations
7. Demonstrate the methods of calculation and interpretation of various indicators morbidity and mortality
8. Apply basic knowledge of biostatistics in data presentation and interpretation
9. Elaborate on health care delivery system in India and discuss principles and practice of primary health care
10. Discuss the various steps involved in planning and evaluation of health interventions/programmes

IV. Syllabus

A. Number of teaching hours

Teaching method	Hours
Lecture	40
Small group teaching	60
Self directed learning	05
Total	105

B. Distribution of teaching hours for theory and practical/ Small group teaching is as follows

Topic	Lecture	Small group teaching	SDL	Total
Concept of Health and Disease	-	6	-	6
Environmental Health Problems	0	6	-	6
Principles of health promotion and education	3	2	0	5
Nutrition	-	6	-	6
Basic statistics and its applications	-	2		2
Epidemiology	-	8	-	8
Epidemiology of communicable and non-communicable diseases	12	10	1	23
Reproductive maternal and child health	10	8	1	19
Demography and vital statistics	-	2	-	2
Occupational Health	4	2	1	7
Geriatric services	1	-	-	2
Mental Health	1	-	-	2
Health planning and management	3	2	-	5
Health care of the community	4	4	-	8

International Health	1	1	-	2
Recent advances in Community Medicine	1	1	2	4
Total	40	60	5	105

B. Syllabus at a glance for MBBS Phase III Course

Sl No	Topic Number	Name of topic	Description of competencies
1	1	Concept of Health and Disease	CM 1.7 Enumerate and describe health indicators
2	3	Environmental Health Problems	CM 3.2 Describe concepts of safe and wholesome water, sanitary sources of water, water purification processes, water quality standards, concepts of water conservation and rainwater harvesting
			CM 3.3 Describe the aetiology and basis of water borne diseases/ jaundice / hepatitis / diarrheal diseases
			CM3.6 Describe the role of vectors in the causation of diseases. Also discuss National Vector Borne disease Control Program
			CM 3.7 Identify and describe the identifying features and life cycles of vectors of Public Health importance and their control measures
			CM3.8 Describe the mode of action, application cycle of commonly used insecticides and rodenticides
3	4	Principles of health promotion and education	CM 4.1 Describe various methods of health education with their advantage and limitations
			CM 4.2 Describe the methods of organizing health promotion and education and counselling activities at individual family and community settings
			CM 4.3 Demonstrate and describe the steps in evaluation of health promotion and education program

4	5	Nutrition	CM5.1 Describe the common sources of various nutrients and special nutritional requirements according to age, sex, activity, physiological conditions
			CM5.2 Describe and demonstrate the correct method of performing a nutritional assessment of individuals, families and the community by using the appropriate method
			CM 5.3 Define and describe common nutrition related health disorders (including macro-PEM, Micro-iron, Zn, iodine, Vit. A), their control and management
			CM 5.4 Plan and recommend a suitable diet for the individuals and families based on local availability of foods and economic status, etc in a simulated environment
5	6	Basic statistics and its applications	6.2 Describe and discuss the principles and demonstrate the methods of collection, classification, analysis, interpretation and presentation of statistical data
			6.3 Describe, discuss and demonstrate the application of elementary statistical methods including test of significance in various study designs
6	7	Epidemiology	CM 7.4 Define, calculate and interpret morbidity and mortality indicators based on given set of data
			CM 7.5 Enumerate, define, describe and discuss epidemiological study designs
			CM 7.6 Enumerate and evaluate the need of screening tests
			CM 7.7 Describe and demonstrate the steps in the Investigation of an epidemic of communicable disease and describe the principles of control measures
7	8	Epidemiology of communicable and non-communicable-diseases	CM 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
			CM 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.)
			CM 8.3: Enumerate and describe disease specific National Health Programs including the prevention and treatment of a case

			CM 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
			CM8.6 Educate and train health workers in disease surveillance, control & treatment and health education
			CM8.7 Describe the principles of management of information systems
8	9	Demography and Vital statistics	CM 9.2: Define, calculate and interpret demographic indices including birth rate, death rate, fertility rates
9	10	Reproductive Maternal and child health	CM 10.1 Describe the current status of Reproductive, maternal, new born and Child Health
			CM 10.2 Enumerate and describe the methods of screening high risk groups and common health problems
			CM 10.3 Describe local customs and practices during pregnancy, child birth, lactation and child feeding practices
			CM 10.4 Describe the reproductive, maternal, new born & child health (RMCH); child survival and safe motherhood interventions
			CM 10.5 Describe Universal Immunization Program; Integrated Management of Neonatal and Childhood Illness (IMNCI) and other existing Programs.
			CM 10.6 Enumerate and describe various family planning methods, their advantages and short comings
			CM 10.7 Enumerate and describe the basis and principles of the Family Welfare Program including the organization, technical and operational aspects
			CM 10.8 Describe the physiology, clinical management and principles of adolescent health including ARSH
			CM 10.9 Describe and discuss gender issues and women empowerment
10	11	Occupational Health	CM 11.1 Enumerate and describe the presenting features of patients with occupational illness including agriculture
			CM 11.2 Describe the role, benefits and functioning of the employees state insurance Scheme

			CM 11.3 Enumerate and describe specific occupational health hazards, their risk factors and preventive measures
			CM 11.4 Describe the principles of ergonomics in health preservation
			CM 11.5 Describe occupational disorders of health professionals and their prevention & management
11	12	Geriatric services	CM 12.1 Define and describe the concept of Geriatric services
			CM 12.2 Describe health problems of aged population
			CM 12.3 Describe the prevention of health problems of aged population
			CM 12.4 Describe National program for elderly
12	15	Mental Health	CM 15.1 Define and describe the concept of mental Health
			CM 15.2 Describe warning signals of mental health disorder
			CM 15.3 Describe National Mental Health program
13	16	Health planning and management	CM 16.1 Define and describe the concept of Health planning
			CM 16.2 Describe planning cycle
			CM 16.3 Describe Health management techniques
			CM 16.4 Describe health planning in India and National policies related to health and health planning
14	17	Health care of the community	CM 17.1 Define and describe the concept of health care to community
			CM 17.2 Describe community diagnosis
			CM 17.3 Describe primary health care, its components and principles
			CM 17.4 Describe National policies related to health and health planning and millennium development goals
			CM 17.5 Describe health care delivery in India
15	18	International Health	CM 18.1 Define and describe the concept of International health
			CM 18.2 Describe roles of various international health agencies
16	20	Recent advances in Community Medicine	CM 20.1 List important public health events of last five years
			CM 20.2 Describe various issues during out breaks and their prevention
			CM 20.3 Describe any event important to Health of the Community
			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

Competency framework

Topic 1 : Concept of Health and Disease										
No	COMPETENCY	Specific Learning Objectives The studentshould be able to	Do- main K/S/ A/C	Level K/ KH/ SH/P	Core Y/N	Suggest- ed Teach- ing learning method	Sug- gested As- sess- ment meth- od	Num- ber re- quired to cer- tify	Ver- tical Inte- gra- tion	Hori- zontal Inte- gra- tion
CM 1.7	Enumerate and describe health indicators	At the end of 3rd year MBBS the student should be able to <ol style="list-style-type: none"> 1.Enumerate health indicators 2.Calculate Mortality indicators 3.Calculate Morbidity indicators 4.Calculate Disability rates 5.Calculate Nutritional status indicators 6. Calculate Health care delivery indicators 7. Calculate Utilization rates 8.Calculate Socio-economic indicators 9. Calculate service coverage Indicators 10. Calculate health systems Indicators 	K, S	K, SH	Y	SGD and Problem solving exercise	Prob- lem solving exer- cise			

TOPIC 3 : ENVIRONMENTAL HEALTH PROBLEMS										
CM 3.2	Describe concepts of safe and wholesome water, sanitary sources of water, water purification processes, water quality standards, concepts of water conservation and rainwater harvesting	At the end of 3rd year MBBS the student should be able to 1. Define safe and wholesome water. 2. Calculate the bleaching powder required for disinfection of water bodies 3. Analyse the physical, chemical and biological quality of water against the pre set water quality standards as a problem solving exercise	K, S	KH, SH	Y	Small group discussion	Problem solving exercise			
CM 3.3	Describe the aetiology and basis of water borne diseases /jaundice/ hepatitis/ diarrheal diseases	1. Discuss the epidemiology and preventive measures of jaundice /hepatitis. 2. Discuss the epidemiology and preventive measures of diarrheal diseases. 3. Explain various treatment and preventive measures to combat these diseases.	K	KH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce		General Medicine, Paediatrics	
CM 3.6	Describe the role of vectors in the causation of diseases. Also discuss National Vector Borne disease Con-	1. Describe the role of various vectors in the causation of diseases. 2. Discuss on various aspects of National Vector Borne Disease Control Program. 3. Interpret the various indices used in vector control.	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			

	trol Program									
--	--------------	--	--	--	--	--	--	--	--	--

CM 3.7	Identify and describe the identifying features and life cycles of vectors of Public Health importance and their control measures	<ol style="list-style-type: none"> 1. Identify various vectors of public health importance. 2. Describe their identifying features and salient features of their life cycles. 3. Discuss various control measures available for specific vectors 	S	SH	Y		Spotters, Problem solving exercise			
CM 3.8	Describe the mode of action, application cycle of commonly used insecticides and rodenticides	<ol style="list-style-type: none"> 1. List various insecticides and rodenticides with respect to insects and rodents of public health importance. 2. Describe the mode of action of various insecticides and rodenticides. 3. Explain the methods of application of these rodenticides and insecticides safely to prevent zoonotic diseases and agricultural as well as domestic loss. 	K	KH	Y	Lecture, Small group discussion	Spotters Problem solving exercise			

Topic 4: Principles of health promotion and education

CM 4.1	CM 4.1 Describe various methods of health Education with their advantages and limitations	<p>At the end of 3rd year MBBS the student should be able to</p> <ol style="list-style-type: none"> 1. Define health education 2. Describe the process of communication 3. Describe the characteristics of message, messenger and media 	K	KH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce		General Medicine, Paediatrics	
--------	---	--	---	----	---	---	---------------------	--	-------------------------------	--

		<ol style="list-style-type: none"> 4. Describe approaches for health education 5. Describe principles of health education 6. Describe models of health education 7. Describe content of health education 8. Differentiate between health education and health propaganda 								
CM 4.2	<p>CM 4.2</p> <p>Describe the methods Of organizing health Promotion and Education and counselling activities at individual family and community-settings</p>	<p>At the end of 3rd year MBBS the student should be able to</p> <ol style="list-style-type: none"> 1. Describe the methods of assessing felt needs of community for health education 2. Classify health education methods 3. Describe various methods of health education at individual level 4. Describe various methods of health education at family level 5. Describe various methods of health education at community level 6. List the barriers for communication 7. Describe the methods of overcoming barriers for communication 8. Describe the steps in conducting health education programme for general public in a community on a given topic 	K	KH	Y	Lecture, Small group discussion, DOAP session	Written / Viva voce		General Medicine, Paediatrics	

CM 4.3	CM 4.3 Demonstrate and describe the steps in evaluation of health promotion and education program	At the end of 3rd year MBBS the student should be able to 1. Describe various methods of evaluation of health-promotion and education-program 2. Enlist the tools for evaluation health promotion-and education program 3. Evaluate health Promotion and education program in a simulated setting 4. Prepare the report of evaluation of health promotion and education program 5. Suggest recommendations based on the report	S	SH	Y	Small group discussion, DOAP session	Written / Viva voce			
Topic 5: Nutrition										
CM 5.1	Describe the common sources of various nutrients and special nutritional requirements according to age, sex, activity, physiological conditions	At the end of first year MBBS the student should be able to, 1. Describe the nutritive values of various foods 2. Identify various foods and describe their nutritive values and public health significance 3. Enlist recommended dietary allowance for various foods according to age and gender	K, S	KH, SH	Y	Small group discussion	Spotters Problem solving exercise			

CM 5.2	Describe and demonstrate the correct method of performing a nutritional assessment of individuals, families and the community by using the appropriate method	At the end of 3rd year MBBS the student should be able to <ol style="list-style-type: none"> 1. Demonstrate nutritional assessment methods at individual level 2. Demonstrate nutritional assessment methods at family level 3. Demonstrate nutritional assessment methods at community level 4. Interpret nutritional assessment indicators at individual, family and community 5. Suggest suitable recommendations based on the assessment 	S	SH	Y	Small group discussion, Case discussion Problem solving exercise	Problem solving exercises Medico social case presentation		General Medicine, Pediatrics	
CM 5.3	Define and describe common nutrition related health disorders (including macro-PEM, Micro-iron, Zn, iodine, Vit. A), their control and management	At the end of 3rd year MBBS the student should be able to <ol style="list-style-type: none"> 1. Collect relevant history, perform physical examination, and arrive at a medico social diagnosis of a child with PEM 2. Suggest recommendations at individual, family and community levels for a child with PEM 	S	SH	Y	Problem solving exercise Medico social case presentation	Problem solving exercise Medico social case presentation		General Medicine, Pediatrics	

		<p>3. Collect relevant history, perform physical examination and arrive at a medico social diagnosis of a patient with nutritional anemia</p> <p>4. Suggest recommendations at individual, family and community levels for a patient with nutritional anemia</p> <p>5. Discuss the prevention of Vitamin A deficiency with reference to Vit A prophylaxis program</p>								
CM 5.4	Plan and recommend a suitable diet for the individuals and families based on local availability of foods and economic status, etc in a simulated environment	<p>At the end of 3rd year MBBS the student should be able to</p> <p>1. Students would be able to prepare a balanced diet chart for a</p> <ul style="list-style-type: none"> • Pregnant women • Prisoner • An elderly with diabetes • Child with PEM belonging to low socio economic status • Lactating women • Obese hypertensive 	S	SH	Y	DOAP sessions	Skill Assessment		General Medicine, Pediatrics	
		<p>2. Calculate the calorie and nutrient requirements for a given family using consumption units</p> <p>3. Derive a meal plan for a family using the consumption units</p>								

Topic 6: Basic statistics and its applications										
No	COMPETEN- CY The student should be able to	Specific Learning Objectives	Do- main K/S/ A/C	Level K/KH/ SH/P	Core Y/N	Sug- gested Teaching learning method	Sug- gested As- sess- ment meth- od	Num- ber re- quired to cer- tify	Ver- tical Inte- gration	Hor- izon- tal Inte- gra- tion
CM 6.2	Describe and discuss the principles and demonstrate the methods of collection, classification, analysis, interpretation and presentation of statistical data	At the end of 3rd year MBBS the student should be able to 1. Describe various methods of presentation of data (tables and figures) 2. Construct relevant graphs and charts for a given data 3. Interpret the graphs, charts and tables	S	SH	Y	Small group discussion, Lecture, DOAP sessions	Written / Viva voce/ Skill assessment		General Medicine, Pediatrics	
CM 6.3	Describe, discuss and demonstrate the application of elementary statistical methods including test of significance in various study designs	At the end of 3rd year MBBS the student should be able to 1. Classify various tests of significance 2. Demonstrate chi square test on a given data 3. Demonstrate student t test on a given data	S	SH	Y	Small group discussion, Lecture, DOAP sessions	Written / Viva voce/ Skill assessment		General Medicine, Pediatrics	

Topic 7: Epidemiology										
CM 7.4	Define, calculate and interpret morbidity and mortality indicators based on given set of data	At the end of third year MBBS the student should be able to, <ol style="list-style-type: none"> 1. Calculate crude death rate for a given data and interpret the results 2. Calculate proportionate mortality rate for a given data and interpret the results 3. Calculate specific death rate for a given data and interpret the results 4. Describe the uses of morbidity data 5. Calculate and interpret incidence rate for a given data 	S	SH	Y	Problem based learning sessions, epidemiological exercises, Interpretation of charts and tables	Problem solving exercise Interpretation of charts and tables Short essay/ short answers MCQ's VI VA-VOCE			
		<ol style="list-style-type: none"> 6. Calculate and interpret attack rate for a given data 7. Calculate and interpret secondary attack rate for a given data 8. Calculate and interpret point and period prevalence for a given data 								

CM 7.5	Enumerate, define, describe and discuss epidemiological study designs	<p>At the end of 3rd year MBBS, the student should be able to</p> <p>Calculate and interpret Odds ratio for a given data</p> <ol style="list-style-type: none"> 1. Calculate and interpret relative risk for a given data 2. Calculate and interpret attributable risk for a given data 3. Calculate and interpret population attributable risk for a given data 	K	KH	Y	Lecture, Problem based learning sessions, epidemiological exercises, Interpretation of charts and tables	Problem solving exercise Long essay Short essay/ short answers MCQ's VI VA- VOCE			
CM 7.6	Enumerate and evaluate the need of screening tests	<p>At the end of 3rd year MBBS the student should be able to</p> <ol style="list-style-type: none"> 1. Construct a 2 X 2 table for the given set of data of evaluation of a screening test 2. Calculate and interpret sensitivity of a screening test 3. Calculate and interpret specificity of a screening test 4. Calculate and interpret positive predictive value of a screening test 	S	SH	Y	Problem based learning sessions, epidemiological exercises, Interpretation of charts and tables DOAP Sessions	Problem solving exercise MCQ's VI VA- VOCE			

		<p>5. Calculate and interpret negative predictive value of a screening test</p> <p>6. Calculate rate of false positive</p> <p>7. Calculate the rate of false negative</p> <p>8. Calculate accuracy of a screening test</p>								
CM 7.7	Describe and demonstrate the steps in the Investigation of an epidemic of communicable disease and describe the principles of control measures	<p>At the end of 3rd year MBBS the student should be able to</p> <p>1. Draw and interpret epidemic curve for a given data on disease outbreak</p> <p>2. Demonstrate the steps in investigation of epidemic in a simulated condition</p>	S	SH	Y	Problem based learning sessions, epidemiological exercises, Interpretation of charts and tables, DOAP session	Problem solving exercise OSPE MCQ's VIVA-VOCE			

Topic 8: Communicable and Non-Communicable diseases

CM 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	<p>At the end of 3rd year MBBS, the student should be able to,</p> <p>1. Collect relevant history, perform clinical examination, analyze lab investigations and arrive at a medico social diagnosis of a child with Acute respiratory infection and suggest recommendations at individual, family and community for a given case</p>	S	SH	Y	Medico social case presentation Problem solving exercise	Medico social case presentation Problem solving exercise			
		<p>3. Collect relevant history, perform clinical examination, analyze lab investigations and arrive at a medico social diagnosis of a child/patient with Acute gastro enteritis and suggest recommendations at individual, family and community for a given case</p>								

		<p>3. Collect relevant history, perform clinical examination, analyze lab investigations and arrive at a medico social diagnosis of patient with tuberculosis and suggest recommendations at individual, family and community for a given case</p> <p>4. Collect relevant history, perform clinical examination, analyze lab investigations and arrive at a medico social diagnosis of patient with Dengue and suggest recommendations at individual, family and community for a given case</p>								
		<p>5. Collect relevant history, perform clinical examination, analyze lab investigations and arrive at a medico social diagnosis of patient with Viral hepatitis and suggest recommendations at individual, family and community for a given case</p> <p>6. Collect relevant history, perform clinical examination, analyze lab investigations and arrive at a medico social diagnosis of patient with enteric fever and suggest recommendations at individual, family and community for a given case</p>								

		<p>7. Analyse the given case scenario and suggest prevention and control measures for a case of poliomyelitis</p> <p>8. Analyse the given case scenario and suggest prevention and control measures for a case of Leprosy</p> <p>9. Analyse the given case scenario and suggest prevention and control measures for a case of animal bite</p>								
		<p>10. Analyse the given case scenario and suggest prevention and control measures for a case of Tetanus</p> <p>11. Analyse the given case scenario and suggest prevention and control measures for a case of Leptospirosis</p> <p>12..Analyse the given case scenario and suggest prevention and control measures for a case of post exposure prophylaxis for needle prick injury in relation to HIV/ AIDS and Viral hepatitis</p>								

CM 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, Cancer, etc)	<p>At the end of 3rd year MBBS, the student should be able to,</p> <ol style="list-style-type: none"> 1. Collect relevant history, perform clinical examination and, analyze lab investigations arrive at a medico social diagnosis of patient with Hypertension and suggest recommendations at individual, family and community for a given case 2. Collect relevant history, perform clinical examination and, analyze lab investigations arrive at a medico social diagnosis of patient with Type 2 Diabetes and suggest recommendations at individual, family and community for a given case 3. Collect relevant history, perform clinical examination and analyze lab investigations arrive at a medico social diagnosis of patient with gestational diabetes and suggest recommendations at individual, family and community for a given case 		SH	Y	Medico social case presentation Problem solving exercise	Medico social case presentation Problem solving exercise			
-------------------	--	--	--	-----------	----------	---	---	--	--	--

		4. Collect relevant history, perform physical examination and, analyze lab investigations arrive at a medico social diagnosis of patient with stroke and suggest recommendations at individual, family and community for a given case								
CM 8.3	Enumerate and describe disease specific National Health Programs including their prevention and treatment of a case	<p>At the end of 3rd year MBBS, the student should be able to,</p> <ol style="list-style-type: none"> 1. Describe the need, strategies, provisions and services under National Tuberculosis elimination programme 2. Describe the need, strategies, provisions and services under National Vector borne disease control programme 3. Describe the need, strategies, provisions and services under National AIDS control programme 4. Describe the need, strategies, provisions and services under National Leprosy eradication programme control programme 	K	KH	Y	Lecture, Problem based learning sessions, epidemiological exercises, Interpretation of charts and tables	Problem solving exercise Long essay Short essay/ short answers MCQ's VIVA -VOCE			

		<p>5. Describe the need, strategies, provisions and services under National programme for prevention and control of Diabetes, Cancer, Cardiovascular diseases and Stroke (NPCDCS)</p> <p>6. Describe the need, strategies, provisions and services under National programme for prevention National Programme for Control of Blindness& Visual Impairment</p> <p>7. Describe the need, strategies, provisions and services under National Health Mission</p> <p>8. Describe the need, strategies, provisions and services under Ayushman Bharath, Pradhan Mantri Swasthya Suraksha Yojana.</p>								
CM 8.5:	Describe and discuss the principles of planning, implementing and evaluating control measures- for disease at community	<p>At the end of 3rd year MBBS, the student should be able to</p> <p>1. Understand the steps of Planning Cycle</p> <p>2. Applying the steps of planning cycle in various control measures for diseases in the community</p>	K	KH	Y	Lecture, Problem based learning sessions,	Long essay Short essay/ short answers MCQ's VIVA -VOCE			

	level bearing in mind the public health importance of the disease	3. Get a hands-on experience in planning, executing and evaluating control measures for at least three diseases in a community								
CM 8.6	Educate and train health workers in disease surveillance, control and treatment and health education	<p>At the end of 3rd year MBBS the student should be able to</p> <ol style="list-style-type: none"> 1. Describe the principles of risk communication in public health 2. Design training material on a disease for health workers 3. Conduct a training session for the health workers in the disease surveillance, control and treatment in a simulated setting 4. Conduct a training session for the health workers in the principles and approach to health education for a common disease in a simulated setting 	S	SH	Y	Small group discussion	OSPE			

CM 8.7	Describe the principles of management of information systems	At the end of 3rd year MBBS the student should be able to <ol style="list-style-type: none"> 1. Understand the various health information systems available in our health system 2. Identify the management part of these information systems 3. Describe the objectives, strategies and functioning of Integrated disease surveillance programme (IDSP) 	K	KH	Y	Lecture, Problem based learning sessions,	Long essay Short essay/ short answers MCQ's VIVA -VOCE			
Topic 9: Demography and vital statistics										
CM 9.2	Define, calculate and interpret demographic indices including birth rate, death rate, fertility rates	At the end of third year MBBS the student should be able to, <ol style="list-style-type: none"> 1. Calculate and interpret birth rate, 2. Calculate and interpret death rate 3. Calculate and interpret General Fertility Rate 4. Define, calculate and interpret 5. Calculate and interpret Marital General Fertility Rate 6. Calculate and interpret Age Specific Fertility Rate 7. Calculate and interpret Age Specific Marital Fertility Rate 8. Calculate and interpret Total Fertility Rate 9. Calculate and interpret Total Marital fertility Rate 10. Calculate and interpret Gross Reproductive Rate 11. Calculate and interpret Net Reproductive Rate 			S	SH	Y	Problem solving exercise sessions	Problem solving exercise	

Topic 10: Reproductive and Child Health										
CM 10.1	Describe the current status of Reproductive, maternal, newborn and Child Health	At the end of 3rd year MBBS the student should be able to, <ol style="list-style-type: none"> 1. Define reproductive health 2. Define maternal mortality ratio 3. Denote current maternal mortality ratio in India 4. Describe factors contributing to maternal mortality in India 5. Calculate maternal mortality for a given set of data 6. Define neonatal mortality 7. Denote current neonatal mortality in India 8. Describe factors influencing neonatal mortality in India 9. Calculate neonatal mortality rate for a given set of data 10. Define still birth 11. Define perinatal mortality 12. Calculate perinatal mortality rate for a given set of data 13. Define low birth weight 14. Describe the causes of low birth weight babies 15. Define infant mortality rate 16. Denote current infant mortality in India 17. Describe factors contributing to infant mortality in India 	K	KH	Y	Lecture, Problem based learning sessions, Problem solving exercises	Long Essay Short essay/ short answers MCQ's VIVA -VOCE		Obstetrics & Gynaecology, Pediatrics	

		<p>18. Calculate Infant mortality rate for a given set of data</p> <p>19. Define under 5 mortality</p> <p>20. Describe the causes of under 5 mortality in India</p> <p>21. Denote current under 5 mortality rate in India</p> <p>22. Calculate under 5 mortality rate for a given set of data</p>								
CM 10.2	Enumerate and describe the methods of screening high risk groups and common health problems	<p>At the end of 3rd year MBBS the student should be able to,</p> <ol style="list-style-type: none"> List common screening tests to be undertaken during pregnancy Describe the need for screening pregnant women for infectious diseases Describe the method of screening for gestational diabetes among pregnant women Describe screening tests to be undertaken among neonates for ruling out congenital malformations List common screening tests to be undertaken among neonates to rule out genetic diseases (metabolic conditions) Describe the role of ultrasound in screening for congenital anomalies 	K	KH	Y	Lecture, Problem based learning sessions	Short essay/ short answers OSPE MCQ's VIVA-VOCE		Pediatrics Obstetrics & Gynaecology,	

		<ol style="list-style-type: none"> 7. Describe screening tests to be undertaken among intravenous drug abusers 8. Describe common screening tests to be undertaken among male and female sex workers 9. Enumerate common screening tests for mental health among adolescents 10. Describe the process of screening of adolescent girls for men 11. Describe the methods of screening for nutritional problems among children 								
CM 10.3	Describe local customs and practices during pregnancy, childbirth, lactation and child feeding practices	<p>At the end of 3rd year MBBS the student should be able to,</p> <ol style="list-style-type: none"> 1. Describe various socio-cultural practices during pregnancy 2. Describe the influence of cultural factors in health of pregnant women 3. Describe socio-cultural practices followed during child birth 4. Describe socio-cultural practices followed in feeding of an infant 5. Describe various socio-cultural practices followed in feeding of child 	K	KH	Y	Lecture, Problem based learning sessions, Family health advisory surveys, case based learning sessions	Short essay/ short answers OSPE Medico Social Case Presentations MCQ's VIVA-VOCE		Pediatrics Obstetrics & Gynaecology,	

		6. Describe the influence of cultural factors in health of pregnant women 7. Describe various socio cultural factors that influence health care seeking behavior among pregnant women 8. Describe various socio-cultural factors that influence health care seeking behavior among children								
CM 10.4	Describe the reproductive, maternal, newborn & child health (RMCH); child survival and safe motherhood interventions	At the end of 3rd year MBBS the student should be able to 1. Define antenatal care 2. Enumerate the objectives of antenatal care 3. Describe the components of antenatal care 4. List the danger signs of pregnancy 5. Enumerate the criteria for high risk pregnancy 6. Collect antenatal history from a pregnant women 7. Conduct antenatal check up (examination) in a pregnant woman 8. List the laboratory investigations to be undertaken during pregnancy 9. Describe the advise to be given to pregnant women at personal and family level	K	KH	Y	Lecture, Problem based learning sessions, Family health advisory surveys, case based learning sessions, academic field visits	Long Essay Short essay/ short answers OSPE Medico Social Case Presentations MCQ's VIVA-VOCE		Pediatrics Obstetrics and Gynecology	

		<ul style="list-style-type: none"> 10. List the aims of good intra-natal care 11. List the advantages of institutional delivery 12. Define post natal care 13. List the objectives of post natal care 14. Collect post natal history from a lactating mother 15. Conduct post natal check up (examination) in a pregnant woman 16. Describe various maternal complications during post natal period 17. Describe the advises to be given to the mother during post natal period 18. Interpret the partogram 19. Describe the components of essential obstetric care 20. Describe the components of emergency obstetric care 21. Describe various measures taken by Government to reduce maternal mortality in India 22. Classify the childhood into various stages 23. List the objectives of neonatal care 24. Describe the components of immediate new born care 25. List the components of APGAR score 							
--	--	---	--	--	--	--	--	--	--

		<p>26. List the components of neonatal examination</p> <p>27. Describe the methods of anthropometric measurements in neonates</p> <p>28. Describe Kangaroo mother care</p> <p>29. Describe the components of effective breast feeding</p> <p>30. Define exclusive breast feeding</p> <p>31. Describe advantages of breast feeding to baby</p> <p>32. Describe maternal advantages of breast feeding</p> <p>33. Describe the initiatives taken by Government of India to prevent infant mortality</p> <p>34. List the disadvantages of artificial feeding</p> <p>35. Enumerate the components of baby friendly hospital initiative</p> <p>36. List the growth and development milestones among children</p> <p>37. Describe WHO child growth reference standards 2016</p> <p>38. Describe growth charts used for boys and girls used in India</p> <p>39. Plot and interpret growth chart for a child using a given data set</p>							
--	--	--	--	--	--	--	--	--	--

		<p>40. Describe the uses of growth charts</p> <p>41. Describe the distinguishing features of preschool children</p> <p>42. Describe various child health problems</p> <p>43. List the Rights of Child as per UN declaration</p> <p>44. List the existing policies and legislations for children</p> <p>45. Enumerate common health problems among school children</p> <p>46. Enumerate the objectives of school health services</p> <p>47. Describe the components of school health services</p> <p>48. Define handicapped children</p> <p>49. Classify handicapped children</p> <p>50. Describe the approaches for prevention of handicap among children</p> <p>51. Classify behavior problems among children with specific examples</p> <p>52. Define juvenile delinquency</p> <p>53. List the causes of Juvenile delinquency</p> <p>54. Describe the preventive measures for Juvenile delinquency</p> <p>55. Describe the provisions under Juvenile Justice Act</p>							
--	--	--	--	--	--	--	--	--	--

		<p>56. List the children in difficult circumstances</p> <p>57. Enumerate the population norms for Integrated Child Development Services Scheme</p> <p>58. List the objectives of ICDS</p> <p>59. Describe the services provided at Anganwadi centre</p> <p>60. Describe the strategies under RMNCH + A programme</p>								
CM 10.5	Describe Universal Immunization Program; Integrated Management of Neonatal and Childhood Illness (IMNCI) and other existing Programs.	<p>At the end of 3rd year MBBS the student should be able to,</p> <ol style="list-style-type: none"> 1. Enumerate vaccine preventable diseases among children 2. List the objectives of universal immunization programme 3. Describe Universal Immunization schedule in India 4. Describe the dosage and mode of administration of each vaccine covered under UIP 5. Calculate vaccine requirements for a primary health centre with defined population 6. List adverse events following immunization 7. Describe the causes of inadequate coverage in UIP 	K	KH	Y	Lecture, Problem based learning sessions, Family health advisory surveys, academic field visits	Long Essay Short essay/ short answers OSPE MCQ's VIVA -VOCE		Pediatrics	

		<p>8. Describe the measures taken by Government of India for improving vaccination coverage in India.</p> <p>9. List the objectives of IMNCI</p> <p>10. Enumerate the childhood conditions covered under IMNCI</p> <p>11. Describe the method of evaluation of a sick child under IMNCI using charts</p> <p>12. Plan for action for a sick child in with given signs and symptoms using IMNCI chart</p> <p>13. Describe the provisions under facility based new born care (F-IMNCI)</p> <p>14. Describe provisions under Navjat Shishu Suraksha Karyakram</p> <p>15. Enumerate the components of Home based newborn care</p> <p>16. Describe provisions under Indian Newborn Action Plan</p> <p>17. Define Nutritional rehabilitation</p> <p>18. List the objectives of Nutrition Rehabilitation Centre</p> <p>19. Describe the services provided at Nutrition Rehabilitation centre</p> <p>20. Describe the services provided at Rashtriya Bala Swasthya Karyakram</p>							
--	--	---	--	--	--	--	--	--	--

		<p>21. Describe the need, strategies, provisions and services under Janani Shishu Suraksha karyakram</p> <p>22. Describe the need, strategies, provisions and services under RMNCH+ A</p> <p>23. Describe the need, strategies, provisions and services under Mission Indra Dhanush</p> <p>24. Describe the need, strategies, provisions and services under Navjath Shishu suraksha karyakram</p> <p>25. Describe the need, strategies, provisions and services under Pradhan Mantri Surakshith matrutva Yojana</p>								
CM 10.6	Enumerate and describe various family planning methods, their advantages and short comings	<p>At the end of the session 3rd year MBBS students should be able to:</p> <ol style="list-style-type: none"> 1. List the objectives of family planning 2. Define spacing 3. Classify various family planning methods 4. Describe mechanism of action of temporary methods of family planning. 5. List contraindications of various family planning methods 6. Describe adverse effects of different family planning methods 	K	KH	Y	Lecture , Small group discussion, Medico Social Case Presentation	Long essay Short essay/ short answer MCQs Medico Social Case Presentation Spotters			

		<ol style="list-style-type: none"> 7. Describe cafeteria approach in family planning 8. Enumerate the adverse effects of various family planning methods 9. Describe the concept of Pearl Index 10. List the indications of permanent methods of family planning 11. Discuss the advantages of permanent methods of family planning 12. Discuss the advantages and disadvantages of No scalpel vasectomy 13. Define unmet needs for family planning 14. Discuss various causes of unmet needs for family planning 								
10.7	Enumerate and describe the basis and principles of the Family Welfare Program including the organization, technical and operational aspects	At the end of 3rd year MBBS the student should be able to <ol style="list-style-type: none"> 1. Define eligible couple 2. Define target couple 3. Define couple protection rate 4. List the characteristics of family welfare 5. Describe the essential components of reproductive and child health programme 6. List the indications of Medical Termination of Pregnancy as per MTP act 	K	KH	Y	Lecture , Small group discussion, Medico Social Case Presentation	Long essay Short essay/ short answer MCQs Medico Social Case Presentation Spot- ters			

		<p>7. List the legal provisions under MTP act</p> <p>8. Describe the methods of medical termination of pregnancy</p> <p>9. Describe organogram of RCH programme from village to national level</p> <p>10. Describe the job responsibilities of various stakeholders under RCH programme</p> <p>11. Describe the reproductive and child health services provided at various levels of health care</p>								
CM 10.8	Describe the physiology, clinical management and principles of adolescent health including ARSH	<p>At the end of 3rd year MBBS the student should be able to</p> <p>1. Define adolescence</p> <p>2. Describe physiological changes occurring during adolescence in both genders</p> <p>3. Describe common health issues among adolescents</p> <p>4. Describe various provisions for adolescents under RMNCH + A strategy</p> <p>5. Enumerate the components of adolescent friendly health services</p> <p>6. List the components of global strategy for women ,children and adolescent health</p> <p>7. Describe the provisions under Adolescent Reproductive and Sexual Health (ARSH) programme.</p>	K	KH	Y	Lecture , Small group discussion, Medico Social Case Presentation	Long essay Short essay/ short answer MCQs Medico Social Case Presentation Spotters			

		8. Describe the provisions under Weekly Iron and Folic Acid Supplementation Programme (WIFS) 9. List the activities under Menstrual Hygiene Scheme 10. List the services provided for adolescents under ICDS scheme								
CM 10.9	Describe and discuss gender issues and women empowerment	At the end of 3rd year MBBS the student should be able to, 1. Define child sex ratio 2. Denote current child sex ratio based on recent census data 3. Describe the causes of gender bias 4. Describe the consequences of gender bias at various stages of life 5. List the provisions under Pre Connection, Pre natal and pre conception diagnostic test (PC) act 6. Describe various measures taken by Government to prevent gender bias 7. Describe the needs for women empowerment 8. Describe the steps taken by Government of India for empowering women	K	KH	Y	Lecture, Small group discussion, Seminar, Panel Discussion	Short essay/ short answer MCQs Medico Social Case Presentation Spotters			

Topic 11: Occupational Health										
CM11.1	Enumerate and describe the presenting features of patients with occupational illness including agriculture	<p>At the end of 3rd year MBBS the student should be able to,</p> <ol style="list-style-type: none"> 1. Describe Occupational environment. 2. Enlist the various occupational illnesses (including agriculture) 3. Describe the presenting features and epidemiological factors of the occupational illnesses enumerated. 4. Explain briefly the etio-pathogenesis of these occupational diseases. 	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
CM11.2	Describe the role, benefits and functioning of the employees state insurance scheme	<ol style="list-style-type: none"> 1. Describe roles/benefits of the Employees State Insurance (ESI) scheme 2. Explain the functioning of ESI scheme. 3. Discuss the responsibilities of employers under ESI and Labour act. 	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
CM11.3	Enumerate and describe specific occupational health hazards, their risk factors and preventive measures	<ol style="list-style-type: none"> 1. Enlist various specific occupational health hazards. 2. Describe the risk factors associated with these hazards. 3. Explain preventive measures against these occupational hazards. 	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			

CM11.4	Describe the principles of ergonomics in health preservation	<ol style="list-style-type: none"> 1. Describe concept of ergonomics and its principles. 2. Discuss how these principles are useful in health preservation. 3. Interpret the relation between anthropometric measurements and various aspects of ergonomic workstation. 	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			
CM11.5	Describe occupational disorders of health professionals and their prevention & management	<ol style="list-style-type: none"> 1. Enlist various occupational hazards and disorders associated with health care profession. 2. Discuss briefly the etio-pathogenesis of these disorders or diseases. 3. Explain the preventive measures and effective management of these disorders. 	K	KH	Y	Small group discussion, Lecture	Written / Viva voce			

Topic 12: Geriatrics

	CM 12.1 Define and describe the concept of Geriatric services	<p>At the end of 3rd year MBBS the student should be able to</p> <ol style="list-style-type: none"> 1. Define geriatrics 2. Differentiate between geriatrics and gerontology 3. Describe the importance of demographic transition with respect to increase in Geriatric population 4. Enlist the need for geriatric services 	K	KH	Y	Lecture, SGD	Long Essay Short essay/ short answers OSPE MCQ's VIVA-VOCE			
--	---	--	---	----	---	--------------	---	--	--	--

	CM 12.2 Describe health problems of aged population	<p>At the end of 3rd year MBBS the student should be able to</p> <ol style="list-style-type: none"> 1. Classify health problems among elderly 2. Describe the problems associated with ageing process 3. Describe problems associated with longevity 4. Describe the psychological problems among elderly 5. Describe socio-cultural problems among elderly 	K	KH	Y	Lecture, SGD	<p>Long Essay Short essay/ short answers OSPE MCQ's VIVA-VOCE</p>			
	CM 12.3 Describe the prevention of health problems of aged population	<p>At the end of 3rd year MBBS the student should be able to</p> <ol style="list-style-type: none"> 1. Classify the preventive measures for health problems among elderly 2. Describe primary prevention of health problems among elderly 3. Describe secondary prevention of health problems among elderly 4. Describe tertiary prevention of health problems among elderly 	K	KH	Y	Lecture, SGD	<p>Long Essay Short essay/ short answers OSPE MCQ's VIVA-VOCE</p>			

	CM 12.4 Describe National program for elderly	At the end of 3rd year MBBS the student should be able to <ol style="list-style-type: none"> 1. Describe the need for national program of elderly 2. Enumerate the objectives of national program of elderly 3. Describe the strategies under national program of elderly 4. Discuss various social security measures for elderly in India 5. Discuss various social assistance measures for elderly in India 	K	KH	Y	Lecture, SGD	Long Essay Short essay/ short answers OSPE MCQ's VIVA-VOCE			
Topic 15 : Mental Health										
CM 15.1	Define and describe the concept of Mental Health Specific learning objectives	At the end of 3rd year MBBS the student should be able to, <ol style="list-style-type: none"> 1. Define and understand the dimension of Mental Health 2. Classification, epidemiology, burden, causes of psychiatric disorders 	K	KH	Y	Lecture	Short essay/ Short answers/ MCQs Vva-Voce			

CM 15.2	Describe warning signals of mental health disorder	At the end of 3rd year MBBS the student should be able to, <ol style="list-style-type: none"> 1. Understand the characteristics of a mentally healthy person, crucial points in lifecycle of human beings 2. Identify warning signals of poor mental health 3. Identifying the common substance abuse in our country 				Lecture SGD	Short essay/ Short answers/ MCQs Viva-Voce			
CM 15.3	Describe National Mental Health Program	At the end of 3rd year MBBS the student should be able to, <ol style="list-style-type: none"> 1. Understand the objectives and strategies of mental health program 2. Understanding the integration of mental health with primary health care 3. Discuss the preventive and promotive mental health activities at Schools, College, Workplace, etc 4. Understand the opportunities in research and training in the field of community mental health, substance abuse and child adolescent psychiatric clinics 				Lecture Group activity Visit to assess the mental health practices in PHCs	Short essay/ Short answers/ MCQs VIVA-VOCE			

Topic 16: Health planning and management										
CM16.1	Define and describe the concept of Health planning	<p>At the end of 3rd year MBBS the student should be able to,</p> <ol style="list-style-type: none"> 1. Define health planning 2. Describe the principles involved with health planning 3. Explain the various aspects of public health in terms of health planning 	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM16.2	Describe planning cycle	<ol style="list-style-type: none"> 1. Define planning cycle and list the steps involved 2. Describe the various steps in planning cycle 3. Illustrate the planning cycle in relation to health planning 	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM16.3	Describe Health management techniques	<ol style="list-style-type: none"> 1. List the various health management techniques 2. Describe the specific health management techniques 3. Discuss application of the management techniques in public health 	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			

CM16.4	Describe health planning in India and National policies related to health and health planning	<ol style="list-style-type: none"> 1. Describe the contribution of various committees of health planning in India 2. Discuss the National Policies related to health planning & management 3. Explain how these health policies are influencing health planning and Public health care provision. 4. Describe NITI Aayog 5. Describe Action Agenda of Niti Aayog 	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
--------	---	---	---	----	---	---------------------------------	---------------------	--	--	--

TOPIC 17. Health care of the community

CM 17.1	Define and describe the concept of health care to community	<p>At the end of 3rd year MBBS the student should be able to</p> <ol style="list-style-type: none"> 1. Describe concept of health care 2. Discuss need for having health care delivery system 2. Describe levels of health care 3. Describe the concept of comprehensive health care 4. Describe the concept of basic health services 	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM 17.2	Describe community diagnosis	<ol style="list-style-type: none"> 1. Define community diagnosis 2. Describe burden of various health problems in India 3. Describe the concept of epidemiological transition and its importance in health care delivery in India 	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			

CM 17.3	Describe primary health care, its components and principles	<ol style="list-style-type: none"> 1. Define primary health care as per Alma Ata declaration 2. Enlist the principles of primary health care 3. Describe principles of primary health care with suitable examples 4. Enumerate the elements of primary health care 5. Describe the functions concept of health for all 	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
CM 17.4	Describe National policies related to health and health planning and millennium development goals	<ol style="list-style-type: none"> 1. Describe the components of national health policy 2017 2. Describe the components of National policy for children 2013 3. Describe the components of national policy for older persons 4. Describe the components of National population policy 5. Describe the components of national policy for persons with disabilities 6. Describe the components of National policy for people living with HIV 7. Describe the components of Millenium Development Goals 8. List Sustainable Development Goals 9. Describe the SDGs directly or indirectly related to health 	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			

CM 17.5	Describe health care delivery in India	<ol style="list-style-type: none"> 1. Enumerate health problems in India 2. Describe the current status and actual norms of health care resources in India 3. Classify health care delivery systems in India 4. List the health care functionaries at village level and their job responsibilities 5. Describe the population norm staffing pattern and services provided at sub centre level as per IPHS standards 6. Describe the population norm staffing pattern and services provided at primary health centre level as per IPHS standards 7. Describe the population norm staffing pattern and services provided at Community health centre level as per IPHS standards 8. Enumerate job responsibilities of PHC Medical officer 9. Enumerate job responsibilities of ASHA worker 	K	KH	Y	Lecture, Small group discussion	Written / Viva voce			
---------	--	--	---	----	---	---------------------------------	---------------------	--	--	--

		<p>10. Enumerate job responsibilities of Health worker male</p> <p>11. Enumerate job responsibilities of Health worker female</p> <p>12. Enumerate job responsibilities of Health worker male</p> <p>13. Enumerate job responsibilities of Health assistant male</p> <p>14. Enumerate job responsibilities of Health assistant female</p> <p>15. Describe concept of health insurance</p> <p>16. Enumerate various health insurance agencies and their role in health care in India</p> <p>17. Enlist various voluntary health agencies in India</p> <p>18. Describe the functions of voluntary health agencies in India</p>								
--	--	--	--	--	--	--	--	--	--	--

Topic 18: International Health										
CM 18.1	Define and describe the concept of International Health	At the end of 3rd year MBBS the student should be able to, <ol style="list-style-type: none"> 1. Define and understand the dimension of International Health 2. Understand related terms like Global Health 3. Contents of International Health 4. Understand the International Health Regulations and PHEIC 5. Prepare a health advice for five countries from different continents 				Lecture Group activity	Short essay/ Short answers/ MCQs Spot- ters Viva- Voce			
CM 18.2	Describe roles of various international health agencies	At the end of 3rd year MBBS the student should be able to, <ol style="list-style-type: none"> 1. List and understand the various Organizations involved in International health 2. Understand the goals and objectives of these organizations and its relation to SDG 3. Enlist the various programs in India where these International Organizations are involved as partners 4. Importance of World Health Days and the themes 				Lecture Simulation of UN assembly Field visit to local WHO/ Unicef/ UNDP etc office or a guest lecture from these officials	Short essay/ Short answers/ MCQs Spot- ters Viva- Voce			

Topic 20: Recent advances										
CM 20.1:	List important public health events of last five years	<p>At the end of the session 3rd year MBBS students should be able to:</p> <ol style="list-style-type: none"> 1. Describe Universal Health Coverage 2. Describe HIV- Transition from devastating epidemic to manageable chronic disease 3. Describe the Genetic modification of mosquitoes vaccination in prevention of Vector borne diseases 4. Describe the role of tele-medicine in health care 5. Describe the role of m-health in healthcare delivery 6. Describe Implementation Science as newer dimension of research 	K	KH	Y	Lecture, SGD	MCQ, Short answer, Short essay	NA		
CM 20.2	Describe various issues during outbreaks and their prevention	<p>At the end of the session 3rd year MBBS students should be able to:</p> <ol style="list-style-type: none"> 1. Describe the magnitude, clinical characteristics, preventive measures employed in COVID-19 Pandemic 2. Describe Bihar encephalitis outbreak 3. Describe the Nipah outbreak Kerala and the methods used to contain it. 4. Describe the outbreak of SARS and Ebola and methods used to contain it 	K	KH	Y	Lecture, SGD	MCQ, Short answer, Short essay	NA		

		<p>5. Describe the role of International Health Regulations in prevention of outbreak</p> <p>6. Describe the role of vaccines in the prevention of outbreak</p> <p>7. Describe the role of public health in prevention of outbreak</p> <p>8. Describe the role of epidemiology and research in prevention of outbreak and spread of the diseases.</p> <p>9. Define and describe Geographic Information System and Remote sensing</p>								
CM 20.3:	Describe any event important to Health of the Community	<p>At the end of the session 3rd year MBBS students should be able to:</p> <p>1. Describe the public health interventions which led to the eradication of polio</p> <p>2. Describe the role of MR vaccine in elimination of Measles and Rubella</p> <p>3. Describe the transition of health over a period of time</p> <p>4. Describe Mission Indradhanush</p> <p>5. Enumerate at least five Nobel prize winners who have made impact on Healthcare</p>	K	KH	Y	Lecture, SGD	MCQ, Short answer, Short essay	NA		

CM20.4:	Demonstrate awareness about laws pertaining to practice of medicine such as Clinical establishment Act and Human Organ Transplantation Act and its implications	At the end of the session 3rd year MBBS students should be able to: <ol style="list-style-type: none"> 1. Describe Clinical establishment Act 2. Describe Human Organ Transplantation Act 3. Describe Pre-conception and Pre-natal diagnostic techniques Act 1994 4. Birth and Death and marriage registration Act 1886 5. Mental Health Act 6. Biomedical medical waste management Act 7. Medical Termination of Pregnancy Act 	K	KH	Y	Lecture, SGD	MCQ, Short answer, Short essay	NA		
----------------	---	--	---	----	---	--------------	--------------------------------	----	--	--

PRACTICAL

1. Calculation and interpretation of various parameters measuring validity of a screening test
2. Calculation and interpretation of various indicators of morbidity and mortality
3. Calculation and interpretation of rates, ratios and proportions relevant to epidemiology and public health
4. Calculation and interpretation of various measures of central tendency and dispersion in a given set of data
5. Calculation and interpretation of elementary tests of significance in biostatistics
6. Presentation of data as tables and graphs
7. Describing steps in investigation of an outbreak/epidemic
8. Problem solving exercises for various communicable diseases using Problem based learning techniques
9. Problem solving exercises for various non communicable diseases using Problem based learning techniques
10. Preparing balanced diet chart for various persons with different health conditions
11. Identification and description of nutritional significance of various food items
12. Calculation of chlorine requirement for disinfection of water bodies
13. Identification of life stages of various vectors responsible for transmission of vector borne diseases
14. Identification and listing the uses of various insecticides and pesticides
15. Presentation of Pecha-Kucha Seminars

Clinical Postings (06 weeks)

Clinical Postings in Community Medicine in Third Professional Year

Goals

Goal of Community Medicine Posting in Third Professional Year is to orient the medico social diagnosis of the patients with common communicable, non communicable diseases, mother and child health problems and nutritional disorders (CM 5.2, CM 5.3, CM 5.4, CM 8.1, CM, 8.2, CM 8.3 CM.10.4)

Objectives

1. Collect relevant history, perform clinical examination, analyze lab investigations and arrive at a medico social diagnosis of a child with Acute respiratory infection and suggest recommendations at individual, family and community for a given case
2. Collect relevant history, perform clinical examination, analyze lab investigations and arrive at a medico social diagnosis of a child/patient with Acute gastro enteritis and suggest recommendations at individual, family and community for a given case
3. Collect relevant history, perform clinical examination, analyze lab investigations and arrive at a medico social diagnosis of patient with tuberculosis and suggest recommendations at individual, family and community for a given case
4. Collect relevant history, perform clinical examination, analyze lab investigations and arrive at a medico social diagnosis of patient with Dengue and suggest recommendations at individual, family and community for a given case
5. Collect relevant history, perform clinical examination, analyze lab investigations and arrive at a medico social diagnosis of patient with Viral hepatitis and suggest recommendations at individual, family and community for a given case
6. Collect relevant history, perform clinical examination, analyze lab investigations and arrive at a medico social diagnosis of patient with enteric fever and suggest recommendations at individual, family and community for a given cas
7. Collect relevant history, perform clinical examination and, analyze lab investigations arrive at a medico social diagnosis of patient with Hypertension and suggest recommendations at individual, family and community for a given case
8. Collect relevant history, perform clinical examination and, analyze lab investigations arrive at a medico social diagnosis of patient with Type 2 Diabetes and suggest recommendations at individual, family and community for a given case
9. Collect relevant history, perform clinical examination and, analyze lab investigations arrive at a medico social diagnosis of patient with gestational diabetes and suggest recommendations at individual, family and community for a given case
10. Collect relevant history, perform physical examination and, analyze lab investigations arrive at a medico social diagnosis of

- patient with stroke and suggest recommendations at individual, family and community for a given case
11. Collect relevant history, perform clinical examination and, analyze lab investigations arrive at a medico social diagnosis of child with PEM and suggest recommendations at individual, family and community for a given case
 12. Collect relevant history, perform clinical examination and, analyze lab investigations arrive at a medico social diagnosis of patient with anemia and suggest recommendations at individual, family and community for a given case
 13. Collect relevant history, perform clinical examination and, analyze lab investigations arrive at a medico social diagnosis of child with PEM and suggest recommendations at individual, family and community for a given case
 14. Collect relevant history, perform clinical examination and, analyze lab investigations arrive at a medico social diagnosis of antenatal women and suggest recommendations at individual, family and community for a given case
 15. Collect relevant history, perform clinical examination and, analyze lab investigations arrive at a medico social diagnosis of postnatal women and suggest recommendations at individual, family and community for a given case

Total duration of Postings in Community Medicine: 6 Weeks (3 Hours per day from Monday to Saturday) – approximately = 90

Tentative Distribution of Posting Hours

Sl No	Item	Hours
1	Orientation to Community Medicine Postings	03
2	Arriving at medico social diagnosis	03
3	Antenatal case presentation	06
4	Postnatal case presentation	06
5	Anaemia case presentation	06
6	GE case presentation	06
7	ARI case presentation	06
8	TB case presentation	06
9	Dengue case presentation	06
10	Viral hepatitis case presentation	06

11	Enteric fever case presentation	06
12	Hypertension case presentation	06
13	Diabetes case presentation	06
14	PEM case presentation	06
15	Gestational diabetes case presentation	06
16	Revision	06
17	End posting assessment	06

Teaching Learning Methods

Bed side case presentation

Case scenario discussion

Demonstration

Assessment

Participation in group discussions

End posting assessment examination

Log Book

ASSESSMENT

Two internal assessment examinations will be conducted in third year MBBS

Third Internal Assessment Examination

Theory

MCQ: 10 Marks

Written exam: 40 Marks

01 Long essay: 10 Marks

03 Short essay: 5 Marks each: 15

05 Short answers: 3 Marks each: 15

Practical examination

Spotters: 10 Marks

Epidemiological/ Biostatistical exercises: 35 Marks

End of the Posting Examination

Medico Social Case Presentation at the end of 6 weeks clinical posting in Community Medicine: One case per student: 10 Marks

Fourth Internal Assessment Examination (Mock University Examination)

Theory: 200 marks

Paper-1: 100 Marks

Paper-2: 100 Marks

Split up of marks in each paper

Part A: MCQ: 20 Marks,

Part B: Written: 80 Marks

03 Long essay: 20 Marks

06 Short essay: 5 Marks each: 30

10 Short answers: 3 Marks each: 30

Paper wise split up of topics and Blueprint

Paper- 1

Sl No	Name of the topic	Overall weightage
1	Concept of Health and Disease	10
2	Environmental Health Problems	15
3	Relationship of social and behavioural to health and disease	5
4	Principles of health promotion and education	10
5	Nutrition	15
6	Epidemiology and Screening	15
7	Basic statistics and its applications	05
8	Demography and vital statistics	10
9	Occupational Health	10
10	Mental Health	05

Paper- 2

Sl No	Name of the topic	Overall weightage
1	Epidemiology of Communicable and Non communicable diseases	20
2	National Health Programmes	15
3	Reproductive maternal and child health	17
4	Disaster Management	05
5	Hospital Waste Management	05
6	Health Care Delivery System	15
7	Health Planning and Management	10
8	International Health Organisation	05
9	Essential and counterfeit medicines	03
9	Recent advances in Community Medicine	05

Practical Examination

Spotters: 10 (One mark each)	: 10 Marks
Epidemiological/ Biostatistical exercises (One problem set with four questions)	: 35 Marks
Medico social case presentation (One case per student)	: 35 marks
Viva voce	: 40 Marks

LEARNING RESOURCES – REFERENCE BOOKS

1. K. Park. Textbook of Preventive & Social Medicine. M/s Banarsidas Bhanot Publishers, Premnagar, Jabalpur - 482 001.
2. Sunderlal, Adarsh and Pankaj. Textbook of Community Medicine. CBS Publishers and Distributors, Daryaganj, New Delhi -110 002.
3. Roy Rabindranath, SahaIndranil. Mahajan & Gupta's Textbook of Preventive and Social Medicine. Jaypee Brothers Medical Publishers (P) Ltd., Daryaganj, New Delhi
4. AH Suryakantha. Community Medicine with Recent Advances. Jaypee Brothers Medical Publishers (P) Ltd., Daryaganj, New Delhi
5. IAPSM Text Book of Community Medicine. Jaypee Brothers Medical Publishers (P) Ltd., New Delhi
6. DK Mahabalaraju. Essentials of Community Medicine Practicals. Jaypee Brothers Medical Publishers (P) Ltd., Daryaganj, New Delhi - 110 002.
7. Gopalan et al., Nutritive Value of Indian Food Stuffs - NIN/ICMR, Hyderabad.

Otorhinolaryngology

(ENT)

I. GOAL:

The broad goal of the teaching of undergraduate students in Otorhinolaryngology is to acquire adequate knowledge and skills for optimally dealing with common Ear, Nose & Throat disorders, emergencies in otorhinolaryngology, principles of rehabilitation of the impaired speech and hearing and to teach clinical skills in otorhinolaryngology. The aim is to teach masterly dexterity in the examination of ear, nose, pharynx & larynx.

II. OBJECTIVES:

a. Knowledge

At the end of the course, the student will be able to understand,

1. Anatomy and Physiology of Ear, Nose and Throat
2. Diseases of ear, nose and throat including emergencies
3. Operative procedures in ENT
4. Elicit, document & present appropriate history of patient presenting with ENT complaints
5. Diagnose and manage the common ENT diseases and emergencies.
6. Demonstrate the correct use of head mirror, ENT OPD instruments in the examination of ear, nose & throat
7. Identify & describe the use of commonly used instruments in ENT surgeries.
8. Suggest common investigations and interpret their results.
9. Should be in a position to identify the cases which require specialist care.
10. To identify deaf individuals at the earliest and refer them for proper rehabilitation.
11. To recognize pre - malignant & malignant lesions of head & neck region at an early stage.

b. Skills:

At the end of the clinical posting, the student should be able to:-

Analyze & interpret clinical history in common ENT disorders

Make use of ENT OPD instruments to perform a detailed ear, nose, throat examination

Demonstrate the skills of diagnosing & suggesting management for common ENT disorders.

Integration:

The teaching will 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. There will be an integrated approach to various other departments like anatomy, physiology, community medicine, dentistry, general medicine and paediatrics

III. COURSE OUTCOMES

At the end of the course, students should be able to understand,

1. Anatomy and physiology of ear, nose and throat
2. Etiopathogenesis, clinical features and management of ENT diseases.
3. Perform clinical examination with proper instruments, interpret common investigations & come out with a provisional diagnosis.

IV. SYLLABUS:

Number of Teaching Hours Recommended: :

Teaching method	Hours	Clinical Postings: 4 Weeks
Teaching Hours	25	3 Hours /Day from Monday to Saturday
Tutorials/ seminars integrated teaching/	40	
Self directed Learning (hours)	5	
Total	70	

Distribution of teaching hours for Theory and Practical/ small group discussion

SI No	Topic	Teaching hours /lecture	Tutorials/ seminars /integrated teaching	Self- directed Learning (hours)
1	Anatomy & physiology of ear, nose & throat	3	5	
2	Assessment of hearing audiology &rehabilitation of hearing impaired	2	3	1
3	Disease of external ear, middle ear, Inner ear	5	10	
4	Diseases of nose& paranasal sinuses	5	7	
5	Disease of oral cavity, pharynx & larynx	5	7	
6	Emergencies in ENT	3	3	2
7	Operative instruments & procedures	2	5	2
	Total as per CBME requirement	25	40	5

THEORY

EAR

- Anatomy and physiology of ear
- Assessment of hearing & audiology
- Assessment of vestibular function and disorders of vestibular system
- Disorders of external ear including Perichondritis ,Malignant Otitis Externa
- Disorders of Middle Ear- Acute Suppurative Otitis Media, secretory otitis media, Otosclerosis
- Chronic otitis media and Cholesteatoma
- Facial nerve and its disorders – etiology, pathogenesis & management
- Ménière’s disease
- Tumours of external ear, middle ear, inner ear including acoustic neuroma

- The deaf child and rehabilitation of the hearing impaired
- Tinnitus-causes and management, Otagia –causes and management

NOSE

- Anatomy & physiology of nose & paranasal sinus
- Diseases of external nose and nasal vestibule including tumours
- Nasal septum and its diseases fracture of nasal septum & deviated nasal septum Septal Hematoma, Septal abscess
- Rhinitis : acute, chronic, allergic, vasomotor, non-allergic
- Granulomatous disorders of nose including Rhinoscleroma, Rhinosporidiosis
- Nasal polyps
- Maxillofacial trauma including fractures
- Rhino sinusitis-acute, chronic and complications
- Neoplasms of nose & paranasal sinuses
- Miscellaneous disorders of nasal cavity- foreign bodies, rhinolith, nasal myiasis, choanal atresia, CSF rhinorrhoea

THROAT

- Anatomy of oral cavity
- Common disorders & tumours of oral cavity
- Non-neoplastic disorders & neoplasms of salivary glands
- Anatomy & physiology of pharynx
- Nasopharynx – adenoids & tumours
- Acute & chronic pharyngitis
- Acute & chronic tonsillitis
- Head & neck space infections – anatomy & deep neck space infections
- Tumours of Oropharynx, Hypopharynx & Pharyngeal Pouch
- Disorders of salivary glands
- Anatomy and physiology of larynx

- Acute and chronic inflammations of larynx
- Congenital lesions of larynx - laryngeal web, laryngomalacia
- Laryngotracheal trauma – etiopathogenesis & management
- Benign & malignant tumours of larynx- etiopathogenesis & management
- Neurological disorders of larynx – vocal cord paralysis
- Anatomy & physiology of esophagus
- Disorders and malignancy of esophagus
- Dysphagia causes & management

EMERGENCIES IN ENT

Foreign bodies in ear, nose & throat

Epistaxis

Stridor and airway emergencies, tracheostomy

Kerosene ingestion

ATTITUDE, ETHICS AND COMMUNICATION (AETCOM) TOPICS

Informed consent

- Informed consent

Counseling

- Oral cancer
- Tobacco use
- Tobacco control legislation
- Harmful use of alcohol
- Counseling

OPERATIVE PROCEDURES AND INSTRUMENTS

Ear

- Myringotomy and Tympanostomy tubes (grommet)
- Mastoidectomy, Cortical Mastoidectomy, Radical Mastoidectomy, Modified Radical Mastoidectomy
- Tympanoplasty

Nose

- Endoscopic sinus surgery
- Antral puncture & Caldwell-Luc operation
- Submucous resection of nasal septum
- Septoplasty

Throat

- Tracheostomy
- Adenotonsillectomy

Number	Competency The student should be able to:	Domain k/s/ a/c	Level k/ kh/ sh/p	Core (y/n)	Suggested teaching learning method	Suggested assessment method	Number required to certify p	Vertical integration	Horizontal integration
Otorhinolaryngology (ENT)									
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	K	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment		Human anatomy	
En1.2	Describe the pathophysiology of common diseases in ent	K	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment		Pathology	
Topic: clinical skills		Number of competencies: (15)			Number of procedures that require certification : (nil)				
En2.1	Elicit document and present an appropriate history in a patient presenting with an ent complaint	K/s/ a/c	Sh	Y	Lecture, small group discussion, demonstration	Skill assessment			
En2.2	Demonstrate the correct use of a headlamp in the examination of the ear, nose and throat	S	Sh	Y	Doap session	Skill assessment/ osce			

En2.3	Demonstrate the correct technique of examination of the ear including otoscopy	K/s/a	Sh	Y	Doap session, bedside clinic	Skill assessment/ osce clinic			
En2.4	Demonstrate the correct technique of performance and interpret tuning fork tests	K/s/a	Sh	Y	Doap session, bedside clinic	Skill assessment/ osce clinic			
En2.5	Demonstrate the correct technique of examination of the nose & paranasal sinuses including the use of nasal speculum	S	Sh	Y	Doap session, bedside clinic	Skill assessment/ osce clinic			
En2.6	Demonstrate the correct technique of examining the throat including the use of a tongue depressor	S	Sh	Y	Doap session, bedside clinic	Skill assessment/ osce clinic			
En2.7	Demonstrate the correct technique of examination of neck including elicitation of laryngeal crepitus	S	Sh	Y	Doap session, bedside clinic	Skill assessment			

Number	Competency The student should be able to:	Domain k/s/ a/c	Level k/ kh/ sh/p	Core (y/n)	Suggested teaching learning method	Suggested assessment method	Number required to certify p	Vertical integration	Horizontal integration
En2.8	Demonstrate the correct technique to perform and interpret pure tone audiogram & impedance audiogram	K/s	Sh	Y	Doap session, bedside clinic	Skill assessment			
En2.9	Choose correctly and interpret radiological, microbiological & histological investigations relevant to the ent disorders	K/s	Sh	Y	Lecture, small group discussion, doap session	Written/ viva voce/ skill assessment			

En2.10	Identify and describe the use of common instruments used in ent surgery	K	Sh	Y	Doap session, bedside clinic	Skill assessment			
En2.11	Describe and identify by clinical examination malignant & pre-malignant ent diseases	K/s	Sh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
En2.12	Counsel and administer informed consent to patients and their families in a simulated environment	S/a/c	Sh	Y	Doap session, bedside clinic	Skill assessment			
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)	K/s/a	Sh	Y	Doap session, bedside clinic	Skill assessment			
En2.14	Demonstrate the correct technique to instilling topical medications into the ear, nose and throat in a simulated environment	K/s	Sh	Y	Doap session, bedside clinic	Skill assessment/ osce			
En2.15	Describe the national programs for prevention of deafness, cancer, noise & environmental pollution	K	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce			

Topic: diagnostic and therapeutic procedures in ent		Number of competencies:(06)			Number of procedures that require certification: (nil)				
En3.1	Observe and describe the indications for and steps involved in the performance of otomicroscopic examination in a simulated environment	S	Kh	N	Lecture, small group discussion, demonstration	Written/ viva voce			

Number	Competency The student should be able to:	Domain k/s/ a/c	Level k/ kh/ sh/p	Core (y/n)	Suggested teaching learning method	Suggested assessment method	Number required to certify p	Vertical integration	Horizontal integration
En3.2	Observe and describe the indications for and steps involved in the performance of diagnostic nasal endoscopy	S	Kh	N	Lecture, small group discussion, demonstration	Written/ viva voce			
En3.3	Observe and describe the indications for and steps involved in the performance of rigid/flexible laryngoscopy	K	Kh	N	Lecture, small group discussion, demonstration	Written/ viva voce			
En3.4	Observe and describe the indications for and steps involved in the removal of foreign bodies from ear, nose & throat	K	Kh	N	Lecture, small group discussion, demonstration	Written/ viva voce			

En3.5	Observe and describe the indications for and steps involved in the surgical procedures in ear, nose & throat	K	Kh	N	Lecture, small group discussion, demonstration	Written/ viva voce			
En3.6	Observe and describe the indications for and steps involved in the skills of emergency procedures in ear, nose & throat	K	Kh	N	Lecture, small group discussion, demonstration	Written/ viva voce			
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	K/s	Sh	Y	Lecture, small group discussion, Doap session, bedside clinic	Written/ viva voce/ skill assessment			
En4.2	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of diseases of the external ear	K/s	Sh	Y	Lecture, small group discussion, Doap session, bedside clinic	Written/ viva voce/ skill assessment			
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	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assessment			

Number	Competency The student should be able to:	Domain k/s/ a/c	Level k/ kh/ sh/ p	Core (y/n)	Suggested teaching learning method	Suggested assessment method	Number re- quired to certi- fy p	Ver- tical inte- gration	Hori- zontal integra- tion
En4.4	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	K/s/a	Sh	Y	Clinical, demonstra- tion	Written/ viva voce/ skill assess- ment			

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	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assess- ment			
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	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assess- ment			
En4.7	Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of csom	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assess- ment			

En4.8	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	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assessment			
En4.9	Demonstrate the correct technique for syringing wax from the ear in a simulated environment	S	Sh	Y	Doap session	Skill assessment			
En4.10	Observe and describe the indications for and steps involved in myringotomy and myringoplasty	S	Kh	Y	Doap session	Written/ viva voce			
En4.11	Enumerate the Indications Describe The Steps And Observe A mastoidectomy	K/s	Kh	Y	Doap session	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	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assessment			

Number	Competency The student should be able to:	Domain k/s/ a/c	Level k/ kh/ sh/ p	Core (y/n)	Suggested teaching learning method	Suggested as- sessment method	Number re- quired to certi- fy p	Verti- cal in- tegra- tion	Hori- zontal inte- gra- tion
En4.13	Describe the clinical features, management Investigations And Principles of otosclerosis	k	Kh	Y	Lecture, small group discussion; demonstration	Written/ viva voce/ skill assessment			

En4.14	Describe the clinical features, investigations and management of Principles sudden sensorineural hearing loss	k	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
En4.15	Describe the clinical features, investigations management and Principles of noise induced hearing loss	k	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
En4.16	Observe and describe the indications for and steps involved in the performance of pure tone audiometry	S	Kh	Y	Doap session	Written/ viva			
En4.17	Enumerate the indications and interpret the results of an audiogram	S	Sh	Y	Doap session	Skill assessment			
En4.18	Describe the clinical features, management Investigations And Principles of facial nerve palsy	K	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
En4.19	Describe the clinical features, investigations management And Principles of vertigo	K	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
En4.20	Describe the clinical features, management Investigations And Principles of meniere's disease	K	Kh	N	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			

En4.21	Describe the clinical features, management Investigations And Principles of tinnitus	K	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
En4.22	Elicit document and present a correct history demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of squamosal type of nasal obstruction	K/s	Sh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
Number	Competency The student should be able to:	Domain k/s/ a/c	Level k/ kh/ sh/p	Core (y/n)	Suggested teaching learning method	Suggested assessment method	Number re- quired to certi- fy p	Verti- cal in- tegra- tion	Hori- zontal inte- gra- tion
En4.23	Describe the clinical features, investigations and principles of management of dns	K	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
En4.24	Enumerate the indications observe and describe the septoplasty	S	Kh	Y	Doap session	Written/ viva voce			
En4.25	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	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assessment			
En4.26	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of adenoids	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assessment			

En4.27	Elicit 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	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assessment			
En4.28	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of vasomotor rhinitis	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assessment			
En4.29	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 acute & chronic rhinitis	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assessment			
En4.30	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	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assessment			

Number	Competency The student should be able to:	Do- main k/s/ a/c	Level k/ kh/ sh/ p	Core (y/n)	Suggested teaching learning method	Suggest- ed as- sessment method	Number re- quired to certi- fy p	Verti- cal in- tegra- tion	Hori- zontal inte- gra- tion
En4.31	Describe the clinical features, investigations and principles of management of trauma to the face & neck	K/s	Kh	N	Lecture, small group discussion, demonstration	Written/ viva voce			
En4.32	Describe the clinical features, investigations and principles of management of nasopharyngeal angiofibroma	K	Kh	Y	Lecture, small group discussion, demonstration	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	K/s	Sh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
En4.34	Describe the clinical features, investigations and principles of management of tumors of maxilla	K	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce			
En4.35	Describe the clinical features, investigations and principles of management of tumors of nasopharynx	K	Kh	N	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
En4.36	Describe the clinical features, investigations and principles of management of diseases of the salivary glands	K	Kh	N	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			

En4.37	Describe the clinical features, investigations and principles of management of Ludwig's angina	k	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
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	K/s	Sh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
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	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assessment			

Number	Competency The student should be able to:	Domain k/s/ a/c	Level k/ kh/ sh/p	Core (y/n)	Suggested teaching learning method	Suggested assessment method	Number required to certify p	Vertical integration	Horizontal integration
En4.40	Observe and describe the indications for and steps involved in a tonsillectomy / adenoidectomy	S	Kh	Y	Doap session	Written/ viva voce			
En4.41	Describe the clinical features, investigations and principles of management of acute & chronic abscesses in relation to the pharynx	K/s	Kh	Y	Lecture, small group discussion demonstration	Written/ 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	K/s	Sh	Y	Lecture, small group discussion, doap session, bedside clinic	Written/ viva voce/ skill assessment			
En4.43	Describe the clinical features, investigations and principles of management of acute & chronic laryngitis	k	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce			
En4.44	Describe the clinical features, investigations and principles of management of benign lesions of the vocal cord	k	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce			
En4.45	Describe the clinical features, investigations and principles of management of vocal cord palsy	K	Kh	N	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
En4.46	Describe the clinical features, investigations and principles of management of malignancy of the larynx & hypopharynx	k	Kh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
En4.47	Describe the clinical features, investigations and principles of management of stridor	k	Kh	Y	Lecture, small group discussion demonstration	Written/ viva voce/ skill assessment			

En4.48	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	S	Sh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
--------	--	---	----	---	--	--------------------------------------	--	--	--

Number	Competency The student should be able to:	Domain k/s/ a/c	Level k/ kh/ sh/p	Core (y/n)	Suggested teaching learning method	Suggested as- sessment method	Number required to certifi- fy p	Verti- cal in- tegra- tion	Hori- zon- tal in- tegra- tion
En4.49	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	S	Sh	Y	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			
En4.50	Observe and describe the indications for and steps involved in tracheostomy	S	Kh	Y	Doap session	Written/ viva voce			
En4.51	Observe and describe the care of the patient with a tracheostomy	S	Kh	Y	Doap session	Written/ viva voce			
En4.52	Describe the clinical features, investigations and principles of management of diseases of oesophagus	K	Ent	N	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment			

En4.53	Describe the clinical features, investigations and principles of management of hiv manifestations of theent	K	Kh	N	Lecture, small group discussion, demonstration	Written/ viva voce/ skill assessment		General medicine	
<p>Column c: k- knowledge, s – skill, a - attitude / professionalism, c- communication. Column d: k – knows, kh - knows how, sh - shows how, p- performs independently, column f: doap session – demonstrate, observe, assess, perform.</p> <p>Column h: if entry is p: indicate how many procedures must be done independently for certification/ Graduation</p>									

Recommended text books (Recent Editions)

Diseases of ear, nose & throat & head & neck surgery by P L Dhingra.

Diseases of ear, nose & throat by Mohan Bansal.

Practical ENT book by Vikas Sinha.

Reference textbooks (Recent Edition)

Scott Brown's Otorhinolaryngology Head & Neck surgery.

Competencies and specific learning objectives (SLOs) in Otorhinolaryngology

Topic: Anatomy and Physiology of ear, nose, throat, head and neck

EN1.1

1. Describe the Anatomy & Physiology of ear, nose, throat, head& neck (K, KH)
2. Ear
3. Describe and draw the parts of external ear with the blood supply and nerve supply
4. Describe the development of the pinna and its applied anatomy.
5. Draw a labelled diagram showing the nerve supply of the external ear and the sites of referred pain.
6. Draw a neat labelled diagram of the tympanic membranes of both sides.
7. Draw a neat labelled diagram of the middle ear cavity showing the medial wall and important anterior and posterior communications
8. Identify the parts of the temporal bone in a specimen of the temporal bone.
9. Enumerate all the mastoid air cells and identify the surface landmarks in a bone.
10. Draw a neat labelled diagram of the cochlea cross sectional anatomy
11. Draw the intra temporal course of the Facial nerve
12. Describe the pathway of sound conduction from external ear to auditory cortex
13. Describe middle ear transformer action in detail
14. Describe the role of cochlea in hearing
15. Draw a neat labelled diagram of the bony and membranous labyrinth of the ear
16. Describe the physiology of maintenance of balance
17. Draw a flow chart of the vestibule-ocular reflex
18. Describe structure and functions of the Eustachian tube

Nose

1. Identify the parts of the external nose in a patient or picture of a cadaver
2. Draw a labelled diagram of the lateral wall of the nose identifying the turbinates and meati and structures opening into them.

3. Draw a neat labelled diagram of the ostiomeatal complex
4. Describe the inner and outer nasal valve anatomy and its applied anatomy
5. In a skull bone should be able to identify the sphenopalatine foramen and know its applied anatomy
6. Draw a neat labeled diagram of the septum and mark the Littles area naming all the vessels supplying the area
7. In an Xray PNS identify the septum and the major sinuses
8. In a CT PNS should be able to identify the various sinuses and the ostiomeatal complex anatomy and its variant drainage and anatomical obstruction
9. Enumerate the functions of the nose and sinuses
10. Draw a labeled diagram of the olfactory pathway

Throat and Head & Neck

1. Draw a picture of the branchial arches and their derivatives
2. List the layers of the pharyngeal wall from inside out
3. Describe the parts of the pharynx and their anatomical and endoscopic divisions
4. Draw a labelled diagram of the Waldeyer's ring
5. List the differences between the palatine tonsil and a lymph node
6. Draw a neat labelled diagram of the external framework of the larynx
7. Describe the nerve supply of the larynx listing the sensory and motor supply
8. Draw a neat labelled diagram of the blood supply of the tonsil
9. Draw a neat labelled diagram of the tonsillar bed
10. In a given diagram label the various triangles of the neck and give one pathology which can affect each triangle
11. In an X-ray Soft tissue neck lateral view, correctly mark the following structures: 1.epiglottis 2.base of tongue 3.vallecula 4.hyoid bone 5.retropharyngeal space
12. In an X-ray soft tissue nasopharynx lateral view, mark the adenoids and tonsils and interpret the degree of airway obstruction
13. Name the muscles of deglutition
14. List the functions of the larynx
15. Describe briefly, the physiology of phonation

16. Enumerate the steps of deglutition

EN1.2

Describe the pathophysiology of common diseases in ENT (K, KH)

1. List the common diseases in ENT
2. Draw a chart showing the pathogenesis of the common diseases in ENT

Topic: Clinical skills

EN2.1

Elicit document and present an appropriate history in a patient presenting with an ENT complaint (K/S/A/C, SH)

1. List the common complaints reported in ear disease
2. List the common complaints reported in nasal disease
3. List the common complaints reported in diseases of larynx and pharynx
4. List the points in history taking in patients with ENT symptoms
5. Demonstrate history taking for ENT diseases in a fellow student / simulated patient
6. Demonstrate history taking in a given patient with ENT symptoms
7. Document at least five case histories each of patients with ear, nose and throat symptoms

EN2.2

Demonstrate the correct use of a headlamp in the examination of the ear, nose and throat (S, SH)

1. Describe the type, focal length and diameter of the mirror used for the ENT examination
2. Demonstrate on a fellow student the correct use of the head lamp
3. Demonstrate on a patient the correct use of the head lamp
4. List the other modes of illumination for examination used in the ENT OPD

EN2.3

Demonstrate the correct technique of examination of the ear including otoscopy (K/S/A, SH)

1. Describe the parts of an otoscope and its magnification
2. Demonstrate the correct way of holding the instrument
3. List the steps of ear examination, including otoscopy
4. Demonstrate on a mannequin the correct technique of otoscopy
5. Demonstrate on at least three fellow students the correct technique of otoscopy
6. Demonstrate on a patient examination of the ear including otoscopy

EN2.4

Demonstrate the correct technique of performance and interpret tuning fork tests (K/S/A, SH)

1. List the parts of a tuning fork
2. Explain the choice of tuning forks used in ENT OPD
3. Describe the technique of setting the tuning fork in vibration
4. List all the tuning fork tests (TFTs) that may be used to test hearing
5. Describe the Rinne's, Weber's and absolute bone conduction (ABC) tests
6. Demonstrate the above TFTs in at least three fellow students
7. In a set of five simulated patients, perform and correctly interpret the above TFTs with 80% accuracy
8. Perform and correctly interpret the above TFTs in at least three patients

EN2.5

Demonstrate the correct technique of examination of the nose and paranasal sinuses including the use of nasal speculum (S, SH)

1. List the steps of examination of the nose and paranasal sinuses (PNS)
2. Demonstrate the proper way of holding the Thudichum speculum

3. Demonstrate examination of nose and PNS, including the use of nasal speculum, in at least three fellow students
4. Demonstrate examination of nose and PNS, including the use of nasal speculum, in at least three patients

EN2.6

Demonstrate the correct technique of examining the throat including the use of a tongue depressor (S, SH)

1. List the steps of examination of the throat including oral cavity, pharynx and larynx
2. Demonstrate the proper way of holding the tongue depressor (TD)
3. Demonstrate examination of oral cavity and oropharynx, including the use of TD, in at least three fellow students
4. Demonstrate examination of oral cavity and oropharynx, including the use of TD, in at least two children and two adults

EN2.7

Demonstrate the correct technique of examination of the neck including elicitation of laryngeal crepitus (S, SH)

1. List the steps of examination of the neck, including elicitation of laryngeal crepitus
2. Demonstrate the steps of examination of the neck including elicitation of laryngeal crepitus in a mannequin
3. Demonstrate examination of the neck, including elicitation of laryngeal crepitus, in at least three fellow students
4. Demonstrate palpation of the jugulodigastric lymph nodes in at least three children
5. Demonstrate examination of the neck, including elicitation of laryngeal crepitus, in at least three adult patients

EN2.8

Demonstrate the correct technique to perform and interpret pure tone audiogram (PTA) and impedance audiogram (Tymp.) (K/S, SH)

1. List the major parts of the pure tone and impedance audiometers
2. Describe the mechanism of functioning of these two instruments
3. Describe the steps of PTA
4. Describe the technique of masking in PTA

5. Describe the technique of Tymp.
6. Demonstrate PTA and Tymp. on three fellow students
7. Observing an ongoing audiometry, each student to interpret relevant finding within 5 minutes of completion of the test

EN2.9

Choose correctly and interpret radiological, microbiological and histological investigations relevant to ENT disorders (K/S, SH)

1. List five most common XRays used in ENT
2. List three common CT scans, with indications, used in ENT
3. List two common MRIs, with indications, used in ENT
4. List the indications of nuclear imaging in ENT
5. From a given set of imaging films, each student should be able to describe the salient features
6. From a given set of imaging films, each student should be able to state the correct diagnosis in not more than two attempts
7. List five common indications for taking swab for culture sensitivity in ENT
8. List ten common microorganisms responsible for ENT infections
9. Describe the microbiological culture characteristics of five common bacteria implicated in ENT infections
10. Draw relevant diagrams of the above
11. List five common indications for taking tissue biopsy in ENT
12. Describe the histological characteristics of five common ENT conditions
13. Draw relevant diagrams of the above

EN2.10

Identify and describe the use of common instruments used in ENT surgery (K, SH)

1. List ten common ENT surgeries
2. Enumerate the instruments used in the respective surgeries
3. From a given instrument tray, each student to be able to identify a specific instrument in not more than two attempts
4. For a given surgery, each student to be able to identify at least 80% of the set of instruments needed for that surgery

5. For a given instrument, each student to be able to correctly name and list the use/s of the same
6. Demonstrate the correct way of handling a given instrument

EN2.11

Describe and identify by clinical examination malignant and pre-malignant ENT diseases (K/S, SH)

1. List five common premalignant conditions of ear, nose, throat and head and neck
2. List ten common malignant conditions of ear, nose, throat and head and neck
3. Make a chart of these conditions with two salient points in clinical examination for each of the above
4. In a given patient with a premalignant lesion, each student to correctly demonstrate the clinical examination and report the diagnosis
5. In a given patient with a malignant lesion, each student to correctly demonstrate the clinical examination and report the diagnosis

EN2.12

Counsel and administer informed consent to patients and their families in a simulated environment (S/A/C, SH)

1. Describe the salient components of an informed consent.
2. Demonstrate the above in a role-play scenario with fellow students and/or medical staff
3. In a simulated patient, with a given ENT diagnosis, each student to demonstrate counselling of the same
4. In a simulated patient, scheduled for a given ENT procedure, each student to demonstrate taking informed consent for the same

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) (K/S/A, SH)

1. List the common emergencies in ENT

2. For a given ENT emergency, describe the typical presentation in Casualty Dept.
3. In the Casualty Dept., identify the equipment needed for resuscitating cases of ENT emergencies
4. From a given instrument tray, all students to correctly identify the instruments used for these emergencies
5. List relevant investigations to be sent in each clinical emergency
6. For a given ENT emergency, list the stepwise protocol of management
7. In a simulated patient, with a given ENT emergency, identify the warning signs to call for help and refer

EN2.14

Demonstrate the correct technique of instilling topical medications into the ear, nose and throat in a simulated environment
(K/S, SH)

1. List five common topical instillation medications in ENT
2. List the common indications for the use of the above
3. Demonstrate correct use of drop instillation in the procedure room
4. Demonstrate the displacement method of ear drop instillation in a mannequin
5. Demonstrate the correct method of nose drops instillation in a mannequin

EN2.15

Describe the national programs for prevention of deafness, cancer, noise and environmental pollution (K, KH)

1. List the national programmes for deafness, cancer, noise and environmental pollution
2. Describe the various schemes available under each programme

Topic: Diagnostic and Therapeutic procedures

EN3.1

Observe and describe the indications for and steps involved in the performance of Otomicroscopic examination in a simulated environment (S, KH)

1. Describe the working parts of an otomicroscope
2. List five common indications for performing otomicroscopy (EUM)
3. Describe the steps of an EUM
4. Describe the concept of aural toilet, as done via EUM
5. In a given patient, demonstrate counselling for the need for EUM

EN3.2

Observe and describe the indications for and steps involved in the performance of diagnostic nasal endoscopy(DNE) (S, KH)

1. Draw a neat labelled diagram of endoscopic view of the nose and nasopharynx
2. List all the normal structures seen in DNE
3. List at least five common indications for performing a DNE
4. List all the major steps while performing a DNE
5. By observing a recorded video of DNE, all the students should be able to describe the main pathology

EN3.3

Observe and describe the indications for and steps involved in the performance of rigid/flexible laryngoscopy(ILS/FOL) (K, KH)

1. Draw a neat labelled diagram of endoscopic view of the hypopharynx and larynx
2. List all the normal structures seen in ILS/FOL
3. List at least three common indications for performing ILS/FOL
4. List all the major steps while performing ILS/FOL
5. By observing a recorded video of ILS/FOL, all the students should be able to describe the main pathology

EN3.4

Observe and describe the indications for and steps involved in the removal of foreign bodies from ear, nose and throat (K, KH)

1. List the common sites in the ear, nose and throat where foreign bodies get impacted
2. List the complications of impacted foreign bodies in the ear, nose and throat
3. Describe the methods of removal of foreign bodies from ear, nose and throat, including complications of the procedures
4. From a given instrument tray, all students to correctly identify the instruments used for removal of foreign bodies in the ear, nose and throat

EN3.5

Observe and describe the indications for and steps involved in the surgical procedures in ear, nose and throat (K, KH)

1. List two common surgeries each in ear, nose and throat
2. Enumerate two indications for myringotomy
3. Enumerate two indications for tympanoplasty
4. Enumerate two indications for modified radical mastoidectomy
5. Enumerate two indications for septoplasty and submucous resection
6. Enumerate four indications for functional endoscopic sinus surgery
7. Enumerate the indications for adenoidectomy and tonsillectomy
8. Enumerate two indications for microlaryngeal surgery
9. Describe the essential steps in each of the above surgical procedures
10. List the chief complications of each of the above surgical procedures
11. In a given patient who has been scheduled for any of the above surgeries, the students to demonstrate counselling about the procedure to the patient and bystanders
12. From a recorded video of the above procedures, the students should describe the subsequent step

EN3.6

Observe and describe the indications for and steps involved in the skills of emergency procedure in ear, nose and throat (ENT)

(K / KH)

1. List five common emergencies in ENT
2. Enumerate the signs to look for, in a case of stridor
3. List the management options in a case of stridor
4. List the instruments used in, and describe the steps of tracheostomy
5. Enumerate the stepwise management of a case of epistaxis in the Casualty
6. List the indications of anterior and posterior nasal packing
7. Describe the steps of anterior and posterior nasal packing
8. List the complications of otitis media
9. Describe the clinical features of ASOM in a child
10. Write a rational prescription for ASOM in a child
11. Demonstrate counselling of the parents of a child needing surgical intervention in ASOM
12. List the possible examination findings in a case of impacted foreign body in the oesophagus
13. In a given X-Ray, all students should identify the presence and location of foreign body in oesophagus

Topic: Management of diseases of ear, nose and throat (ENT)

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 Otolgia (K/S, SH)

1. Describe the nerve supply of the external and middle ears
2. Enumerate ten causes of otalgia, both direct and referred
3. List the questions to be asked, in a stepwise fashion, to a patient with otalgia
4. In a simulated case of otalgia, each student to take and present a detailed history in a given time of 15 minutes
5. In a simulated case of otalgia, each student to correctly demonstrate all relevant examinations to elicit the requisite signs
6. Enumerate the relevant investigations to be done in a case of otalgia
7. In a given patient with otalgia, each student to list three differential diagnoses after history taking and examination

8. For a given diagnosis in a case of otalgia, each student to describe the management protocol
9. Demonstrate counselling a patient (simulated or real) with otalgia, with regard to reassurance of present condition and prevention of further occurrence

EN4.2

Elicit, document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of diseases of the external ear (K/S, SH)

1. Describe the anatomy of the external ear, gross and microscopic
2. Enumerate five common conditions affecting the external ear
3. List the questions to be asked, in a stepwise fashion, to a patient with symptom of ear block
4. List the questions to be asked, in a stepwise fashion, to a patient with history of trauma to external ear
5. In a mannequin (or skill lab), each student to demonstrate the correct technique of otoscopic examination
6. In a mannequin, each student to demonstrate the correct technique of ear syringing for wax and foreign body removal
7. In a simulated patient, each student to demonstrate all the steps of examination of the external ear in 5 minutes
8. For a given diagnosis of an external ear condition, each student to write an algorithm of management
9. Describe briefly, the pathogenesis of malignant otitis externa and temporal bone osteomyelitis
10. Demonstrate counselling a patient (simulated or real) with regard to precautions and healthy habits related to the external ear
11. All other SLOs listed under EN3.4 and EN4.1

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 (K/S, SH)

1. Describe the gross and microscopic anatomy of the middle ear
2. Describe the etiopathology of acute suppurative otitis media (ASOM)
3. Enumerate the organisms implicated in the causation of ASOM
4. List, and describe, the antibiotics required against the three most bacteria causing ASOM
5. List the typical symptomatology in case of ASOM

6. In a simulated case of child with ASOM, each student to document a detailed history from the parents
7. In a mannequin (or skill lab), each student to demonstrate the correct technique of otoscopic examination
8. In the skill lab, each student to identify the otoscopic findings diagnostic of ASOM
9. Enumerate the drugs to be prescribed in a diagnosed case of ASOM
10. Describe the algorithm of management protocol in a diagnosed case of ASOM
11. List the indications for myringotomy in ASOM
12. Describe the technique of myringotomy in ASOM
13. Demonstrate counselling the parents of a child diagnosed with ASOM regarding prognosis and prevention of further occurrence

EN4.4

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 (K/S/A, SH)

1. Describe the physiology of mobility of the tympanic membrane (TM)
2. List two methods of testing the mobility of the tympanic membrane
3. Describe the steps of the above methods
4. Demonstrate the correct technique of performing the above methods, in a fellow student
5. Each student to correctly demonstrate and report the findings of TM mobility testing in at least 5 patients
6. Draw a labelled diagram showing a retracted TM with reduced mobility
7. List the contraindications for testing of TM mobility testing

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 (K/S, SH)

1. List four symptoms suggestive of OME in a child.
2. Enumerate the pathological findings in OME.
3. Enumerate the points in history-taking from the parents of a child suspected to have OME

4. Document a detailed history-taking from the parents of a child suspected to have OME
5. Enumerate the two investigations which will clinch the diagnosis.
6. Describe the medical management of OME
7. List the indications for surgical management in a case of OME in a child.
8. Draw diagram to describe the technique of surgery for OME

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 (K/S, SH)

1. List four most common causes of discharging ear
2. Enumerate all symptoms which may point to the etiology of ear discharge
3. Enumerate the points in history-taking for the symptom of ear discharge
4. Document a detailed history-taking from a patient with ear discharge
5. Enumerate the three most useful investigations in a case of ear discharge
6. Describe the principles and technique of aural toilet for a case of discharging ear
7. Write a rational prescription for a patient with ear discharge
8. Demonstrate counselling a patient with ear discharge for the correct way of instilling ear drops
9. Demonstrate counselling of a patient with ear discharge, regarding management plan and precautions

EN4.7

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 (K/S, SH)

1. Describe the classification of CSOM
2. Enumerate the differentiating points, in history and physical examination, between tubotympanic (mucosal) and atticofacial (squamous) types of CSOM
3. Draw labelled diagrams showing different types of central perforation.

4. Enumerate the points in history-taking for a case of mucosal type of CSOM
5. Document a detailed history-taking for a case of mucosal type of CSOM
6. In a skill lab, each student to be able to describe findings of different otoscopic pictures shown, with 80% accuracy
7. List three essential investigations in a case of mucosal type of CSOM
8. Describe the stepwise protocol of medical management of mucosal type of CSOM.
9. List the indications for surgery in mucosal type of CSOM
10. Describe the basic steps in surgery for mucosal type of CSOM
11. Demonstrate counselling a patient diagnosed with mucosal type of CSOM, regarding the treatment plan

EN4.8

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 (K/S, SH)

1. Enumerate the points in history and physical examination suggestive of squamosal type of CSOM.
2. Describe the theories of pathogenesis of cholesteatoma
3. Enumerate the complications of cholesteatoma
4. Enumerate the points in history-taking for a case of squamosal type of CSOM
5. Document a detailed history-taking for a case of squamosal type of CSOM
6. In a skill lab, each student to be able to describe findings of different otoscopic pictures shown, with 80% accuracy
7. List three essential investigations in a case of squamosal type of CSOM
8. Describe the stepwise protocol of management of squamosal type of CSOM.
9. List the indications for surgery in squamosal type of CSOM
10. Describe the basic steps in surgery for squamosal type of CSOM
11. Demonstrate counselling a patient diagnosed with squamosal type of CSOM, regarding the treatment plan and need for surgery
12. List the types of surgeries performed for squamosal type of CSOM
13. Describe the principles of modified radical mastoidectomy

EN4.9

Demonstrate the correct technique for syringing wax from the ear in a simulated environment (S, SH)

1. Describe the method and principles of ear syringing
2. All students should be able to identify the instruments needed for ear syringing, from a given tray
3. In a model, each student to demonstrate the correct technique of ear syringing
4. List three complications of syringing
5. List other methods of wax removal

EN4.10

Observe and describe the indications for and steps involved in myringotomy and myringoplasty (S, KH)

1. List three indications for myringotomy
2. Describe the steps involved in myringotomy
3. Enumerate at least three complications of myringotomy
4. Name the three objectives of myringoplasty
5. List the prerequisites for myringoplasty
6. Describe the incisions used in otologic surgeries.
7. Describe the steps of myringoplasty (underlay technique)

EN4.11

Enumerate the indications, describe the steps and observe Mastoidectomy (K/S, SH)

1. List the types of Mastoidectomy
2. List five indications for cortical mastoidectomy
3. Describe the steps of cortical mastoidectomy in order with mention of surgical landmarks of mastoid antrum and facial nerve
4. List the basic differences between cortical and modified radical mastoidectomy (MRM), including objectives, indications and

surgical steps

5. List at least five complications specific to mastoidectomy
6. In a temporal bone dissection lab, each student to describe the subsequent steps in temporal bone dissection
7. In a temporal bone specimen, all students should be able to distinguish between a cortical mastoidectomy and MRM cavity

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 (K/S, SH)

1. List and classify ten common causes of hearing loss (HL)
2. Enumerate the points in history-taking for the symptom of HL
3. Document a detailed history-taking from a patient with HL
4. Enumerate tuning fork tests (TFTs), including two that are used in malingering
5. Demonstrate and correctly interpret TFTs (already detailed in another competency)
6. List the investigations in a patient with HL
7. In a given patient with HL, prescribe the relevant investigations
8. List the indications for surgical correction of HL, including cochlear implantation
9. List the indications for prescribing hearing aids (HAs) in HL
10. Describe briefly the functioning of HAs
11. Enumerate the implantable HAs
12. Demonstrate counselling of a patient with HL, regarding prognosis and lifestyle modifications

EN4.13

Describe the clinical features, investigations, and principles of management of Otosclerosis (K, KH)

1. Describe the development of otic capsule
2. Enumerate the types of hearing loss
3. Describe aetiopathophysiology of otosclerosis
4. List the typical symptoms and signs in a patient with otosclerosis

5. List the relevant investigations in a case of otosclerosis
6. Draw a pure tone audiogram typical of otosclerosis
7. In a given set of audiometry reports, each student to correctly identify the one that diagnoses otosclerosis, in one attempt
8. List the treatment options for otosclerosis
9. List the indications for stapedectomy
10. Demonstrate counselling regarding treatment options for a patient diagnosed to have otosclerosis

EN4.14

Explain the clinical features investigations and principles of management of Sudden Sensorineural hearing loss (K, KH)

1. Define sudden sensorineural hearing loss (SSNHL)
2. List the causes of SSNHL
3. List the stepwise investigation protocol for suspected case of SSNHL
4. Draw a PTA chart showing typical case of SSNHL
5. List the treatment options for a case of SSNHL
6. List the indications for intratympanic (IT) steroid injection for SSNHL
7. Describe the technique of IT steroid injection
8. Demonstrate counselling regarding prognosis in a case of SSNHL

EN4.15

Describe the clinical features, investigations, and principles of management of Noise induced hearing loss (K, KH)

1. Define noise induced hearing loss (NIHL)
2. List the predisposing factors for NIHL
3. Describe the pathology of NIHL
4. Describe the typical symptoms and signs in a patient with NIHL
5. Draw a PTA chart showing typical case of NIHL
6. List the treatment options for a case of SSNHL
7. Describe the medico-legal aspects of prevention of NIHL
8. Demonstrate counselling regarding prognosis and precautions in a case of NIHL

EN4.16

Observe and describe the indications for and steps involved in the performance of pure tone audiometry (S, KH)

1. Enumerate the indications of pure tone audiometry (PTA)
2. Describe the essential steps in this test
3. Describe the technique of masking
4. In a given patient who has been prescribed a pure tone audiogram for hearing loss, each student to describe each step

EN4.17

Enumerate the indications and interpret the results of audiogram (S, SH)

1. Draw typical PTA graph for each given ear condition
2. From a given set of 10 audiograms, each student to correctly interpret the results with at least 80% accuracy

EN4.18

Describe the clinical features, investigations and principles of management of Facial nerve palsy (K, KH)

1. Describe the surgical landmarks of facial nerve for middle ear and mastoid surgery
2. Describe the surgical landmarks of facial nerve for parotid gland surgery
3. Explain the Sunderland classification of nerve injuries
4. List ten causes of facial nerve palsy
5. List and briefly describe the topodiagnostic and electrodiagnostic tests for facial nerve palsy
6. Describe the principles of management of Bell's palsy
7. Describe the principles of management of post-surgical facial nerve palsy
8. Demonstrate counselling regarding prognosis and reconstructive protocol in a case of facial nerve palsy

EN4.19

Describe the clinical features investigations and principles of management of Vertigo (K, KH)

1. Classify and list the causes of vertigo
2. List ten otologic causes of vertigo
3. List the specific points in history taking of a patient with vertigo
4. List the set of investigations that may be needed in a patient with vertigo
5. Describe the principles of management for vertigo
6. List the different groups of drugs for the pharmacotherapy of vertigo
7. Describe the principles of vestibular rehabilitation exercises
8. List the indications for surgical treatment for vertigo

EN4.20

Describe the clinical features, investigations, and principles of management of Meniere's Disease (MD)

(K, KH)

1. Describe the pathophysiology of Meniere's disease (MD)
2. Describe the pathognomonic symptoms of MD
3. List the set of investigations needed to confirm MD
4. Describe the possible PTA patterns in MD
5. Describe the principles of management of MD
6. List the indications for intra-tympanic Gentamicin injection in a patient with MD
7. Demonstrate counselling a patient with MD, regarding prognosis and lifestyle changes

EN4.21

Describe the clinical features, investigations, and principles of management of Tinnitus

(K, KH)

1. Define tinnitus
2. Enumerate the causes of tinnitus
3. List the specific points in history taking of a patient with tinnitus
4. Describe the relevant investigations to find the cause of tinnitus
5. Describe the principles of management of tinnitus

6. List the different groups of drugs for the pharmacotherapy of tinnitus
7. Demonstrate counselling a patient with tinnitus, regarding prognosis and reassurance

EN4.22

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 (K/S, SH)

8. List five most common causes of nasal obstruction
9. Describe the typical clinical features of the above causes
10. List the points in history taking of a patient with nasal obstruction
11. Demonstrate history taking in at least five patients with different causes of nasal obstruction
12. Document at least five complete histories with differential diagnoses of nasal obstruction
13. Describe the relevant investigations in a case of nasal obstruction
14. In a given patient with nasal obstruction, each student to demonstrate correct technique of anterior and posterior rhinoscopic examination
15. Describe the principles of management of nasal obstruction
16. Write a rational prescription for the symptomatic relief of nasal obstruction

EN4.23

Describe the clinical features, investigations and principles of management of DNS (K, KH)

1. Describe and draw a neat labelled diagram of the nasal septum
2. Describe with illustration the different types of DNS
3. Enumerate all the symptoms of patients with DNS
4. Describe the history-taking and examination of a patient with suspected DNS
5. List the investigations needed in a case of deviated nasal septum
6. Enumerate the indications for surgical management in a patient with DNS
7. Describe the preoperative counselling of a patient planned for surgical management of DNS

8. Describe the steps in the surgical procedure for correction of DNS

EN4.24

Enumerate the indications observe and describe the steps in a septoplasty (S, KH)

1. Same set of SLOs as in #1 to 5 above (EN4.23)
2. In a given patient diagnosed with DNS, each student to describe the need for Septoplasty
3. Describe the steps of Septoplasty
4. In a surgical video of Septoplasty, each student to describe the subsequent step
5. Describe the postoperative care of a patient who underwent septoplasty
6. Enumerate the possible complications of septoplasty

EN4.25

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 (K/S, SH)

1. Enumerate the different types of nasal polyposis
2. List the symptoms of patients with nasal polyps
3. Document a detailed history of a patient with suspected nasal polyposis
4. Describe the signs in a patient with sinonasal polyposis
5. Enumerate the investigations needed in a case of nasal polyps
6. Describe the role of non-surgical management of nasal polyps
7. Enumerate the indications and principles of surgical management (functional endoscopic sinus surgery) in a case of nasal polyps
8. Demonstrate counselling for a patient diagnosed with nasal polyps, regarding management principles
9. Write a rational prescription for the treatment of a case of allergic sinonasal polyposis
10. List the preoperative workup of a patient planned for FESS for nasal polyps
11. Describe the counselling of a patient planned for FESS
12. Describe the basic steps of functional endoscopic sinus surgery

13. Enumerate the possible complications of FESS
14. Describe the postoperative care of a patient who underwent FESS
15. Describe the long term care required after FESS to prevent recurrence of nasal polyps

EN4.26

Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of adenoids (K/S, SH)

1. Describe the embryological development and anatomy of adenoid
2. Describe the clinical features of a patient with adenoid hypertrophy
3. In a given case, each student to demonstrate accurate history-taking to elicit a possible diagnosis of adenoid hypertrophy
4. Document a correct history of a child with suspected adenoid hypertrophy
5. Enumerate the investigations for diagnosis of adenoid hypertrophy
6. Describe the role of conservative management in a case of adenoid hypertrophy
7. List the indications for adenoidectomy
8. Enumerate the preoperative workup a patient planned for surgical management of adenoid
9. Demonstrate the counselling of parents of a child planned for adenoidectomy, including postoperative care
10. Describe the steps of adenoidectomy
11. Enumerate the different techniques of adenoidectomy
12. Enumerate the possible complications of adenoidectomy

EN4.27

Elicit 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 (K/S, SH)

1. Define allergic rhinitis (AR)
2. Enumerate the different types of allergic rhinitis
3. Describe the etiology of allergic rhinitis

4. List the common allergens related to AR
5. Describe the pathophysiology of AR
6. In a given case, each student to demonstrate accurate history-taking to elicit a possible diagnosis of AR
7. Document a correct history-taking in a patient with suspected AR
8. Enumerate the symptoms of AR
9. Describe the classical signs seen in patients with AR
10. List the investigations for the diagnosis of a case of AR
11. Explain the medical management of allergic rhinitis
12. Describe the role of surgical management in a patient with AR

EN4.28

Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of Vasomotor rhinitis (K/S, SH)

1. Define Vasomotor rhinitis (VR)
2. Describe the etiology of vasomotor rhinitis
3. Draw a neat labelled diagram illustrating the autonomic supply to the nasal cavity
4. Enumerate the precipitating factors of VR
5. Explain the pathology of VR
6. In a given case, each student to demonstrate accurate history-taking to elicit a possible diagnosis of VR
7. Document a correct history-taking in a patient with suspected VR
8. List the symptoms and signs of VR
9. Differentiate VR from AR and Infective rhinitis
10. Describe the medical management of VR
11. Describe the role of surgery in VR

EN4.29

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 and chronic rhinitis (K/S, SH)

Acute rhinitis:

1. In a given case, each student to demonstrate accurate history-taking to elicit a possible diagnosis of rhinitis
2. Document a correct history-taking in a patient with suspected rhinitis
3. Describe the etiopathology of acute non-specific rhinitis
4. Enumerate the causative agents of acute non-specific rhinitis
5. List the possible complications of acute non-specific rhinitis
6. Explain the medical treatment of acute non-specific rhinitis
7. List the indications for use of antibiotics in cases of acute non-specific rhinitis
8. Explain the etiology of Influenzal rhinitis
9. Describe the clinical features of Influenzal rhinitis
10. List the special investigation in a case of influenzal rhinitis
11. Describe the treatment of influenzal rhinitis

Chronic rhinitis:

Chronic simple rhinitis

1. List the predisposing factors of chronic simple rhinitis
2. Describe the pathology of chronic simple rhinitis
3. Describe the symptoms and signs of chronic simple rhinitis
4. Describe the treatment of chronic simple rhinitis

Chronic specific rhinitis

1. Define granulomas of the nose
2. Classify the different types of granulomas of the nose

3. Describe the stages of disease in granulomatous conditions of the nose
4. Define rhinosporidiosis
5. Describe the etiopathogenesis of rhinosporidiosis
6. Draw a neat labelled diagram of life cycle of rhinosporidiumseeberi
7. Describe the mode of transmission in rhinosporidiosis
8. Describe the typical history in a patient with rhinosporidiosis
9. List the symptoms and signs of rhinosporidiosis
10. Describe the management of rhinosporidiosis
11. List the other causes of chronic specific rhinitis
12. Describe the main features of tuberculous and syphilitic rhinitis
13. Define Rhinoscleroma
14. Describe briefly the etiopathology, clinical features and investigations for rhinoscleroma
15. Draw a diagram showing the histopathological and microbiological features of rhinoscleroma
16. Describe the principles of treatment of rhinoscleroma
17. Enumerate the 2 types of Midline non-healing granulomas of nose
18. Describe the main clinical features of Wegener's and Stewart's granulomas
19. Describe briefly the management principles of the above
20. Describe the aetiopathology of atrophic rhinitis
21. List the symptoms of atrophic rhinitis
22. Describe the ARS and DNE findings in a case of atrophic rhinitis
23. List the treatment options for atrophic rhinitis
24. Describe the indications and principles of surgery in atrophic rhinitis
25. Demonstrate counselling a patient of atrophic rhinitis, regarding prognosis and long-term douching

EN4.30

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 (K/S, SH)

1. Describe the blood supply of the nasal septum
2. Describe Little's area and Keisselbach's plexus
3. Describe Woodruff's plexus
4. Define epistaxis
5. List and classify the causes of epistaxis
6. Describe the modes of presentation of epistaxis
7. List the points in history-taking of a patient presenting in Casualty with epistaxis
8. List the points in history-taking of a patient presenting with non-emergent epistaxis
9. Document a detailed history in a given case of epistaxis
10. Describe the evaluation of a patient with epistaxis
11. Describe the management of anterior epistaxis
12. Describe the management of posterior epistaxis
13. List the indications of surgical intervention in epistaxis
14. List the modalities of procedures for epistaxis
15. Describe the basic steps of endoscopic ligation of the sphenopalatine artery
16. Demonstrate counselling of a patient with epistaxis, regarding precautions and care

EN4.31

Describe the clinical features, investigations and principles of management of trauma to the face and neck (K/S, KH)

1. Describe the general management of a case of trauma to face.
2. Describe the general management of trauma to neck
3. List the soft tissue injuries to face and neck
4. List the bone injuries to the face

5. List the possible laryngeal framework injuries
6. List the types of nasal fractures
7. List the basic investigations done in a case of trauma to face and neck
8. Describe the line of management of soft tissue injuries to face and neck
9. Describe the line of management of bony injuries to face
10. Describe the line of management of laryngeal framework injuries

EN4.32

Describe the clinical features, investigations and principles of management of Nasopharyngeal Angiofibroma (K/S, KH)

Describe the Etiopathogenesis of Nasopharyngeal Angiofibroma(JNA)

1. List the possible extensions of JNA
2. List the clinical features in a case of JNA
3. List the investigations needed in a case of JNA
4. List the typical diagnostic radiological features of JNA
5. Describe the management principles of JNA
6. List the surgical approaches for excision of JNA
7. Draw a chart of the extent of JNA and surgical approach

EN4.33

Elicit, document and present the correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of acute and chronic sinusitis (K/S, SH)

1. Classify Rhinosinusitis and draw a chart differentiating the symptoms of a case of acute sinusitis versus chronic sinusitis.
2. Demonstrate and document the history taking in acute and chronic sinusitis in two different fellow students.
3. List the clinical features in acute sinusitis and draw a chart differentiating it from clinical features of chronic sinusitis
4. Enumerate the investigations done in acute sinusitis
5. Describe the management of acute sinusitis
6. Write a rational prescription for a patient with acute sinusitis

7. Outline the etiopathogenesis of Chronic Rhinosinusitis
8. Outline the treatment of chronic sinusitis
9. Describe the various surgical approaches to the sinuses

EN4.34

Describe the clinical features, investigations, and principles of management of Tumours of Maxilla (K, KH)

1. Draw a list of benign and malignant tumours of the maxilla
2. Outline the clinical features of a case of maxillary tumour
3. List the relevant investigations done in a case of tumour of maxilla
4. Describe the classification of malignancy of maxilla
5. Outline the management principles in a case of benign tumour of maxilla
6. Outline the management principles in a case of malignancy of maxilla

EN4.35

Describe the clinical features, investigations, and principles of management of Tumours of Nasopharynx (K, KH)

1. List benign and malignant tumours of the Nasopharynx
2. Describe the etiopathogenesis of malignant tumours of the Nasopharynx
3. Outline the clinical features of a case of tumour of the Nasopharynx
4. List the relevant investigations done in a case of tumour of Nasopharynx
5. Outline the management principles in a case of malignancy Nasopharynx

EN4.36

Describe the clinical features, investigations and principles of management of diseases of the salivary glands (K, KH)

1. Describe the clinical features and management of Viral parotitis (Mumps)
2. Write a prescription for a patient with acute suppurative parotitis

3. Describe the surgical management of parotid abscess
4. List the clinical symptoms and diagnostic criteria for Sjogrens syndrome
5. Describe the pathogenesis of salivary calculi
6. Outline the management of salivary calculi
7. Describe the basic principles of Sialendoscopy
8. List the tumours and granulomatous infections of salivary glands
9. Describe the anatomic principles of surgery for excision of submandibular and parotid glands

EN4.37

Describe the clinical features, investigations and principles of management of diseases of the Ludwig's Angina (K, KH)

1. Describe the etiopathogenesis of Ludwigsangina
2. List the clinical features of Ludwigsangina
3. Outline the key investigations done in Ludwigsangina
4. Outline the management of a case of Ludwigsangina

EN4.38

Elicit, document and present the correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of type of Dysphagia (K/S, SH)

1. Describe the various stages of swallowing and etiopathogenesis of Swallowing disorders
2. List the associated symptoms to be asked for in a patient with Dysphagia
3. From a given clinical scenario, each student to be able to give the most likely cause of dysphagia
4. Outline the key investigations done in a case of Dysphagia
5. Describe briefly the endoscopic and radiologic evaluation of Dysphagia (FEES and VFSS)
6. Draw a chart listing the key differential diagnosis of a patient with dysphagia and its relevant management
7. Demonstrate counselling a patient of dysphagia, along with caretakers, regarding prognosis and nutritional support

EN4.39

Elicit, document and present the correct history, demonstrate and describe the clinical features, choose the correct investigations and describe the principles of management of acute and chronic tonsillitis (K/S, SH)

1. List the symptoms of a patient with acute tonsillitis
2. List the symptoms of a patient with chronic tonsillitis
3. Describe and compare the signs in a patient with acute and chronic tonsillitis
4. List the relevant investigations required in a case of acute and chronic tonsillitis
5. Describe the correct technique of taking swab from the tonsils
6. Outline the principles of management of acute tonsillitis
7. Write a rational prescription for a child with acute tonsillitis
8. Outline the principles of management of chronic tonsillitis
9. Demonstrate counselling a child's parents, regarding scheduling for tonsillectomy

EN4.40

Observe and describe the indications for and steps involved in tonsillectomy / adenoidectomy (S, KH)

1. Enumerate the indications for adenoidectomy and tonsillectomy
2. Describe the essential steps in each of the above surgical procedures
3. List the chief complications of each of the above surgical procedures
4. In a given patient who has been scheduled for any of the above surgeries, the students to demonstrate counselling about the procedure to the patient and bystanders
5. From a recorded video of the above procedures, the students should describe the subsequent step

EN4.41

Describe the clinical features, investigations and principles of management of acute & chronic abscesses in relation to Pharynx (K/S, KH)

1. List the acute and chronic abscesses in relation to pharynx
2. Describe the important neck spaces in relation to pharynx
3. Describe the salient clinical features, relevant investigations and treatment of each
4. The student should be able to diagnose retropharyngeal abscess, in not more than two attempts
5. Demonstrate counselling the patient regarding the management of a given abscess
6. Describe the basic steps of surgical drainage of such abscesses

EN4.42

Elicit, document and present a correct history, demonstrate and describe the clinical features, choose the correct indications and describe the principles of management of hoarseness of voice (K/S, SH)

1. List the causes for hoarseness
2. Make a chart of the clinical features of at least five conditions causing hoarseness
3. Demonstrate key points in history and clinical features in a simulated setting of various situations causing hoarseness
4. Describe the relevant investigations, including stroboscopy, to diagnose the cause of hoarseness
5. Describe the principles of management of hoarseness
6. Describe the principles of vocal hygiene
7. List the indications for surgical treatment in cases of hoarseness
8. Demonstrate counselling patient and caretakers, regarding voice care measures

EN4.43

Describe the clinical features, investigations and principles of management of Acute & Chronic Laryngitis (K, KH)

1. List the causes for Acute and chronic laryngitis
2. Describe the clinical features of the same
3. Describe the relevant investigations and specific management of various causes of laryngitis

EN4.44

Describe the clinical features, investigations and principles of management of Benign lesions of the vocal cord (K, KH)

1. Enumerate benign lesions of the vocal cord.
2. List the salient laryngoscopic findings of the same
3. Discuss the relevant investigations and specific management of various lesions

EN4.45

Describe the clinical features, investigations and principles of management of Vocal cord palsy (K, KH)

1. Enumerate causes of vocal cord palsy (VCP)
2. Describe the salient clinical features of the same
3. Discuss the relevant investigations in cases of VCP
4. Describe the principles of management of different types of palsy
5. List the surgical modalities and treatment of VCP, with their principles

EN4.46

Describe the clinical features, investigations and principles of management of Malignancy of the Larynx & Hypopharynx (K, KH)

1. Enumerate the malignancies of larynx and hypopharynx
2. List the salient clinical features of the same
3. Describe the relevant investigations and treatment of laryngeal and hypopharyngeal malignancies.
4. List the methods of rehabilitation in voice and swallowing after treatment

EN4.47

Describe the clinical features, investigations and principles of management of Stridor (K, KH)

1. Enumerate causes of stridor
2. List the distinguishing clinical features of the various conditions
3. List the steps in emergent management of a case of stridor in the Casualty
4. List the indications for emergency tracheostomy in stridor
5. Describe the principles of management of stridor
6. Demonstrate counselling of the caretakers of patient in Casualty with stridor

EN4.48

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 (S, SH)

1. List the airway emergencies
2. List the red alert signs of an airway emergency.
3. Make a flow chart of relevant history, salient clinical features, investigations and treatment which includes intubation and tracheostomy
4. Demonstrate relevant history taking and clinical examination in mock settings
5. Correctly document the relevant history and clinical features of a particular clinical setting.
6. Correctly write down the investigation and treatment for a simulated airway emergency.
7. Each student should demonstrate resuscitation on a simulator five times
8. Each student should perform intubation on a simulator
9. Identify the warning signs to call for help and refer
10. From a given instrument tray, all students to correctly identify the instruments used for these emergencies.
11. Demonstrate counselling of bystanders, regarding prognosis and management, in an airway emergency

EN4.49

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 and food passages (S, SH)

1. Describe the anatomy of the larynx
2. Describe the physiology of the protective function of the larynx
3. Describe the anatomy of the oesophagus
4. Describe the main steps in the physiology of pharyngeal and oesophageal stages of swallowing
5. Enumerate the common foreign bodies (f. b.) of the air and food passages
6. Describe the evolution of pathology caused by f. b. in the upper and lower air passages
7. List the set of symptoms that can feature in a child with aspirated f. b.
8. List the investigations to be done in case of suspected f. b. aspiration in a child
9. Describe the stepwise management protocol in a case of diagnosed f. b. aspiration in a child
10. From the set of given instruments, each student to identify the ones used in the procedures for removal of f. b. from air and food passages
11. Describe the main steps of removal of bronchoscopy under general anaesthesia
12. In a mannequin, each student to demonstrate the correct use of a bronchoscope in three attempts
13. Describe the evolution of pathology caused by f. b. in the upper and lower food passages
14. List the set of symptoms that can feature in a patient with impacted f. b. in the food passage
15. List the cardinal signs of impacted f. b. in the cricopharynx
16. List the investigations to be done in case of suspected f. b. ingestion
17. In a given X-ray, each student to correctly identify the suspected f. b. and location in two attempts
18. In a simulated patient, each student to correctly demonstrate the Heimlich manoeuvre
19. Describe the main steps of removal of oesophagoscopy under general anaesthesia
20. In a mannequin, each student to demonstrate the correct use of an oesophagoscope in three attempts
21. List, and describe the pathophysiology, of complications due to untreated f. b. in the air and food passages

EN4.50

Observe and describe the indications for and steps involved in tracheostomy (S, KH)

1. Describe the anatomy of cervical trachea
2. Draw a neat labelled diagram of the relations of the cervical trachea
3. Classify and list the indications for tracheostomy
4. Describe the algorithm for decision making to do tracheostomy
5. In five given clinical scenarios, student to correctly identify the need to do or not do tracheostomy in each case
6. From the given set of instruments, each student to identify all the instruments need for tracheostomy, in the correct order of use
7. List the main steps in emergency and elective tracheostomy
8. In a demonstration video of tracheostomy, each student to describe each subsequent step in advance
9. In a simulated situation, each student to demonstrate counselling the bystanders of a patient scheduled for tracheostomy

EN4.51

Observe and describe the care of the patient with a tracheostomy (S, KH)

1. List all the steps in the care of an in-patient with tracheostomy
2. List the complications of tracheostomy
3. In a given in-patient on tracheostomy, each student to demonstrate the signs to confirm correct position of tracheostomy
4. In a given in-patient on tracheostomy, each student to demonstrate the correct technique of suction clearance
5. List the indications for discharging a patient with tracheostomy
6. List all the steps in the home-care of a patient with tracheostomy
7. Demonstrate counselling of the bystanders of a patient being discharged with tracheostomy

EN4.52

Describe the clinical features, investigations and principles of management of diseases of oesophagus (K, KH)

1. Describe the anatomy of the oesophagus, including the nerve supply
2. Describe the physiology of the oesophagus
3. List five common conditions of the oesophagus, emergent and non-emergent
4. List the symptomatology of benign obstructive lesions in the oesophagus
5. List the symptomatology of malignancy in the oesophagus
6. For a given diagnosis of oesophageal disease, each student to describe all the clinical features
7. List the routine investigations for oesophageal diseases
8. In a given set of barium swallow images, each student to correctly diagnose the condition in two attempts
9. Describe the theory and principles of videofluoroscopic study of swallowing (VFSS)
10. Write a rational prescription for a patient with gastro-oesophageal reflux disease
11. For a given diagnosis of oesophageal disease, each student to describe the principles of management, including stepwise protocol
12. Demonstrate counselling of a patient with regard to anti-reflux lifestyle changes
13. Demonstrate counselling of a patient and bystanders diagnosed with malignancy of the oesophagus

EN4.53

Describe the clinical features, investigations and principles of management of HIV manifestations in ENT (K / KH)

1. Draw the structure of HIV-I virion
2. Describe the life cycle of HIV
3. Describe the course of stages of HIV infection
4. List the ENT manifestations of HIV
5. Describe the clinical features of Kaposi sarcoma
6. List, and describe, the diagnostic tests for HIV
7. Classify and list antiretroviral drugs

8. Demonstrate counselling of patient and bystanders in a case of confirmed HIV infection, with regard to treatment and precautions
9. Demonstrate counselling a peer regarding prevention of exposure while managing an HIV patient

Integration

AN36.1

Describe the (1) morphology, relations, blood supply and applied anatomy of palatine tonsil and (2) composition of soft palate (K / KH)

1. Describe the gross and microscopic structure of palatine tonsils
2. Draw neat labelled diagram of the bed of palatine tonsil
3. List the arterial supply, venous and lymphatic drainage of palatine tonsils
4. List five pathologies that can affect structures in the tonsil bed, leading to medial push of the tonsil
5. Describe the surgical steps of tonsillectomy, based on anatomical planes

AN36.2

Describe the components and functions of Waldeyer's lymphatic ring (K / KH)

1. List the components of Waldeyer's ring
2. Describe the functions of Waldeyer's ring

AN36.3

Describe the boundaries and clinical significance of pyriform fossa (K / KH)

1. Draw neat labelled diagram showing boundaries of the left pyriform fossa (PF)
2. Draw neat labelled diagram of indirect laryngoscopic view
3. List the structures in immediate relation to PF
4. In a given diagram of the hypopharynx, each student to mark the areas where a growth in the PF can spread
5. Describe the lymphatic drainage of the PF
6. Describe the IL findings in a case of f. b. cricopharynx

AN36.4

Describe the anatomical basis of tonsillitis, tonsillectomy, adenoids and peri-tonsillar abscess (K / KH)

1. Describe the crypts of palatine tonsils
2. Describe the nerve supply of tonsil
3. Describe the spaces and fasciae in relation to the palatine tonsil
4. Describe the surgical steps of tonsillectomy, based on anatomical planes
5. Describe the anatomy of the nasopharyngeal tonsil (adenoid)
6. List the structures in close relation the adenoid

AN36.5

Describe the clinical significance of Killian's dehiscence (K, KH)

1. Draw a labelled diagram of the area of Killian's dehiscence
2. With the help of a diagram, explain the anatomical basis and pathogenesis of pharyngeal pouch
3. List the symptoms and signs of pharyngeal pouch
4. Describe the anatomic basis of surgical treatment of Pharyngeal pouch

AN37.1

Describe & demonstrate features of nasal septum, lateral wall of nose, their blood supply and nerve supply (K/S, SH)

1. Draw a neat labelled diagram showing parts of the nasal septum and its nerve supply
2. Draw a neat labelled diagram to explain the anatomy of lateral wall of nose and its nerve supply
3. Describe the arterial supply of the nose with the help of diagrams and mark the common sites of epistaxis
4. Describe the characteristics of venous arrangement of mucosa of the nose and explain the significance of 'dangerous area' of the face

AN37.2

Describe location and functional anatomy of paranasal sinuses (K, KH)

1. Name all paranasal sinuses (PNS) and describe their development
2. Draw a labelled diagram of all the PNS
3. Describe the microanatomy of the PNS
4. Draw and describe the anatomical relations of each paranasal sinus
5. Describe the clinical significance of the ostiomeatal complex
6. Draw a diagram of cavernous sinus with its contents and anatomical relation to the sphenoid sinus

AN37.3

Describe anatomical basis of sinusitis & maxillary sinus tumours (K, KH)

1. List the possible anatomical variants in the nose and explain their role in development of sinusitis
2. Describe the mucociliary clearance pattern of each PNS
3. Describe the anatomical boundaries of maxillary sinus and local spread of tumors

AN38.1

Describe the morphology, identify structure of the wall, nerve supply, blood supply and actions of intrinsic and extrinsic muscles of the larynx (K/KH, SH)

1. Name the intrinsic and extrinsic muscles of the larynx and their individual actions
2. Describe divisions and compartments of the larynx.
3. Describe the blood supply, sensory and motor innervation of the larynx
4. Describe the signs and symptoms of recurrent laryngeal nerve weakness

AN38.2

Describe the anatomical aspects of laryngitis (K, KH)

1. List the layers of the vocal cord
2. Describe Reinke's space and its clinical importance
3. List four conditions with pathological involvement of Reinke's space

AN38.3

Describe anatomical basis of recurrent laryngeal nerve injury (K, KH)

1. Describe the course of left and right recurrent laryngeal nerves with the help of diagrams
2. Enumerate four causes each for right and left vocal cord palsy, and describe the anatomical basis of the injury

AN39.2

Explain the anatomical basis of hypoglossal nerve palsy (K, KH)

1. Draw and describe the course of hypoglossal nerve
2. Describe the relations of the hypoglossal nerve in the floor of mouth
3. Enumerate three causes of hypoglossal nerve palsy, and describe the anatomical basis of the injury

AN40.1

Describe & identify the parts, blood supply and nerve supply of external ear (K/S, SH)

1. Draw a neat, labelled diagram and identify the parts of the external ear
2. Describe embryology of the external ear with the help of diagrams, and list five congenital anomalies of the external ear
3. Describe blood supply of the external ear
4. Describe sensory innervation of the external ear and its clinical importance

AN40.2

Describe & demonstrate the boundaries, contents, relations and functional anatomy of middle ear and auditory tube (K/S, SH)

1. Describe middle ear cleft and its functional significance
2. Draw and label the important structures/relations in the lateral, medial, anterior and posterior walls of the middle ear (tympanic cavity)
3. List the contents of the middle ear
4. In the given model of the middle ear, point the walls and the important structures in relation to each wall
5. Describe the clinical anatomy of the Eustachian tube, and the most common anatomic causes of its block

AN40.3

Describe the features of internal ear (K, KH)

1. List the various parts of the inner ear
2. Draw a neat, labelled diagram of Organ of Corti
3. Draw a neat labelled diagram of the vestibular apparatus
4. Describe the sensory end organs in the cochlea and vestibule
5. Describe the relations of the cochlea

AN40.4

Explain anatomical basis of otitis externa and otitis media (K, KH)

1. Describe the gross and microscopic anatomy of external auditory canal
2. Describe the anatomy of Eustachian tube
3. Describe the epithelial lining of middle ear cleft
4. Describe the spread of infection in malignant otitis externa

AN40.5

Explain anatomical basis of myringotomy (K, KH)

1. List the layers of tympanic membrane (TM)
2. Describe epithelial migration over the TM
3. Draw labelled diagram showing quadrants of the TM
4. Describe the anatomical basis for location of myringotomy incision

PY10.13

Describe and discuss the perception of smell and taste sensation (K, KH)

1. Describe the physiology of Olfaction
2. Describe the physiology of Gustation
3. Enumerate the substances used to test smell and taste sensations
4. List the conditions which cause altered smell and taste sensations

PY10.15

Describe and discuss functional anatomy of ear and auditory pathways and physiology of hearing (K, KH)

1. Draw a labelled diagram showing the path of sound waves from outside source to the auditory cortex
2. Describe the role of external ear in hearing
3. Describe the middle ear transformer mechanisms
4. Describe transduction in the cochlea
5. Describe the mode of neural conduction of sound

PY10.16

Describe and discuss pathophysiology of deafness. Describe hearing tests (K, KH)

1. Describe the etio-pathophysiology of conductive hearing loss
2. Describe the etio-pathophysiology of sensori-neural hearing loss
3. Describe subjective and objective methods of hearing assessment
4. List the objective tests of hearing assessment in infants and children

PY10.20

Demonstrate (i) hearing (ii) testing for smell and (iii) taste sensation in volunteer/simulated environment (S, P)

1. Demonstrate simple tests of hearing in a fellow student
2. Demonstrate tuning fork tests to test hearing, in a fellow student
3. Demonstrate sense of smell using substances provided, in a fellow student
4. Demonstrate the sense of taste with substances provided, in a fellow student

CM3.1

Describe the health hazards of air, water, noise, radiation and pollution (K, KH)

1. Describe common air and water pollutants affecting ENT
2. List the common sources of noise pollution in India
3. Describe the pathophysiology of noise trauma to the ear
4. Describe the hazards of overuse of mobile (cellphones)

DE4.1

Discuss the prevalence of oral cancer and enumerate the common types of cancer that can affect tissues of the oral cavity (K, K)

1. Enumerate the types of cancer of the oral cavity, and the prevalence of each
2. List the common predisposing factors for oral cancer
3. List the premalignant lesions of oral cavity, and the types of Leukoplakia

DE4.2

Discuss the role of etiological factors in the formation of precancerous / cancerous lesions (K, KH)

1. List the etiological factors of oral precancerous lesions
2. Discuss the role of dental hygiene in the prevention or development of cancer

DE4.3

Identify potential precancerous/cancerous lesions (S, SH)

1. From a set of images, each student to correctly identify the oral precancerous or cancerous lesions in not more than two attempts
2. In a given patient, each student to correctly identify the oral precancerous or cancerous lesion

DE4.4

Counsel patients to risks of oral cancer with respect to tobacco, smoking, alcohol and other causative factors (A/C, SH)

1. Document and demonstrate the counselling of a patient with chronic tobacco usage as a pertinent risk for oral cancer
2. Document and demonstrate the counselling of a patient with chronic alcohol addiction as a pertinent risk for oral cancer
3. Document and demonstrate the counselling of a patient to risk factors for oral cancer like genetic predisposition, nutritional deficiencies, sharp teeth, premalignant lesions

IM24.17

1. Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of hearing loss in the elderly (K, KH)

2. Describe the aetiopathogenesis of hearing loss in the elderly (presbycusis)
3. Demonstrate history taking from an elderly patient and his/her caretakers, regarding hearing loss and handicaps due to it
4. Describe the principles of management of hearing loss in the elderly
5. List and classify the types of hearing aids
6. Describe the rehabilitation of hearing loss in the elderly
7. Demonstrate counselling of elderly patient and caretakers regarding use of HAs

PE14.2

Discuss the risk factors, clinical features, diagnosis and management of Kerosene ingestion (K, KH)

1. Describe the risk factors for accidental kerosene ingestion
2. Describe the clinical features, related to upper aero-digestive tract, in children with kerosene ingestion
3. Demonstrate history taking from the parents of children with kerosene ingestion
4. Describe the investigations needed in a case of kerosene ingestion
5. Describe the principles of treatment of kerosene ingestion

PE28.1

Discuss the etio-pathogenesis, clinical features and management of Nasopharyngitis (K, KH)

1. List the different types of nasopharyngitis
2. Describe the aetiopathogenesis of nasopharyngitis in children
3. Describe the management of nasopharyngitis

PE28.2

Discuss the etio-pathogenesis of Pharyngo-tonsillitis (K, KH)

1. Enumerate the divisions of the pharynx
2. Describe the etiological factors of acute pharyngitis and tonsillitis
3. List the common organisms causing pharyngitis and tonsillitis
4. Describe the etio-pathogenesis in diphtheric pharyngitis

PE28.3

Discuss the clinical features and management of Pharyngo-tonsillitis (K, KH)

1. List the typical symptoms and signs in a child with tonsillitis
2. Demonstrate history-taking from parents of a child with sore throat
3. Describe the principles of treatment of a child with tonsillitis
4. Write a rational prescription for a child with acute tonsillitis
5. Demonstrate counselling the parents of a child with recurrent pharyngotonsillitis
6. Describe the clinical features and management of diphtheric pharyngitis

PE28.4

Discuss the etio-pathogenesis, clinical features and management of acute otitis media (AOM) (K, KH)

1. Describe the anatomy of the eustachian tube in a child
2. Describe the etiopathogenesis of AOM
3. Enumerate the causative organisms of AOM
4. Describe the various stages of AOM
5. List the symptoms and signs of AOM
6. Demonstrate history taking from parents of a child with earache
7. Describe the principles of management of AOM
8. List the indications for myringotomy in a case of AOM
9. List the complications of AOM

PE28.5

Discuss the etio-pathogenesis, clinical features and management of Epiglottitis (K, KH)

1. Define acute epiglottitis
2. Describe the etiopathogenesis and common organisms of acute epiglottitis
3. Enumerate the clinical features of acute epiglottitis
4. List the investigations for diagnosis of acute epiglottitis
5. Enumerate 5 differential diagnosis for pyrexial stridor in children

6. Describe the principles of treatment of acute epiglottitis
7. Enumerate the complications of acute epiglottitis

PE28.6

Discuss the etio-pathogenesis, clinical features and management of Acute laryngo- trachea-bronchitis (K, KH)

1. Define acute laryngotracheobronchitis (LTB)
2. Describe the etiopathogenesis of LTB
3. List the typical symptoms of a child with acute LTB
4. List the investigations for diagnosis of acute LTB
5. Describe the treatment of acute LTB
6. Demonstrate counselling of parents of a child with fever and breathing difficulty, regarding diagnosis and treatment

PE28.7

Discuss the etiology, clinical features and management of Stridor in children (K, KH)

1. Define stridor
2. Describe the different types of stridor
3. List the causes of congenital stridor in children
4. List the causes of acquired stridor in children
5. Describe the clinical features of a child in Stridor
6. Describe the principles of evaluation of a child with stridor
7. Describe the treatment of stridor in a child
8. Demonstrate counselling of parents of a child with stridor, regarding diagnosis and treatment

PE28.8

Discuss the types, clinical presentation, and management of foreign body aspiration in infants and children (K, KH)

1. Enumerate the different types of foreign body aspirated in the airway
2. Describe the etiopathogenesis of foreign body aspiration in trachea and bronchi depending on the site of impaction
3. Describe the clinical features of foreign body aspiration in airway

4. List the investigations required in a case of foreign body in the airway
5. Describe the treatment of foreign body aspiration in the airway
6. Enumerate the complications FB aspiration in airway
7. Describe the different types of foreign body ingested in the upper digestive tract
8. Describe the anatomy the esophagus with its sites of constriction
9. Describe the clinical features of FB ingestion in the upper digestive tract
10. Enumerate the investigations required in a case of FB ingestion in upper digestive tract
11. Describe the treatment of a child with FB ingestion in upper digestive tract

PE28.9

Elicit, document and present age appropriate history of a child with upper respiratory problem including stridor (S, SH)

1. List the causes of stridor in children according to the age at which they first present with stridor
2. List the history to be taken from the parents of a child with stridor
3. Demonstrate the taking and documenting of a history of stridor in a simulated case of a child with stridor.

PE28.10

Perform otoscopic examination of the ear (S, SH)

1. Describe the differences in otoscopic examination in a child, from that in an adult
2. In a mannequin, demonstrate a proper otoscopic examination
3. Demonstrate in a child a proper otoscopic examination
4. Describe correctly the findings of otoscopic examination in at least three children

PE28.11

Perform throat examination using tongue depressor (S, SH)

1. Demonstrate in a mannequin how to do a proper throat examination using tongue depressor
2. Demonstrate in a child, how to do a proper throat examination using a tongue depressor
3. Describe correctly the findings of oropharynx examination, using tongue depressor, in at least five children

PE28.12

Perform examination of nose (S, P)

1. Demonstrate in a mannequin how to do a proper nose examination.
2. Demonstrate in a child, how to do a proper nose examination
3. Describe correctly the findings of nose examination, in at least two children

PE28.17

Interpret X-ray of the paranasal sinuses and mastoids;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 (S, P)

1. List the different views of Chest Xray,Xray PNS and Xray Mastoids
2. Demonstrate correct reading of normal chest XRay of at least 5 children
3. Read 5 X-ray PNS and mark the following structures: Orbit,nasalseptum,frontal sinus and maxillary sinus
4. Read 5 XRay mastoids and mark the following structures: EAC,TMJ,duralplate,sinus plate and comment on the pneumatization
5. In a Chest XRay of a child with pneumonia and suspected foreign body aspiration document the findings which would lead one to suspect a foreign body in the airway
6. Identify the thymic shadow in chest X Rays of 5 newborns

PE31.1

Describe the etio-pathogenesis,management and prevention of Allergic Rhinitis in Children (K//KH)

1. Describe the etiopathogenesis of allergy in children
2. Describe the principles of management in these children
3. Write a rational prescription for allergic rhinitis with nasal obstruction in a 10 year old child
4. List the various methods of prevention of allergic rhinitis in children

PE31.3

Describe the etio-pathogenesis,clinical features and management of Atopic dermatitis in children (K, KH)

1. Describe the etio-pathogenesis of Atopic Dermatitis in children
2. List the clinical features of a child with Atopic Dermatitis
3. Describe the management principles of a child with Atopic dermatitis
4. Write a prescription for a 5 year old child with Atopic Dermatitis

OPHTHALMOLOGY

Ophthalmology

GOAL

The goal of teaching ophthalmology to MBBS students is to create an ideal Indian Medical Graduate who has basic ophthalmic knowledge and apply the knowledge of ophthalmology in treating patients so that he can be a good clinician, communicator, lifelong learner, professional, leader and member of health care team. The broad goal of teaching in ophthalmology is to provide adequate knowledge and impart skills in identifying common eye problems prevalent in the community, their typical presentations, diagnosis and outline of treatment for the same.

OBJECTIVES

A. KNOWLEDGE

By the end of MBBS course, the undergraduate medical student should be able to understand

1. Applied anatomy, physiology and biochemistry of the normal eye and adnexa.
2. Pathophysiology, clinical features, and management of diseases of the eye, orbit and adnexa.
3. Prevalence of common eye problems in the community
4. Indications for referral of patients requiring advanced ophthalmic care
3. Various National programmes in relation to ophthalmology as applicable in the primary care setting and implement the same

B Skills

At the end of the course the student should be able to:

1. Recognise common visual problems prevalent in the community using basic ophthalmic techniques
2. Elicit a detailed clinical history and perform an ocular examination in both outpatient and inpatient setting
3. Apply the elicited history and examination to arrive at correct diagnosis, investigation and treatment.
4. Perform minor diagnostic and therapeutic procedures in an emergency situation prior to referral to tertiary centres

C Attitude and communication skills

At the end of the course the student should be able to:

1. Demonstrate empathy while communicating with patients and their attenders during history taking and clinical examination.
2. Communicate effectively with patients, their families and the community
3. Communicate effectively with peers, teachers and paramedical staff

Integration: The teaching should be aligned and integrated horizontally and vertically in order to allow the student to understand the structural basis of ophthalmologic problems, their management and correlation with function, rehabilitation and quality of life

Course outcomes

At the end of the course, students should be able to understand

1. Anatomy and physiology of eye, orbits, adnexa and visual pathway
2. Etiopathogenesis, clinical features and management of ophthalmic diseases
3. Perform clinical examination with proper instruments, interpret common investigations & come out with a provisional diagnosis.

IV Syllabus

1. Anatomy & Development of Eye
2. Physiology of Eye & Vision
3. Elementary & Physiological Optics
4. Errors of Refraction
5. Diseases of Conjunctiva
6. Diseases of Cornea
7. Diseases of Sclera
8. Diseases of Uveal Tract
9. Diseases of Lens

- Glaucoma
- Diseases of Vitreous
- Diseases of Retina
- Neuro- ophthalmology
- Disorders of Ocular Motility
- Disorders of Eyelids
- Diseases of Lacrimal Apparatus
- Diseases of Orbit
- Ocular Injuries
- Ocular Pharmacology
- Lasers & Cryotherapy in Ophthalmology
- Systemic Ophthalmology
- Community Ophthalmology
- Clinical Methods in Ophthalmology
- Clinical Ophthalmic Cases
- Dark Room Procedures
- Ophthalmic Instruments & Operative Ophthalmology

Teaching methods and hours as recommended by MCI

Year	Large group teaching	Small group teaching	SDL	AETCOM	Total	Clinical posting

2 nd	Nil	Nil	Nil	Nil	Nil	2 weeks
3 rd	30 hours	60 hours	10 hours	Nil	100 hours	6weeks
Total	30 hours	60 hours	10 hours	Nil	100 hours	8 weeks

Assessments(Theory)- Formative and summative assessments

At least two internal assessments would be done for

Summative assessment- one paper of 100 marks

Assessment of log book

Assessments (Clinical)

At the end of clinical postings, an assessment will be held where in the student will be asked to present a case given to him covering all aspects including provisional diagnosis and probable line of management

During the viva, the student may be asked to perform bedside testing covering the basic ophthalmic examination

Num-ber	COMPETENCY The student should be able to	Do-main K/S/ A/C	Level K/ KH/ SH/P	Core (Y/ N)	Sug-gested Teach-ing Learn-ing meth-od	Suggest-ed As-sessment method	Num-ber re-quired to cer-tify P	Inte-gra-tion	Teach-ing hours
OPHTHALMOLOGY									
Topic: Visual Acuity Assessment		Number of Competencs: (05)			Number of procedures that require certification : (NIL)				

OP1.1	<p>Describe the physiology of vision</p> <p><u>Specific learning objectives:</u></p> <p>At the end of the session phase 3 part 1 MBBS students should be able to:</p> <ol style="list-style-type: none"> 1. Describe the various physiological factors in ocular media for maintaining normal visual acuity. 2. Describe visual cycle in detail 3. Discuss different senses of vision including light ,form, colour, and contrast sense 4. Describe the theories of colour vision 5. Enumerate the various electrophysiological tests available to assess the functions of rod and cone 6. Discuss in brief the physiology of binocular vision 	K	KH	Y	Lec- tures/ large group teach- ing	<p>Written/ Viva voce Knowl- edge:</p> <ul style="list-style-type: none"> •Long essay/ short es- say/ short answers/ MCQ's •VI- VA-VOCE 		Physi- ology	1 hr
-------	---	---	----	---	---	---	--	-----------------	------

OP1.2	<p>Define, classify and describe the types and methods of correcting refractive errors</p> <p><u>Specific learning objectives:</u></p> <p><u>At the end of the session phase 3 part 1 MBBS students should be able to:</u></p> <ol style="list-style-type: none"> 1. Define refractive errors and classify them 2. Describe clinical features, types and various treatment modalities of Myopia 3. Describe clinical features, types and various treatment modalities of Hypermetropia 4. Describe clinical features, types and various treatment modalities of Astigmatism 5. Describe clinical features, types and various treatment modalities of Aphakia 6. Describe clinical features and diagnostic signs of Pseudophakia 7. Describe anisometropia and Aniseikonia 8. Describe accommodation and its mechanisms. Define range and amplitude of accommodation 9. Describe the clinical features and treatment of various anomalies of accommodation 10. Describe in brief the different types of spectacles and their materials 11. Describe in brief the different types of contact lenses and their indications and applications 	K	KH	Y	Lecture, large group-discussion with clinical case scenario	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> •Long essay/ short essay/ short answers/ MCQ's •VI- VA-VOCE 			2 hour lectures
-------	--	---	----	---	---	--	--	--	-----------------

OP1.3	<p>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</p> <p>Specific learning objectives: At the end of the session phase 3 part 1 MBBS students should be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate the procedure of recording distance vision 2. Demonstrate the procedure of recording near vision 3. Demonstrate the procedure of recording colour vision 4. Demonstrate the procedure of performing pin hole test and discuss its applied aspects 5. Describe the procedure of performing menace reflex and discuss its clinical implications 6. Describe the procedure of performing blink reflex and discuss its clinical implications 	S	SH	Y	<p>DOAP session, Lecture</p> <ul style="list-style-type: none"> • Lectures • DOAP sessions • Case scenarios/ bedside clinics 	<p>Skill assessment/ Logbook</p> <ul style="list-style-type: none"> • Long essay/ short essay/ short answers/ MCQ's • VI-VA-VOCE 		Physiology	1hr bed side teaching/ DOAP
OP1.4	<p>Enumerate the indications and describe the principles of refractive surgery</p> <p>Specific learning objectives: At the end of the session phase 3 part 1 MBBS students should be able to:</p> <ol style="list-style-type: none"> 7. Enumerate the indications of refractive surgery 8. Describe the different types of refractive surgery 9. Describe the principles of refractive surgery 	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> • Lectures • Case scenarios/ bedside clinics 	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> • Long essay/ short essay/ short answers/ MCQ's • VI-VA-VOCE 			1hr

OP1.5	Define, enumerate the types and the mechanism by which strabismus leads to amblyopia Specific learning objectives: At the end of the session phase 3 part 1 MBBS students should be able to: 1. Define amblyopia and enumerate its causes 2. Enumerate the types of amblyopia 3. Describe the principle of how strabismus causes amblyopia 4. Describe the treatment options for strabismic amblyopia	K	KH	Y	Lecture, Small group discussion •Lectures •Case scenarios/ bedside clinics	Written/ Viva voce •Long essay/ short essay/ short answers/ MCQ's •VI-VA-VOCE			2hrs tutorial /seminar
Topic: Lids and Adnexa, Orbit		Number of Competencies: (08)			Number of procedures that require certification: (NIL)				
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 Specific learning objectives: At the end of the session phase 3 part 1 MBBS students should be able to: 1. Enumerate the causes, clinical features and treatment of Hordeolum Externum and Internum	K	KH	Y	Lecture, large group discussion •Lectures •Case scenarios/ bedside clinics	Written/ Viva voce •Long essay/ short essay/ short answers/ MCQ's •VI-VA-VOCE •OSCE		Human Anatomy Department of anatomy – topics like	2 hr lectures

	<p>2. Enumerate the causes, clinical features, types, diagnosis and treatment of Blepharitis</p> <p>3. Enumerate, describe and mention the clinical features of various lid tumors</p> <p>4. Describe the clinical features, types and management of ptosis</p> <p>5. Describe the clinical features and management of various lid anomalies like ectropion, entropion, trichiasis etc.</p> <p>6. Describe the clinical features and management of various lacrimal sac disorders including dacryocystitis</p>							Anatomy of lids, lacrimal system with its applied aspects	
OP2.2	<p>Demonstrate the symptoms & clinical signs of conditions enumerated in OP2.1 Specific learning objectives:</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to:</p> <p>7. Demonstrate the clinical features of Hordeolum Externum and Internum</p> <p>8. Demonstrate the clinical features in different types of Blepharitis</p> <p>9. Demonstrate the clinical features of ptosis</p> <p>10. Demonstrate the clinical features of various lid anomalies like ectropion, entropion, trichiasis etc.</p> <p>11. Demonstrate the clinical features of various lacrimal sac disorders including dacryocystitis</p>	S	S	Y	DOAP session	Skill assessment			1 hr bedside teaching/ DOAP
					<ul style="list-style-type: none"> • Lectures • Case scenarios/ bedside clinics • DOAP sessions 	<ul style="list-style-type: none"> Knowledge: • Long essay/ short essay/ short answers/ MCQ's • VI-VA-VOCE • OSCE Skill assessment • OSCE 			

Number	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/ KH/ SH/P	Core (Y/ N)	Sug- gested Teach- ing Learn- ing meth- od	Sug- gested Assess- ment method	Num- ber re- quired to cer- tify P	Inte- gra- tion	
OP2.3	<p>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 trichiatic cilia removal by epilation</p> <p>Specific learning objectives:</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to:</p> <ol style="list-style-type: none"> 1. Demonstrate the procedure of how to elicit bells phenomenon 2. Demonstrate the various methods of assessing the degree and severity of ectropion and entropion 3. Perform regurgitation test of lacrimal sac by putting pressure over the lacrimal sac area 4. Perform massage technique in a patient with congenital dacryocystitis using all precautions 5. Demonstrate how to perform epilation in cases of trichiasis using appropriate instruments 	S	SH	Y	<p>DOAP session, Lecture</p> <ul style="list-style-type: none"> •Lectures •Case scenarios/ bedside clinics •DOAP sessions 	<p>Skill assessment</p> <ul style="list-style-type: none"> •Skill assessment- OSCE, clinical evaluation •Long essay/ short essay/ short answers/ MCQ's •VI-VA-VOCE •OSCE 			1hr bedside teaching/ DOAP

OP2.4	<p>Describe the aetiology, clinical presentation. Discuss the complications and management of orbital cellulitis</p> <p>Specific learning objectives:</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <ol style="list-style-type: none"> 1. Describe the etiology and clinical features of orbital cellulitis 2. Discuss the complications of orbital cellulitis 3. Discuss the management of orbital cellulitis 	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lectures •Case scenarios/ bedside clinics 	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> •Long essay/ short essay/ short answers/ MCQ's •VI-VA-VOCE 			2 hrs seminars/ SGD
OP2.5	<p>Describe the clinical features on ocular examination and management of a patient with cavernous sinusthrombosis</p> <p>Specific learning objectives:</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <ol style="list-style-type: none"> 4. Describe the etiology and clinical features of cavernous sinus thrombosis on ocular examination 5. Discuss the management of cavernous sinus thrombosis 	K	KH	Y	<p>Lecture, Small group discussion</p> <p>Lectures</p>	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> •Long essay/ short essay/ short answers/ MCQ's •VI-VA-VOCE 			1 hr SGD
OP2.6	<p>Enumerate the causes and describe the differentiating features, and clinical features and management of proptosis</p> <p>Specific learning objectives:</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p>	K	KH	Y	<p>Lecture, large group discussion</p>	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> •Long essay/ short essay/ short answers/ MCQ's 			2 hr lecture

	<p>6.Enumerate the etiology and different types of Proptosis</p> <p>7.Describe the differential diagnosis of proptosis</p> <p>8.Describe the clinical features of proptosis</p> <p>9.Describe the management of Proptosis</p>				<ul style="list-style-type: none"> •Lectures •large group discussions 	<ul style="list-style-type: none"> •VI-VA-VOCE 			
OP2.7	<p>Classify the various types of orbital tumours. Differentiate the symptoms and signs of the presentation of various types of ocular tumours</p> <p>Specific learning objectives:</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <p>10. Enumerate the various types of orbital tumors</p> <p>11. Describe the symptoms of various types of ocular tumors</p> <p>12. Describe the signs of various types of orbital tumors</p>	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lectures •Small group discussions 	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> •Long essay/ short essay/ short answers/ MCQ's •VI-VA-VOCE 			1 hr
OP2.8	<p>List the investigations helpful in diagnosis of orbital tumors. Enumerate the indications for appropriate referral</p> <p><u>Specific learning objectives:</u></p> <p><u>At the end of the session phase 3 part 1 MBBS students should be able to</u></p> <p>1. Enumerate the investigations helpful in the diagnosis of orbital tumors.</p> <p>2. Mention the usefulness of X Rays in the diagnosis of orbital tumors</p> <p>3. Describe the role of MRI and CT in the diagnosis of orbital tumors</p> <p>4. Describe the indications of timely referral of a patient with orbital tumors to the concerned specialist</p>	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lectures •Small group discussions 	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> •Long essay/ short essay/ short answers/ MCQ's VI-VA-VOCE 			1 hr

Topic: Conjunctiva				Number of procedures that require certification: (NIL)						
Number of Competencies (09)										
OP3.1	<p>Elicit document and present an appropriate history in a patient presenting with a "red eye" including congestion, discharge, pain</p> <p>Specific learning objectives:</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <ol style="list-style-type: none"> 1. Elicit history regarding the redness of the eye, its duration, any associated symptoms such as pain, discharge, visual disturbance etc. 2. elicit history about the type of discharge whether watery/purulent/mucopurulent/ropy/bloody(haemolacria) , history of any sticky lids, and any medications 3. Elicit history regarding pain, its duration, nature, area of distribution and radiation, relieving and aggravating factors ,should be able to recognize/suspect that pain is from ocular structures or referred pain from adjacent structures such as paranasal sinuses 	S	SH	Y	DOAP session	<ul style="list-style-type: none"> •Lectures •Small group discussions •DOAP sessions 	<ul style="list-style-type: none"> •Long essay/ short essay/ short answers/ MCQ's •VI-VA-VOCE •OSCE stations •Case scenarios 			1hr bedside teaching/ DOAP
OP3.2	<p>Demonstrate document and present the correct method of examination of a "red eye" including vision assessment, corneal lustre, pupil abnormality, ciliary tenderness</p> <p>Specific learning objectives</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p>	S	SH	Y	DOAP session	<ul style="list-style-type: none"> •Lectures 	<ul style="list-style-type: none"> •VI-VA-VOCE •OSCE stations •Case scenarios 			1 hr DOAP

	<ol style="list-style-type: none"> 4. Document the correct method of examination of a case of red eye in the form of a detailed case sheet 5. Use Snellen's distance vision chart and Near Vision chart to record the distant and near vision. 6. Demonstrate correct method of torch light examination of the eye and show/recognize corneal lustre, papillary reactions. And recognize any corneal surface abnormalities, loss of lustre, any ulcer etc. 7. Demonstrate the correct method of recording corneal sensation and recognize any hypaesthesia. 8. Demonstrate the correct method of eliciting both direct and consensual papillary reactions using appropriate torch light 9. Elicit ciliary tenderness by appropriate technique of palpation 				<ul style="list-style-type: none"> •Small group discussions •DOAP sessions 	<ul style="list-style-type: none"> •OCEx 			
--	--	--	--	--	--	---	--	--	--

Number	COMPETENCY The student should be able to	Do- main K/S/ A/C	Level K/ KH/ SH/P	Core (Y /N)	Sug- gested Teach- ing Learn- ing meth- od	Sug- gested Assess- ment method	Num- ber re- quired to cer- tify P	Inte- gra- tion	
OP3.3	<p>Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of various causes of conjunctivitis</p> <p>Specific learning objectives</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <p>10. Define conjunctivitis and describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of acute bacterial conjunctivitis</p> <p>11. Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of chronic bacterial conjunctivitis.</p> <p>12. Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of acute viral conjunctivitis.</p> <p>13. Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of membranous and pseudomembranous conjunctivitis</p>	K	KH	Y	<p>Lecture, large group discussion</p> <ul style="list-style-type: none"> •Lectures •large group discussions •DOAP sessions 	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> •Long questions/ short questions/ MCQs •VI-VA-VOCE •OSCE stations •Case scenarios 			2hrs

	<p>14. Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of allergic conjunctivitis</p> <p>15. Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of angular conjunctivitis</p> <p>16. Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of other infective and inflammatory causes of conjunctivitis</p>								
OP3.4	<p>Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of trachoma.</p> <p>Specific learning objectives At the end of the session phase 3 part 1 MBBS students should be able to</p> <ol style="list-style-type: none"> 1. Describe the etiology and clinical features of trachoma 2. Describe the pathophysiology and diagnosis of Trachoma 3. Describe the complications and sequelae of Trachoma 4. Describe the differential diagnosis and management of trachoma 	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> • Lectures • Small group discussions • DOAP sessions 	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> • Long questions/ short questions/ MCQs • VI-VA-VOCE • OSCE stations • Case scenarios 			1 hr SGD

OP3.5	<p>Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of vernal catarrh</p> <p>Specific learning objectives</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <ol style="list-style-type: none"> 5. Describe the etiology and clinical features of vernal catarrh 6. Describe the pathophysiology and diagnosis of vernal catarrh 7. Describe the complications and sequelae of vernal catarrh 8. Describe the differential diagnosis and management of vernal catarrh 	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lectures •Small group discussions •DOAP sessions 	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> •Long questions/ short questions/ MCQs •VI-VA-VOCE •OSCE stations •Case scenarios 			1 hr SGD
OP3.6	<p>Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of pterygium</p> <p>Specific learning objectives</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <ol style="list-style-type: none"> 9. Describe the etiology and clinical features of pterygium 10. Describe the pathophysiology and diagnosis of pterygium 11. Describe the complications and management of Pterygium 12. Describe the differential diagnosis of Pterygium. Describe the differences between Pseudo pterygium and True Pterygium 13. Enumerate the different surgical options available for the treatment of Pterygium 	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lectures •Small group discussions •DOAP sessions 	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> •Long questions/ short questions/ MCQs •VI-VA-VOCE •OSCE stations •Case scenarios 			1 hr SGD

OP3.7	<p>Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of symblepharon</p> <p>Specific learning objectives</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <p>14. Describe the etiology and ocular features of symblepharon</p> <p>15. Describe the pathophysiology and diagnosis of symblepharon</p> <p>16. Describe the complications and management of Symblepharon</p> <p>17. Enumerate the different surgical options available for the treatment of Symblepharon</p>	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lectures •Small group discussions 	<p>Written/ Viva voce</p> <p>Long questions/ short questions/ MCQs</p> <ul style="list-style-type: none"> •VI-VA-VOCE 			1hr SGD
OP3.8	<p>Demonstrate correct technique of removal of foreign body from the eye in a simulated environment</p> <p>Specific learning objectives</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <p>18. Identify the presence of foreign body on the ocular surface in a simulated environment</p> <p>19. Demonstrate the correct technique of eversion of eyelid to look for Foreign body in a simulated environment</p> <p>20. Describe the pre requisites and correct positioning of the patient on the slit lamp for FB removal in a simulated environment</p> <p>21. Demonstrate the correct technique of removal of foreign body using needle/forceps in a simulated environment</p>	S	SH	Y	<p>DOAP session</p> <ul style="list-style-type: none"> •Lectures •Small group discussions •DOAP Sessions 	<p>Skill assessment</p> <ul style="list-style-type: none"> •Long questions/ short questions/ MCQs •VI-VA-VOCE •OSCE stations 			1hr bed-side teaching / DOAP

OP3.9	<p>Demonstrate the correct technique of instillation of eye drops in a simulated environment</p> <p>Specific learning objectives</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <p>22. Demonstrate the correct position of the eye for instillation of eye drops in a simulated environment</p> <p>23. Demonstrate the correct technique of instillation of eyedrops in a simulated environment</p> <p>24. Demonstrate the correct technique of removal of foreign body using needle/forceps in a simulated environment</p>	S	SH	Y	<p>DOAP session</p> <ul style="list-style-type: none"> •Lectures •Small group discussions •DOAP Sessions 	<p>Skill assessment</p> <ul style="list-style-type: none"> •Long questions/ short questions/ MCQs •VI-VA-VOCE •OSCE stations 			Combined with the above
Topic: Corneas		Number of Competencies: (10)			Number of procedures that require certification: (NIL)				
OP4.1	<p>Enumerate, describe and discuss the types and causes of corneal ulceration</p> <p><u>Specific learning Objectives</u></p> <p>At the end of the session the 3rd year MBBS student should be able to:</p> <ol style="list-style-type: none"> 1. Define a corneal ulcer. 2. Discuss the etiological factors involved in the causation of corneal ulcer including the predisposing local factors, systemic factors, source of infection and causative organisms. 3. Discuss the pathological stages of corneal ulceration. 	K	KH	Y	<p>Lecture, large group discussion</p> <p>Demonstration of clinical cases and</p>	<p>Written/ Viva voce</p> <p>Knowledge</p> <p>1.Long essay/ short essay/short answer/ MCQ</p>		Human Anatomy	2hrs

	<p>4. Classify corneal ulceration on the basis of location, depth necrosis, Uveal reaction, etiology.</p> <p>5. Discuss the clinical features (symptoms and signs) of corneal ulcers.</p> <p>6. Discuss the investigations to be done in a case of corneal ulcer including ocular (syringing, IOP, Sensation) and microbiology.</p> <p>7. Discuss the treatment of simple corneal ulcer (of different etiological organisms).</p> <p>8. Discuss the causes of non – healing corneal ulcer.</p>				<p>investigations Demonstration pertaining to formulation of fortified medication and instillation</p>	<p>2. Viva voce</p> <p>Skill assessment</p> <p>1. Case discussion</p> <p>2. Spotters, OSPE</p>		<p>Anatomy, Microbiology, Pathology, pharmacology.</p>	
OP4.2	<p>Enumerate and discuss the differential diagnosis of infective keratitis</p> <p><u>Specific learning Objectives</u> At the end of the session the 3rd year MBBS student should be able to:</p> <p>1. Enumerate and discuss the etiological causes of infective keratitis</p> <p>A. Infective B .Non Infective - Immunological (phlyctenular, acne rosacea, marginal ulcer, mooren ulcer, interstitial keratitis)</p>	K	KH	Y	<p>Lecture, Small group discussion Demonstration of clinical cases</p>	<p>Written/ Viva voce</p> <p>Knowledge</p> <p>1. Long essay/ short essay/short answer/ MCQ</p> <p>2. Viva voce</p> <p>Skill assessment</p> <p>1. Spotters,</p>		<p>Microbiology</p>	1hr

	<ul style="list-style-type: none"> - trophic keratitis (neurotrophic keratopathy, exposure keratopathy, atheromatous ulcers) - keratitis associated with skin and mucous membrane disease - Keratitis associated with collagen vascular disease - Traumatic keratitis (mechanical, chemical, thermal radiation) - Miscellaneous: Nutritional Superior limbic keratoconjunctivitis Thygeson superficial punctate keratitis Recurrent epithelial erosions <p>2. Describe the risk factors associated with different infective etiologies</p> <p>3. Describe the clinical features associated with infective etiologies</p> <p>4. Discuss the investigations done for the various infective etiologies</p>								
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/SH/P	Core (Y/N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Integration	
OP4.3	<p>Enumerate the causes of corneal edema</p> <p><u>Specific learning Objectives</u></p> <p>At the end of the session the 3rd year MBBS student should be able to:</p> <p>1. Describe the applied anatomy of cornea especially the histology.</p>	K	KH	Y	Lecture, Small group discussion Demon	Written/ Viva voce Knowledge		Anatomy, Physiology	1hr

	<ol style="list-style-type: none"> 2. Describe the applied physiology especially in relation to maintenance of corneal transparency 3. Enumerate the causes of corneal edema 4. Describe the stages of progression of corneal edema 5. Describe the clinical features of corneal edema 6. Discuss the treatment of corneal edema 				stra- tion of clinical cases	<ol style="list-style-type: none"> 1.Long essay/ short essay/ short answer/ MCQ 2. Viva voce Skill assess- ment 1. Spot- ters,			
OP4.4	<p>Enumerate the causes and discuss the management of dry eye</p> <p><u>Specific learning Objectives</u></p> <p>At the end of the session the 3rd year MBBS student should be able to:</p> <ol style="list-style-type: none"> 1. Describe the structure of tear film 2. Discuss the function of tear film and secretion of tears 3. Enumerate the causes of dry eye 4. Describe the symptoms and signs of dry eye. 5. Discuss the basic tests to confirm dry eye diagnosis 6. Discuss the treatment of dry eye –medical and surgical 	K	KH	Y	Lecture, large group discus- sion Demon- stra- tion of clinical cases	Written/ Viva voce Knowl- edge <ol style="list-style-type: none"> 1.Long essay/ short essay/ short answer/ MCQ 2. Viva voce Skill assess- ment 1. Spot- ters,		Phys- iology	1hr

OP4.5	<p>Enumerate the causes of corneal blindness</p> <p><u>Specific learning Objectives</u></p> <p>At the end of the session the 3rd year MBBS student should be able to:</p> <ol style="list-style-type: none"> 1. Define blindness according to WHO (including acuity and field of vision) 2. Discuss incidence and prevalence of corneal blindness. 3.Enumerate causes of corneal blindness <ol style="list-style-type: none"> a. Corneal opacity <ol style="list-style-type: none"> 1. Trauma – mechanical and chemical 2. Ulcer 3. Trachoma 4.Vitamin A deficiency 5.Onchocerciasis 6. Dystrophies 7. Degeneration (band Keratopathy) b. Corneal ectasia <ol style="list-style-type: none"> c. Corneal edema -Bullous keratopathy 4. Discuss epidemiology of vitamin a deficiency, trachoma onchocerciasis trauma 5. Discuss strategies for prevention of blindness in relation to nutritional blindness, trachoma, onchocerciasis and trauma 6. Discuss treatment of corneal blindness: surgical (keratoplasty, kertoprosthesis) 7. Discuss rehabilitation of blind 	K	KH	Y	Lecture, large group discussion Demonstration of clinical cases	Written/ Viva voce Knowledge 1.Long essay/ short essay/ short answer/ MCQ 2. Viva voce Skill assessment 1.Case discussion 2. Spotters, OSPE	Community Medicine	1 hr
-------	---	---	----	---	---	---	--------------------	------

OP4.6	<p>Enumerate the indications and the types of keratoplasty</p> <p><u>Specific learning Objectives</u></p> <p>At the end of the session the 3rd year MBBS student should be able to:</p> <ol style="list-style-type: none"> 1. Discuss the immunologically privileged status of cornea 2. Enumerate the indications for kertoplasty Optical: opacity, keratoconus, anterior staphylocoma, bullous keratopathy. Tectonic: Descemetocoele, perforated corneal ulcer, irregular irreparable corneal laceration with tissue loss cosmetic 3. Discuss the types of keratoplasty Autograft Allograft – Penetrating keratoplasty Lamellar keratoplasty Deep anterior lamellar keratoplasty (DALK) Descement stripping endothelial keratoplasty (DSEK) Small patch graft 4. Discus the prognostic factors for keratoplasty 5. Describe the steps of keratoplasty 6. Discuss the complication of Keratoplasty 	K	KH	Y	Lecture, large group discussion	Written/ Viva voce Knowledge 1.Long essay/ short essay/ short answer/ MCQ 2. Viva voce			1hr
-------	---	---	----	---	---------------------------------	---	--	--	-----

OP4.7	<p>Enumerate the indications and describe the methods of tarsorrhaphy</p> <p><u>Specific learning Objectives</u></p> <p>At the end of the session the 3rd year MBBS student should be able to:</p> <ol style="list-style-type: none"> 1. Enumerate the indications for tarsorrhaphy <ol style="list-style-type: none"> a. Exposure keratitis b. Non – healing corneal ulcer c. Neuroparalytic keratitis d. For healing of skin graft 2. Enumerate the types of tarsorrhaphy <p>Temporary/ permanent Median/ paramedian</p> 3. Describe the steps of tarsorrhaphy 	K	KH	Y	Lecture, Small group discus- sion	Written/ Viva voce Knowl- edge 1.Long essay/ short essay/ short answer/ MCQ 2. Viva voce			1 hr
OP4.8	<p>Demonstrate technique of removal of foreign body in the cornea in a simulated environment</p> <p><u>Specific learning Objectives</u></p> <p>At the end of the session the 3rd year MBBS student should be able to:</p> <ol style="list-style-type: none"> 1. Identify the situations in which one will suspect the presence of foreign body 2. Demonstrate the process of confirming the presence or absence of a foreign body and locating the foreign body if present(mention the common sites for lodging of foreign body, mention the use of fluorescein stain whenever required). 	S	SH	Y	DOAP session Small group discus- sion Demon- stra- tion of clinical cases	Skill assess- ment Knowl- edge 1.Long essay/ short essay/ short answer/ MCQ			1 hr bed- side teach- ing/ DOAP

	<p>3. Demonstrate the process of removing the foreign body under aspects preventions and medication to be used</p> <ol style="list-style-type: none"> Assess the depth of the foreign body Anaesthetise the ocular surface Removal of the foreign body under aseptic conditions by the least traumatic method (first attempt with cotton swab then with a disposable hypodermic needle if required). Removal through the shortest route to the limbus. Avoid over debridement of rust ring Prophylactic antibiotic drops Cycloplegic and patch if required. Counsel the patient regarding follow up <p>4. Identify the conditions which require referral to Ophthalmologist</p>					<p>2. Viva voce</p> <p>Skill assessment</p> <p>1. Case discussion 2. Spotters, OSPE</p>			
OP4.9	<p>Describe and discuss the importance and protocols involved in eye donation and eye banking</p> <p><u>Specific learning Objectives</u></p> <p>At the end of the session the 3rd year MBBS student should be able to:</p> <ol style="list-style-type: none"> Discuss the magnitude of corneal blindness Discuss the current rate of eye collection and the required rate of eye collection to clear the backlog of corneal blindness and the steps required to achieve this. Discuss the protocols to be followed in a case of eye donation with regard to <ol style="list-style-type: none"> Time window for harvesting cornea Grief counselling Legal permission 	K	KH	Y	Lecture, large group discussion	<p>Written/ Viva voce</p> <p>Knowledge</p> <ol style="list-style-type: none"> Long essay/ short essay/ short answer/ MCQ Viva voce 		Community Medicine	1 hr SGD

	<p>d. Rule out contraindication for procurement or use of donor cornea</p> <p>e. Examination of adnexa and anterior segment with bright torch or slit lamp</p> <p>f. Use protective gear</p> <p>g. Collected blood sample for HIV and HBS Ag</p> <p>h. Prepare the site as per operating room standards</p> <p>i. Enucleation / in situ corneoscleral excision</p> <p>j. All disposables should be discarded in biohazard bag and disposed properly in the eye bank</p> <p>k. Thank the relatives</p> <p>4. Discuss the protocol to be followed in the eye bank with regard to</p> <p>a. Evaluation of cornea – Gross</p> <ul style="list-style-type: none"> - Bio microscopic examination - Specular microscopy <p>b. Cornea Preservation</p>								
OP4.10	<p>Counsel patients and family about eye donation in a simulated environment</p> <p><u>Specific learning Objectives</u></p> <p>At the end of the session the 3rd year MBBS student should be able to:</p> <ol style="list-style-type: none"> 1. Do grief counselling 2. Tactfully inform that a timely eye donation is possible for human good 3. Inform that the eyes have to be removed within 6 hours of death 4. Inform that eye donation gives sight to blind persons 5. Inform that donated eyes can never bought or sold 6. Inform that eyes are never removed from a living person 	A/C	SH	Y	DOAP session	Attitude 1. OSCE: Counsel patient and family about eye donation in a simulated environment Skill assessment 1. OSCE		Community Medicine	DOAP combine with 4.8 OP

Topic: Sclera		Number of competencies: (02)			Number of procedures that require certification : (NIL)					
OP5.1	<p>Define, enumerate and describe the aetiology, associated systemic conditions, clinical features complications indications for referral and management of episcleritis Specific learning objectives At the end of the session phase 3 part 1 MBBS students should be able to</p> <p>25. Define Episcleritis. Enumerate the systemic conditions associated with episcleritis 26. Describe the etiology and classification of episcleritis 27. Describe the clinical features of different types of episcleritis 28. Enumerate the different diagnostic tests required to rule out different systemic conditions which can cause episcleritis 29. Describe the complications and management of episcleritis 30. Describe the indications for timely referral for episcleritis</p>	K	KH	Y	Lecture, Small group discussion •Lectures •Small group discussions	Written/ Viva voce •Long questions/ short questions/ MCQs •IVA-VOCE				1hr

Number	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/ KH/ SH/ P	Core (Y/ N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Integration	
OP5.2	<p>Define, enumerate and describe the aetiology, associated systemic conditions, clinical features, complications, indications for referral and management of scleritis</p> <p>Specific learning objectives</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <p>31. Define Scleritis. Enumerate the systemic conditions associated with Scleritis</p> <p>32. Describe the etiology and classification of Scleritis</p> <p>33. Describe the clinical features of different types of Scleritis</p> <p>34. Enumerate the different diagnostic tests required to rule out different systemic conditions which can cause Scleritis</p> <p>35. Describe the complications and management of Scleritis</p> <p>36. Describe the indications for timely referral for Scleritis</p>	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lectures •Small group discussions 	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> •Long questions/ short questions/ MCQs •VIVA -VOCE 		General Medicine	1 hr

Topic: Iris and Anterior chamber		Number of Competencies (10)			Number of procedures that require certification: (NIL)					
OP6.1	<p>Describe clinical signs of intraocular inflammation and enumerate the features that distinguish granulomatous from non-granulomatous inflammation. Identify acute iridocyclitis from chronic condition</p> <p>Specific Learning Objectives-</p> <p>At the end of a lecture, a third year MBBS student should be able to</p> <ol style="list-style-type: none"> 1. Describe signs and symptoms of ocular inflammation 2. Define granulomatous and non-granulomatous inflammation. 3. Distinguish granulomatous from non-granulomatous inflammation based on clinical features with 95% accuracy 4. Enumerate the clinical features and management of acute iridocyclitis 5. Enumerate the clinical features and management of chronic iridocyclitis 6. Differentiate acute iridocyclitis from chronic iridocyclitis with 95% accuracy 7. Describe the clinical features and management of granulomatous inflammation <p>Domain- K, level- KH</p>	K	KH	Y	Lecture, Small group discussion	Written/ Viva voce				1 hr

OP6.2	<p>Identify and distinguish acute iridocyclitis from chronic iridocyclitis</p> <p>At the end of a lecture, a third year MBBS student should be able to</p> <ol style="list-style-type: none"> 1. Define acute and chronic iridocyclitis 2. List 3 important causes and clinical features of acute iridocyclitis 3. Describe management of acute iridocyclitis 4. List 3 important causes and clinical features of chronic iridocyclitis 5. Describe management of chronic iridocyclitis 6. Identify and mention at least 3 differences between acute and chronic iridocyclitis <p>Domain- K, level- KH</p>	K	KH	Y	<p>Lecture, Small group discussion</p> <p>Lectures, Case demonstrations, small group discussions</p>	<p>Written/ Viva voce</p> <p>long essay, short answer and MCQs, Viva and case discussions</p>			1hr
OP6.3	<p>Enumerate systemic conditions that can present as iridocyclitis and describe their ocular manifestations</p> <p>Specific learning objectives</p> <p>At the end of a teaching learning session, a third year MBBS student should be able to</p> <ol style="list-style-type: none"> 1. Enumerate at least 5 systemic conditions that can present as Iridocyclitis 2. Describe the most important ocular manifestations of these systemic conditions <p>Domain- K, level- KH</p>	K	KH	Y	<p>Lecture, Small group discussion</p> <p>Lectures, Small group discussions, case demonstrations, videos and scenarios</p>	<p>Written/ Viva voce</p> <p>Long essay, short essay, MCQs, Viva</p>		General Medicine	1hr

OP6.4	<p>Describe and distinguish hyphema and Hypopyon</p> <p>At the end of a teaching learning session, a third year MBBS student should be able to</p> <ol style="list-style-type: none"> 1. Define Hyphema and Hypopyon 2. Describe the signs and symptoms of Hyphema and its management 3. Describe the signs and symptoms of Hypopyon and its management 4. Differentiate Hyphema from Hypopyon based on clinical features <p>Domain- K, level- KH</p>	K	KH	Y	<p>Lecture, Small group discussion</p> <p>Lectures, Small group discussions, case demonstrations, videos and scenarios</p>	<p>Written/ Viva voce</p> <p>Short essay, short answers, MCQs, Viva</p>			1 hr SGD
OP6.5	<p>Describe and discuss the angle of the anterior chamber and its clinical correlates</p> <p>At the end of a teaching learning session, a third year MBBS student should be able to</p> <ol style="list-style-type: none"> 1. Describe and draw a labelled diagram of the anatomy of angle of anterior chamber 2. Enumerate the causes of shallow and deep angle of anterior chamber 3. Describe the relevant applied anatomical aspects of angle of anterior chamber 4. Discuss and correlate the abnormalities of anterior chamber angles to clinical conditions <p>Domain- K, level- KH</p>	K	KH		<p>Lecture, Small group discussion</p> <p>Lectures, Small group discussions, videos, charts with diagrams</p>	<p>Written/ Viva voce</p> <p>Short essay, short answers, MCQs, Viva and charts</p>			1hr SGD

OP6.6	<p>Identify and demonstrate the clinical features and distinguish and diagnose common clinical conditions affecting the anterior chamber</p> <p>At the end of a teaching learning session, a third year MBBS student should be able to</p> <ol style="list-style-type: none"> 1. Demonstrate how to assess the depth of anterior chamber using a torch light with 90% accuracy 2. Demonstrate normal, shallow and deep anterior chamber in eyes using torch light with 90% accuracy 3. Identify an eye with shallow anterior chamber using standard methods with 90% accuracy 4. Identify an eye with deep anterior chamber using standard methods with 90% accuracy 5. Diagnose common clinical conditions causing shallow anterior chamber and their clinical features 6. Diagnose common clinical conditions causing deep anterior chamber and their clinical features 7. Demonstrate and distinguish shallow and deep anterior chamber using torch light <p>Domain- S, level- SH</p>	S	SH	Y	<p>DOAP session, Bedside clinic</p> <p>Lectures, Small group discussions, case demonstrations, videos and scenarios, bed side demonstrations</p>	<p>Skill assessment</p> <p>Short essay, short answers, MCQs, Viva, long and short cases</p>			<p>1 hr bedside teaching/ DOAP along with 6.10 OP</p>
-------	---	---	----	---	--	---	--	--	---

OP6.7	<p>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.</p> <p>At the end of a teaching learning session, a third year MBBS student should be able to</p> <ol style="list-style-type: none"> 1.Enumerate the etiology, clinical features of shallow anterior chamber and choose appropriate investigations 2.Enumerate the etiology, clinical features of deep anterior chamber and choose appropriate investigations 3.Distinguish between shallow and deep anterior chamber based on etiology, clinical features and investigations <p>Domain- S, level- SH</p>	K	KH	Y	Lecture, Small group discussion Lectures, Small group discussions, case demonstrations, videos and scenarios	Written/ Viva voce Short essay, short answers, MCQs, Viva		Human Anatomy	1 hr SGD
	Topic: Lens	Number of Competencies: (06)							
OP7.1	<p>Describe the surgical anatomy and the metabolism of the lens</p> <p>Specific learning objectives</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <ol style="list-style-type: none"> 37. Describe the anatomy of lens with a neat labelled diagram 38. Describe the physiology and biochemistry of the lens with an emphasis on the metabolism 	K	KH	Y	Lecture, Small group discussion •Lectures •Small group discussions	Written/ Viva voce •Long questions/ short questions/ MCQs •VIVA-VOCE		Biochemistry , Human Anatomy	1hr lecture

OP7.2	<p>Describe and discuss the aetio-pathogenesis, stages of maturation and complications of cataract</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <p>39. Describe the etiology and pathogenesis of cataract with an emphasis on pathological changes that happens in the lens after cataract formation</p> <p>40. Describe the stages of maturation of cataract with their ocular features</p> <p>41. Describe the complications of a cataract</p>	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lectures •Small group discussions 	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> •Long questions/ short questions/ MCQs •IVA-VOCE 		Pa-thology	1 hr SGD
OP7.3	<p>Demonstrate the correct technique of ocular examination in a patient with a cataract</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <p>42. Demonstrate the positioning of a patient with cataract for ocular examination</p> <p>43. Describe the types of cataract based on their appearance especially with reference to colour of the lens</p> <p>44. Demonstrate how to examine an immature cataract in a patient with torch light</p> <p>45. Demonstrate how to examine a mature cataract in a patient with torch light</p> <p>46. Demonstrate how to examine a patient with hypermature cataract using torch light</p> <p>47. Describe the differences between immature, mature and hypermature cataract during ocular examination using torch light</p>	S	SH	Y	<p>DOAP session</p> <ul style="list-style-type: none"> •Lectures •Small group discussions 	<p>Skill assessment</p> <ul style="list-style-type: none"> •Long questions/ short questions/ MCQs •VIVA-VOCE 			1 hr DOAP

OP7.4	<p>Enumerate the types of cataract surgery and describe the steps, intra-operative and post-operative complications of extracapsular cataract extraction surgery.</p> <p>Specific learning objectives</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <p>48. Enumerate the types of cataract surgery</p> <p>49. Enumerate the types of extracapsular cataract surgery</p> <p>50. Describe the pre-operative preparation for extracapsular cataract surgery</p> <p>51. Describe the steps of extracapsular cataract surgery</p> <p>52. Describe the intra operative complications of extracapsular cataract surgery</p> <p>53. Describe the post-operative complications of extracapsular cataract surgery</p> <p>54. Describe the intra and post-operative complications of small incision cataract surgery</p> <p>55. Describe the intra and post-operative complications of phacoemulsification</p>	S	KH	Y	<p>DOAP session, Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lectures •Small group discussions •DOAP sessions 	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> •Long questions/ short questions/ MCQs •VIVA -VOCE 			2 hr SGD
OP7.5	<p>To participate in the team for cataract surgery</p> <p>Specific learning objectives</p> <p>At the end of the session phase 3 part 1 MBBS students should be able to</p> <p>56. Enumerate the participants of the team involved in cataract surgery</p> <p>57. Describe the responsibilities of each member of the team for cataract surgery</p> <p>58. Describe the principles involved in counselling a patient for cataract surgery</p> <p>59. Describe the role of a student as a team member in cataract surgery</p>	S	SH	Y	<p>DOAP session</p> <ul style="list-style-type: none"> •Small group discussions •DOAP sessions 	<p>Skill assessment/ Logbook documentation</p> <ul style="list-style-type: none"> •Long questions/ short 			DOAP

						ques- tions/ MCQs •VIVA -VOCE •Skill assess- ment •Log book docu- menta- tion			
OP7.6	Administer informed consent and counsel patients for cataract surgery in a simulated environment Specific learning objectives At the end of the session phase 3 part 1 MBBS students should be able to 60. Define informed consent and should be able to write one in a simulated environment 61. Describe the key components involved in counselling a patient for cataract surgery in a simulated environment 62. Counsel a patient for cataract surgery under supervision in a simulated environment 63. Describe the responsibilities of each member of the team for cataract surgery 64. Describe the principles involved in counselling a patient for cataract surgery 65. Describe the role of a student as a team member in cataract surgery	S	SH	Y	DOAP session •Small group discus- sions •DOAP sessions	Skill Assess- ment •Long ques- tions/ short ques- tions/ MCQs •VIVA -VOCE •Skill assess- ment •Log book docu- menta- tion			DOAP

Number	COMPETENCY The student should be able to	Domain K/S/ A/C	Level K/ KH/ SH/P	Core (Y/ N)	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Integration	
Topic: Retina & optic Nerve		Number of Competencies (05)			Number of procedures that require certification : (NIL)				
OP8.1	Discuss the aetiology, pathology, clinical features and management of vascular occlusions of the retina Specific learning objectives: At the end of the session 3rd year MBBS students should be able to: 7.Enumerate various types of vascular occlusions in the retina 8.Differentiate between arterial and venous occlusions 9.List aetiological factors for vein occlusions and discuss aetiopathogenesis 10. Classify types of vein occlusions 11.Describe the clinical features of retinal artery and vein occlusions 12.Discuss briefly investigations and treatment of retinal vein occlusions 13. Discuss the immediate care in retinal artery occlusions and systemic work up 14. Counsel a patient with retinal vein occlusion about follow up and systemic control	K	KH	Y	Lecture, large group discussion •Lecture – 1 Hr •Small group discussion with clinical case scenario(tutorials)-2 hours •Vertical integrated class with Anatomy, pathology and medicine	Written/ Viva voce Knowledge: •Long essay/ short essay/ short answers/ MCQ's •VIVA-VOCE		Human Anatomy, Pathology	1 hr

OP8.2	<p>Enumerate the indications for laser therapy in the treatment of retinal diseases (including retinal detachment, retinal degenerations, diabetic retinopathy & hypertensive retinopathy)</p> <p>At the end of the session 3rd year MBBS students should be able to:</p> <ol style="list-style-type: none"> 1. Discuss laser briefly and describe the mode of action of laser therapy in retinal disorders 2. List the indications of laser in diabetic retinopathy 3. Counsel patient about follow up and systemic control post laser therapy 4. Briefly discuss the Early Treatment Diabetic Retinopathy Study with special emphasis on laser therapy 5. Discuss indications for macular, sectoral and pan retinal laser photocoagulation in retinal vein occlusions 6. Enumerate indications for barrage laser in peripheral retinal disorders. 	K	K	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lecture – 1 Hr 	<p>Written/ Viva voce</p> <p>Knowledge:</p> <ul style="list-style-type: none"> •Short essay/ short answers/ MCQ's •VIVA-VOCE 			1hr
-------	---	---	---	---	--	--	--	--	-----

OP8.3	<p>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</p> <p>Specific learning objectives: At the end of the session 3rd year MBBS students should be able to:</p> <ol style="list-style-type: none"> 1. Identify various instruments used for fundus examination 2. Demonstrate the correct usage of direct ophthalmoscope for fundus evaluation 3. Perform a fundoscopic exam under supervision using a direct ophthalmoscope in a well dilated patient 4. Identify and document the various features in a normal fundus 5. Identify conditions when direct ophthalmoscopy would be difficult to perform and choose alternative methods for fundus examination in these situations 6. Identify few common abnormal features in the fundus 7. Record probable differentials for the pathological retinal findings noted 	S	SH	Y	<p>Lecture, large group discussion</p> <ul style="list-style-type: none"> • Small group discussion with demonstration by tutors (tutorials)-2 hours • DOAP- multiple sessions (at least two of an hour each to demonstrate reasonable competency in identifying normal fundus features) 	<p>Skill Assessment</p> <p>Skill: (practical and clinical) Shows how direct ophthalmoscopy is done in clinics (bedside) Demonstrates documentation of normal and some common pathological fundus findings in fundus diagrams OSCE DOPS Log book of fundus examined to be submitted for assessment Mini CEX</p>			2 hrs DOAP/ lectures/ SGD
-------	---	---	----	---	---	--	--	--	------------------------------------

OP8.4	<p>Enumerate and discuss treatment modalities in management of diseases of the retina</p> <p>Specific learning objectives: At the end of the session 3rd year MBBS students should be able to:</p> <ol style="list-style-type: none"> 1.Enumerate the common modalities of investigations used in diagnosis of retinal disorders 2.Discuss in brief Optical Coherence Tomography, ultrasound B scan and Fundus fluorescein angiography 3.Classify types of retinal lasers and indications for their use in brief 4.List the indications for intravitreal injections and classify the genre of drugs used 5.Enumerate the indications for use of anti VEGF injections 6.Describe in brief the indications for vitrectomy in retinal disorders 7.Discuss the preliminary management of a case of endophthalmitis 	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lecture – 1 Hr •Small group discussion with clinical case scenario(tutorials)-1 hours 	<p>Written/ Viva voce</p> <ul style="list-style-type: none"> •Long essay/ short essay/ short answers/ MCQ's •VIVA-VOCE 			1 hr SGD
OP8.5	<p>Describe and discuss the correlative anatomy, aetiology, clinical manifestations, diagnostic tests, imaging and management of diseases of the optic nerve and visual pathway</p> <p>Specific learning objectives: At the end of the session 3rd year MBBS students should be able to:</p>	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lecture – 1 Hr 	<p>Written/ Viva voce</p> <p>Knowledge:</p> <ul style="list-style-type: none"> •Long essay/ short essay/ short answers/ MCQ's •VIVA-VOCE 		Neurology, Neurosurgery, Anatomy	2 hr SGD

	<ol style="list-style-type: none"> 1. Describe the visual pathway in detail with its relations to important structures in the brain 2. Identify symptoms suggestive of various field defects 3. Discuss causes of visual pathway disorders 4. Elicit history and describe some tests suggestive of optic nerve disorders 5. Choose the right investigations which aid in the diagnosis of optic nerve or visual pathway disorders 6. Classify visual field defects with special emphasis on hemianopia 7. Differentiate between homonymous and heteronymous hemianopia and congruous and incongruous 8. Describe in brief the management of optic nerve disorders and multiple myeloma 9. Discuss in brief about the management of disorders of the visual pathway and follow up of these patients 10. List the low vision aids which may be useful for patients with irreversible visual function loss 				<ul style="list-style-type: none"> • Small group discussion with clinical case scenario (tutorials) - 2 hours • Vertical integrated class with Anatomy, neurology, neurosurgery - 1 hour 				
--	---	--	--	--	--	--	--	--	--

Topic: Miscellaneous		Number of Competencies (05)			Number of procedures that require certification: (01)				
OP9.1	Demonstrate the correct technique to examine extra ocular movements (Unioocular & Binocular) At the end of the session 3rd year MBBS students should be able to: 1.Enumerate the extraocular muscles, discuss their origin, insertion, blood and nerve supply and their actions 2.Demonstrate ductions and versions in a proper way with 100% accuracy 3.Demonstrate vergences in a proper way with 95% accuracy Domain- skill level- performance	S	P	Y	DOAP session 1.DOAP sessions 2.Bedside clinics- one-hour duration	Skill Assessment 1.Video based questions 2.OSCE	5		DOAP
OP9.2	Classify, enumerate the types, methods of diagnosis and indications for referral in a patient with heterotropia/ strabismus At the end of the session 3rd year MBBS students should be able to: 1. Enumerate the causes and different types of strabismus 2. Describe the different types of cover tests in strabismus 3. Enumerate the other examination methods in the diagnosis of strabismus 4. Describe the various surgical options available for horizontal and oblique squints	K	KH	Y	Lecture, large group discussion .Small group discussions- 1 hour Case based teaching in the OPD- 1 hr	Written/ Viva voce/ skill assessment 1. Long question 2. Short essays 3. MCQs			2hrs SGD

	5. Identify situations of heterotropia which require prompt referrals to a strabismologist with 100% accuracy Domain- K Level- KH								
OP9.3	Describe the role of refractive error correction in a patient with headache and enumerate the indications for referral Specific learning objectives: At the end of the session 2nd year MBBS students should be able to: 1. Enumerate the ophthalmic causes for headache 2. List the various refractive errors and describe asthenopia 3. List the different types of lenses used in the treatment of refractive errors 4. Counsel the patient about spectacle usage and care 5. Elicit the symptoms suggestive of raised intracranial pressure and suggest tests to rule out the same 6. Enumerate symptoms and signs suggestive of intracranial pathology which mandate urgent referral to neurologist/neurosurgeon 7. Describe the disadvantages of overcorrecting a myope or undercorrecting a hypermetrope 8. Discuss in brief few tests to ensure adequate refractive error correction	K	K	Y	Lecture, Small group discussion •Lecture – 1 Hr •Small group discussion with clinical case scenario(tutorials)-2 hours •Vertical integrated class with medicine, neurology, neurosurgery-1 hour	Written/ Viva voce Knowledge: •Long essay/ short essay/ short answers/ MCQ's •VIVA-VOCE		General Medicine Neurology, Neurosurgery and medicine	1hr SGD

Number	COMPETENCY The student should be able to	Do- main K/S/ A/C	Level K/ KH/ SH/P	Core (Y/ N)	Suggested Teaching Learning method	Suggested Assessment method	Num- ber re- quired to cer- tify P	Inte- gra- tion	
OP9.4	<p>Enumerate, describe and discuss the causes of avoidable blindness and the National Programs for Control of Blindness (including vision 2020)</p> <p>Specific learning objectives: At the end of the session 2nd year MBBS students should be able to:</p> <ol style="list-style-type: none"> 1. Define blindness and classify various categories of visual impairment 2. List the main causes of blindness and discuss the changing trends in India 3. Define avoidable, preventable and curable blindness 4. Enumerate the causes for avoidable blindness in India and briefly report the burden of the problem in India 5. Discuss various strategies adopted by the government to combat avoidable blindness in India 6. Discuss briefly about the aims and objectives of National program for Control of blindness in India 	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lecture – 2 Hr •Small group discussion (tutorials)-2 hours •Vertical integrated class with community medicine -1 hour 	<p>Written/ Viva voce</p> <p>Knowledge:</p> <ul style="list-style-type: none"> •Long essay/ short essay/ short answers/ MCQ's •VIVA-VOCE 		Community Medicine	2hrs SGD

	<p>7. List the eye diseases targeted in the National program for Control of Blindness in India</p> <p>8. Define vision 2020 and describe its objectives</p> <p>9. Discuss the main target diseases vision 2020 addresses and the strategies adopted for the same</p> <p>10. Report briefly on the burden of trachoma, childhood blindness, uncorrected refractive errors and cataract (from the vision 2020 perspective) in India</p>								
OP9.5	<p>Describe the evaluation and enumerate the steps involved in the stabilisation, initial management and indication for referral in a patient with ocular injury</p> <p>At the end of the session 2nd year MBBS students should be able to:</p> <ol style="list-style-type: none"> 1. Identify various signs which suggest intra ocular injury 2. Record the extent of trauma methodically and discuss briefly about legal implications 3. Describe emergency first aid care of a patient with intra ocular trauma 4. List few essential investigations for a patient with serious ocular trauma 	K	KH	Y	<p>Lecture, Small group discussion</p> <ul style="list-style-type: none"> •Lecture – 1 Hr •Small group discussion with clinical case scenario(tutorials)-2 hours •Vertical integrated class with critical care specialist, neurology/ neurosurgery and forensic medicine-1 hour 	<p>Written/ Viva voce</p> <p>Knowledge:</p> <ul style="list-style-type: none"> •Long essay/ short essay/ short answers/ MCQ's •VIVA-VOCE •Practical demonstration, Mini CEX and Direct Observation 		<p>Neurology/ Neurosurgery, forensic medicine specialist and critical care medicine specialist</p>	1hr DOAP

<p>5. Identify conjunctival or superficial corneal foreign body and perform (atraumatically) its removal under supervision</p> <p>6. Demonstrate conjunctival wash and first aid for chemical injury to the eye</p> <p>7. Elicit direct and consensual pupillary response in a case of facial trauma</p> <p>8. Briefly discuss the work up and requisites prior to referral of a case of globe rupture for urgent surgery</p> <p>9. List indications for referral to a specialized ophthalmologist of a case of ocular injury</p> <p>10. Discuss traumatic optic neuropathy and elicit few important signs to diagnose the same</p> <p>11. Describe common causes for orbital fracture, investigative modality of choice, complications and management in brief.</p>										
<p>Column C: K- Knowledge, S – Skill, A - Attitude / professionalism, C- Communication. Column D: K – Knows, KH - Knows How, SH - Shows how, P- performs independently, Column F: DOAP session – Demonstrate, Observe, Assess, Perform.</p> <p>Column H: If entry is P: indicate how many procedures must be done independently for certification/ graduation</p>										

CURRICULUM FOR SELF DIRECTED LEARNING IN OPHTHALMOLOGY

TOPIC	NO OF HOURS	METHOD OF TEACHING
Examination of extraocular movements	1	SDL
Fundus examination techniques	1	SDL
Ocular examination in a patient with cataract	1	SDL
Counsel about eye donation	1	SDL
Elicit history in a patient presenting with red eye	1	SDL
Demonstrate, document and present the correct method of examination of red eye	1	SDL
Demonstrate the symptoms and clinical signs of different eyelid conditions	1	SDL
Demonstrate and describe the steps in performing visual acuity for distance, near, colour vision and pinhole test	1	SDL
Demonstrate and describe bell's phenomena, regurgitation test of lacrimal sac, massage technique in congenital NLDO	1	SDL
Describe the technique of removal of foreign body from the eye	1	SDL

List of recommended textbooks (Recent Editions):

Comprehensive ophthalmology- A K Khurana.

Undergraduate ophthalmology- M vanathi.

Clinical methods in ophthalmology; A practical manual for medical students.

Reference books.

Parson's diseases of the eye- edited by RamanjitSihota, Radhika Tandon

Kanski clinical Ophthalmology.



JSS Academy of Higher Education & Research

(Deemed to be University)

Accredited "A+" Grade by NAAC

Sri Shivarathreeshwara Nagar, Mysuru – 570 015