



BLDE **(DEEMED TO BE UNIVERSITY)**

Competency Based Medical Education (CBME) Curriculum

MBBS Phase-III (Part-I)

(As per the “Regulations on Graduate Medical Education (Amendment), 2019 by Board of Governors in Super-Session of Medical Council of India Amendment Notification New Delhi, dtd. 4th November, 2019”)

2021-22

Published by

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Declared as Deemed to be University u/s 3 of UGS Act, 1956

The Constituent college

SHRI B. M. PATIL MEDICAL COLLEGE, HOSPITAL & RESEARCH CENTRE, VIJAYAPURA

Smt. Bangaramma sajjan Campus, B. M. Patil Road (Sholapur Road), Vijayapura - 586103, Karnataka, India.

BLDE (DU) Phone: +9108352-262770, Fax : +918352-263303, Website : www.bldedu.ac.in, E-mail: office@bldedu.ac.in

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Declared as Deemed to be University s/n 3 of UGC Act, 1956
Accredited with 'A' Grade by NMAC (15/06/2014)

The Constituent College

SHRI B. M. PATIL MEDICAL COLLEGE, HOSPITAL & RESEARCH CENTRE, VIJAYAPURA
BLDE(DU)REG/Rev. UG Curri./2021-22/1936 January 13, 2022

NOTIFICATION

Sub: Competency Based Medical Education (CBME) based Revision of Curriculum of MBBS Phase-III Part I, 2022-23.

Ref: 1. NMC New CBME Guidelines.

2. Minutes of the 8th meeting of Standing Committee of Academic Council held on 10.01.2022
3. Board of Management Resolution by circulation held on 12.01.2022.
4. Approval Hon'ble Vice-Chancellor vide no. 775/1 dtd. 12.01.2022.

On approval of the 8th meeting of Standing Committee of Academic Council, Board of Management Resolution by Circulation and approval of Hon'ble Vice-Chancellor, the revision of Curriculum for MBBS Phase-III Part I programme has been approved.

The revised curriculum shall be effective from the Academic Session 2022-23 onwards, for MBBS Phase-III Part I programme in the constituent College of the University viz. Shri. B. M. Patil, Medical College, Hospital and Research Centre.



REGISTRAR
REGISTRAR

BLDE (Deemed to be University)
Vijayapura-586103, Karnataka.

Copy to:

- The Secretary, UGC, New Delhi
- The Dean, Faculty of Medicine & Principal
- The Vice-Principal (Academic)
- The Controller of Examinations
- The Dean, Student Affairs
- The Prof. and HoD of Pre, Para & Clinical Departments
- All the Concerned Officials
- The Co-ordinator/ Director, IQAC
- The Assistant Registrar.

Copy respectfully submitted to:

- The Hon'ble Pro-Chancellor
- The Hon'ble Vice-Chancellor
- The Hon'ble Pro Vice-Chancellor

Smt. Bangaramma Bajaj Campus, B. M. Patil Road (Belapur Road), Vijayapura - 586103, Karnataka, India

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Vision

To be a leader in providing quality medical education, healthcare & to become an Institution of eminence involved in multidisciplinary and translational research, the outcome of which can impact the health & the quality of life of people of this region.

Mission

- To be committed to promoting sustainable development of higher education, including health science education consistent with statutory and regulatory requirements.
- To reflect the needs of changing technology.
- Make use of academic autonomy to identify dynamic educational programs.
- To adopt the global concepts of education in the healthcare sector

Introduction

The revised M.B.B.S curriculum of The Medical Council of India (MCI) came into effect from May 1997 and it has undergone amendments thereof. The BLDE Deemed to be University has implemented the new regulations for the batches of students admitted to the M.B.B.S course from the academic year 2008-09 and onwards. Later the curriculum was revised in 2012-13 and 2016-17. This fourth revision will be implemented for the batches of students admitted to the M.B.B.S Course from the academic year 2019-20 onwards. The fourth revision, in consonance with MCI, adopts Competency Based Medical Education from the year 2019-20.

SECTION - I

Objectives of Medical Education

(As stated in MCI Regulations, 1997 amended up to May 2018)

This section contains the goals and general objectives of graduate medical education as stated in MCI Regulations.

Competencies for the Indian Medical Graduate

This content is cited from “Medical Council of India, Competency based Undergraduate curriculum for the Indian Medical Graduate, 2018. (Vol.1; pages 14-20.)”

Section 1 provides the global competencies extracted from the Graduate Medical Education Regulations, 2018. The global competencies identified as defining the roles of the **Indian Medical Graduate** are the broad competencies that the learner has to aspire to achieve; teachers and curriculum planners must ensure that the learning experiences are aligned to this Manual.

Extract from the Graduate Medical Education Regulations, 2018

Objectives of the Indian Graduate Medical Training Programme

The undergraduate medical education program is designed with a goal to create an “Indian Medical Graduate” (IMG) possessing requisite knowledge, skills, attitudes, values and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being globally relevant. To achieve this, the following national and institutional goals for the learner of the Indian Medical Graduate training program are hereby prescribed:

2.1. National Goals

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

- a) recognize “health for all” as a national goal and health right of all citizens and by undergoing training for medical profession fulfill his/her social obligations towards realization of this goal.
- b) learn every aspect of National policies on health and devote herself/himself to its practical implementation.
- c) achieve competence in practice of holistic medicine, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases.
- d) develop scientific temper, acquire educational experience for proficiency in profession and promote healthy living.
- e) become exemplary citizen by observance of medical ethics and fulfilling social and professional obligations, so as to respond to national aspirations.

2.2. Institutional Goals

In consonance with the national goals, each medical institution should evolve institutional goals to define the kind of trained manpower (or professionals) they intend to produce. The Indian Medical Graduates coming out of a medical institute should:

- a) be competent in diagnosis and management of common health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.
- b) be competent to practice preventive, promotive, curative and rehabilitative medicine in respect to the commonly encountered health problems.
- c) appreciate rationale for different therapeutic modalities, be familiar with the administration of the "essential drugs" and their common side effects.
- d) be able to appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities
- e) possess the attitude for continued self learning and to seek further expertise or to pursue research in any chosen area of medicine, action research and documentation skills.
- f) be familiar with the basic factors which are essential for the implementation of the National Health Programs including practical aspects of the following:

- Family Welfare and Maternal and Child Health (MCH);
 - Sanitation and water supply;
 - Prevention and control of communicable and non-communicable diseases;
 - Immunization;
 - Health Education;
 - Indian Public Health Standards (IPHS) at various level of service delivery;
 - Bio-medical waste disposal; and
 - Organizational and or institutional arrangements.
- g) acquire basic management skills in the area of human resources, materials and resource management related to health care delivery, General and hospital management, principal inventory skills and counseling.
- h) be able to identify community health problems and learn to work to resolve these by designing, instituting corrective steps and evaluating outcome of such measures.
- i) be able to work as a leading partner in health care teams and acquire proficiency in communication skills.
- j) be competent to work in a variety of health care settings.
- k) have personal characteristics and attitudes required for professional life including personal integrity, sense of responsibility and dependability and ability to relate to or show concern for other individuals.

All efforts must be made to equip the medical graduate to acquire the skills as detailed in Table 11 Certifiable procedural skills – A Comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) – Indian Medical Graduate, as given in the Graduate Medical Education Regulations, 2018

2. 3. Goals for the Learner

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

- 2.3.1. Clinician who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.
- 2.3.2. Leader and member of the health care team and system with capabilities to collect, analyze, synthesize and communicate health data appropriately.
- 2.3.3. Communicator with patients, families, colleagues and community.
- 2.3.4. Lifelong learner committed to continuous improvement of skills and knowledge.

2.3.5. Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community and profession.

3. Competency Based Training Programme of the Indian Medical Graduate

Competency based learning would include designing and implementing medical education curriculum that focuses on the desired and observable ability in real life situations. In order to effectively fulfil the roles as listed in clause 2, the Indian Medical Graduate would have obtained the following set of competencies at the time of graduation:

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

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

diagnoses and develop individualized management plans that include preventive, promotive and therapeutic goals.

- 3.1.10 Maintain accurate, clear and appropriate record of the patient in conformation with legal and administrative frameworks.
- 3.1.11 Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context.
- 3.1.12 Demonstrate ability to prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy and interventions based on the principles of rational drug therapy, scientific validity, evidence and cost that conform to established national and regional health programmes and policies for the following:
 - i) Disease prevention,
 - ii) Health promotion and cure,
 - iii) Pain and distress alleviation, and
 - iv) Rehabilitation and palliation Demonstrate ability to provide a continuum of care at the primary and/or secondary level that addresses chronicity, mental and physical disability.
- 3.1.13 Demonstrate ability to appropriately identify and refer patients who may require specialized or advanced tertiary care.
- 3.1.14 Demonstrate familiarity with basic, clinical and translational research as it applies to the care of the patient.

3.2. Leader and member of the health care team and system

- 3.2.1 Work effectively and appropriately with colleagues in an inter-professional health care team respecting diversity of roles, responsibilities and competencies of other professionals.
- 3.2.2 Recognize and function effectively, responsibly and appropriately as a health care team leader in primary and secondary health care settings.
- 3.2.3 Educate and motivate other members of the team and work in a collaborative and collegial fashion that will help maximize the health care delivery potential of the team.
- 3.2.4 Access and utilize components of the health care system and health delivery in a manner that is appropriate, cost effective, fair and in compliance with the national health care priorities and policies, as well as be able to collect, analyze and utilize health data.

3.2.5 Participate appropriately and effectively in measures that will advance quality of health care and patient safety within the health care system.

3.2.6 Recognize and advocate health promotion, disease prevention and health care quality improvement through prevention and early recognition in a) life style diseases and b) cancer, in collaboration with other members of the health care team.

3.3. Communicator with patients, families, colleagues and community

3.3.1 Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients in a language that the patient understands and in a manner that will improve patient satisfaction and health care outcomes.

3.3.2 Demonstrate ability to establish professional relationships with patients and families that are positive, understanding, humane, ethical, empathetic, and trustworthy.

3.3.3 Demonstrate ability to communicate with patients in a manner respectful of patient's preferences, values, prior experience, beliefs confidentiality and privacy.

3.3.4 Demonstrate ability to communicate with patients, colleagues and families in a manner that encourages participation and shared decision making.

3.4. Lifelong learner committed to continuous improvement of skills and knowledge

3.4.1. Demonstrate ability to perform an objective self-assessment of knowledge and skills, continue learning, refine existing skills and acquire new skills.

3.4.2. Demonstrate ability to apply newly gained knowledge or skills to the care of the patient.

3.4.3. Demonstrate ability to introspect and utilize experiences, to enhance personal and professional growth and learning.

3.4.4. Demonstrate ability to search (including through electronic means), and critically reevaluate the medical literature and apply the information in the care of the patient.

3.4.5. Be able to identify and select an appropriate career pathway that is professionally rewarding and personally fulfilling.

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

3.5.1. Practice selflessness, integrity, responsibility, accountability and respect.

3.5.2. Respect and maintain professional boundaries between patients, colleagues and society.

3.5.3. Demonstrate ability to recognize and manage ethical and professional conflicts.

3.5.4. Abide by prescribed ethical and legal codes of conduct and practice.

3.5.5. Demonstrate a commitment to the growth of the medical profession as a whole.

Broad Outline on training format

4.1. In order to ensure that training is in alignment with the goals and competencies listed in sub-clause 2 and 3 above:

- 4.1.1 There shall be a "Foundation Course" to orient medical learners to MBBS programme, and provide them with requisite knowledge, communication (including electronic), technical and language skills.
- 4.1.2 The curricular contents shall be vertically and horizontally aligned and integrated to the maximum extent possible in order to enhance learner's interest and eliminate redundancy and overlap.
- 4.1.3. Teaching-learning methods shall be learner centric and shall predominantly include small group learning, interactive teaching methods and case based learning.
- 4.1.4. Clinical training shall emphasize early clinical exposure, skill acquisition, certification in essential skills; community/primary/secondary care-based learning experiences and emergencies.
- 4.1.5. Training shall primarily focus on preventive and community based approaches to health and disease, with specific emphasis on national health priorities such as family welfare, communicable and non communicable diseases including cancer, epidemics and disaster management.
- 4.1.6. Acquisition and certification of skills shall be through experiences in patient care, diagnostic and skill laboratories.
- 4.1.7. The development of ethical values and overall professional growth as integral part of curriculum shall be emphasized through a structured longitudinal and dedicated programme on professional development including attitude, ethics and communication.
- 4.1.8. Progress of the medical learner shall be documented through structured periodic assessment that includes formative and summative assessments. Logs of skill-based training shall be also maintained.
- 4.2. Appropriate Faculty Development Programmes shall be conducted regularly by institutions to facilitate medical teachers at all levels to continuously update their professional and teaching skills, and align their teaching skills to curricular objectives.

SECTION - II

REGULATIONS GOVERNING M.B.B.S. DEGREE COURSE

(Eligibility for Admission, Duration, Attendance and Scheme of Examination as per the norms laid down in the Regulations on Graduate Medical Education of Medical Council of India and the amendments thereof (May 2018); admission to UG course - MBBS)

1. ELIGIBILITY

1.1 **Qualifying Examination**

Student seeking admission to first MBBS course:

- i) shall have passed two year Pre University examination conducted by Department of Pre University Education, Karnataka State, with English as one of the subjects and Physics, Chemistry and Biology as optional subjects. The candidate shall have passed subjects of English, Physics, Chemistry and Biology individually.

OR

- ii) shall have passed any other examination conducted by Boards / Councils / Intermediate examination established by State Governments / Central Government and recognized as equivalent to two year Pre University examination by the BLDE Deemed to be University / Association of Indian Universities (AIU), with English as one of the subjects and Physics, Chemistry and Biology as optional subjects and the candidate shall have passed subjects of English, Physics, Chemistry and Biology individually.

OR

- iii) shall have passed Intermediate examination in Science of an Indian University / Board / council or other recognized examining bodies with Physics, Chemistry and Biology, which shall include a practical test in these subjects and also English as compulsory subject. The candidate shall have passed subjects of English, Physics, Chemistry and Biology individually.

OR

- iv) shall have passed first year of the three year degree course of a recognized University with Physics, Chemistry and Biology including a practical test in these subjects provided the examination is an 'University Examination' provided that the candidate

shall have passed subjects of English, Physics, Chemistry and Biology individually in the Pre University or other examinations mentioned in the clauses above.

OR

- v) shall have passed B.Sc. Examination of an Indian University, provided that he/she has passed the B.Sc. examination with not less than two of the following subjects: Physics, Chemistry, Biology (Botany, Zoology) provided that candidate has passed subjects of English, Physics, Chemistry and Biology individually in the qualifying examinations mentioned in clauses (i) (ii) and (iii).

Note: Candidates who have passed “Physical Science” instead of Physics and Chemistry as two separate subjects are not eligible for admission to MBBS course as per Medical Council of India Regulations vide letter MCI-37(2)/2001/Med.922 dated 14.02.2001

1.2 Marks

The selection of students shall be based on merit provided that:

- a) In case of admission on the basis of qualifying examination, a candidate for admission to MBBS course must have passed individually in the subjects of Physics, Chemistry, Biology and English and must have obtained not less than 50% marks for general category, 40% for SC, ST and OBC students taken together in Physics, Chemistry and Biology in the qualifying examination.

The minimum marks shall not be less than 45% taken together in Physics, Chemistry and Biology for physically handicapped candidates with lower limb locomotor disability of 40 to 70%.

- b) The student shall appear for All India National Eligibility cum Entrance Test [NEET] and must qualify securing valid rank.

- 1.3 **Age:** The candidate should have completed 17 years of age on or before 31st day of December of the year of admission.

Eligibility criteria for admission to the MBBS Course shall be as per Graduate Medical Education regulations of Medical Council of India and its amendments there of existing at the time of admission.

PHASE WISE TRAINING AND TIME DISTRIBUTION FOR PROFESSIONAL DEVELOPMENT

The Competency based Undergraduate Curriculum and Attitude, Ethics and Communication (AETCOM) course, as published by the Medical Council of India and also made available on the Council's website, shall be the curriculum for the batches admitted in MBBS from the academic year 2019-20 onwards.

Provided that in respect of batches admitted prior to the academic year 2019-20, the governing provisions shall remain as contained in the Part I of these Regulations.

7. Training period and time distribution:

7.1. Every learner shall undergo a period of certified study extending over 4 ½ academic years, divided into nine semesters from the date of commencement of course to the date of completion of examination which shall be followed by one year of compulsory rotating internship.

7.2. Each academic year will have at least 240 teaching days with a minimum of eight hours of working on each day including one hour as lunch break.

7.3. Teaching and learning shall be aligned and integrated across specialties both vertically and horizontally for better learner comprehension. Learner centered learning methods should include problem oriented learning, case studies, community oriented learning, self- directed and experiential learning.

7.4. The period of 4 ½ years is divided as follows:

7.4.1 Pre-Clinical Phase [(Phase I) - First Professional phase of 13 months preceded by Foundation Course of one month]: will consist of preclinical subjects – Human Anatomy, Physiology, Biochemistry, Introduction to Community Medicine, Humanities, Professional development including Attitude, Ethics & Communication (AETCOM) module and early clinical exposure, ensuring both horizontal and vertical integration.

7.4.2 Para-clinical phase [(Phase II) - Second Professional (12 months)]: will consist of Para-clinical subjects namely Pathology, Pharmacology, Microbiology, Community Medicine, Forensic Medicine and Toxicology, Professional development including Attitude, Ethics & Communication (AETCOM) module and introduction to clinical subjects ensuring both horizontal and vertical integration.

The clinical exposure to learners will be in the form of learner-doctor method of clinical training in all phases. The emphasis will be on primary, preventive and comprehensive healthcare. A part of training during clinical postings should take place at the *primary level* of health care. It is desirable to provide learning experiences in secondary health care, wherever possible. This will involve:

- (a) Experience in recognizing and managing common problems seen in outpatient, inpatient and emergency settings,
- (b) Involvement in patient care as a team member,
- (c) Involvement in patient management and performance of basic procedures.

7.4.3 Clinical Phase – [(Phase III) Third Professional (28 months)]

- (a) Part I (13 months) - The clinical subjects include General Medicine, General Surgery, Obstetrics & Gynaecology, Pediatrics, Orthopaedics, Dermatology, Otorhinolaryngology, Ophthalmology, Community Medicine, Forensic Medicine and Toxicology, Psychiatry, Respiratory Medicine, Radiodiagnosis & Radiotherapy and Anaesthesiology & Professional development including AETCOM module.

- (b) Electives (2 months) :

To provide learners with opportunity for diverse learning experiences, to do research/community projects that will stimulate enquiry, self directed experimental learning and lateral thinking [9.3].

- (c) Part II (13 months) - Clinical subjects include:

- i. Medicine and allied specialties (General Medicine, Psychiatry, Dermatology Venereology and Leprosy (DVL), Respiratory Medicine including Tuberculosis)
- ii. Surgery and allied specialties (General Surgery, Orthopedics [including trauma]), Dentistry, Physical Medicine and rehabilitation, Anaesthesiology and Radiodiagnosis)
- iii. Obstetrics and Gynecology (including Family Welfare)
- iv. Pediatrics
- v. AETCOM module

7.5 Didactic lectures shall not exceed one third of the schedule; two third of the schedule shall include interactive sessions, practicals, clinical or/and group discussions. The

learning process should include clinical experiences, problem oriented approach, case studies and community health care activities.

7.6 Universities shall organize admission timing and admission process in such a way that teaching in the first Professional year commences with induction through the Foundation Course by the 1st of August of each year.

(i) Supplementary examinations shall not be conducted later than 90 days from the date of declaration of the results of the main examination, so that the learners who pass can join the main batch for progression and the remainder would appear for the examination in the subsequent year.

(ii) A learner shall not be entitled to graduate later than ten (10) years of her/his joining the first MBBS course.

7.7 No more than four attempts shall be allowed for a candidate to pass the first Professional examination. The total period for successful completion of first Professional course shall not exceed four (4) years. Partial attendance of examination in any subject shall be counted as an attempt.

7.8 A learner, who fails in the second Professional examination, shall not be allowed to appear in third Professional Part I examination unless she/he passes all subjects of second Professional examination.

7.9 Passing in third Professional (Part I) examination is not compulsory before starting part II training; however, passing of third Professional (Part I) is compulsory for being eligible for third Professional (Part II) examination.

7.10 During para-clinical and clinical phases, including prescribed 2 months of electives, clinical postpostings of three hours duration daily as specified in Tables 5, 6, 7 and 8 would apply for various departments.

8. Phase distribution and timing of examination

8.1 Time distribution of the MBBS programme is given in Table 1.n

8.2 Distribution of subjects by Professional Phase-wise is given in Table 2.

8.3 Minimum teaching hours prescribed in various disciplines are as under Tables 3-7.

8.4 Distribution of clinical postings is given in Table 8.

8.5 Duration of clinical postings will be:

8.5.1 Second Professional : 36 weeks of clinical posting (Three hours per day - five days per week : Total 540 hours)

8.5.2 Third Professional part I: 42 weeks of clinical posting (Three hours per day - six days per week : Total 756 hours)

8.5.3 Third Professional part II: 44 weeks of clinical posting (Three hours per day - six days per week : Total 792 hours)

8.6 Time allotted excludes time reserved for internal / University examinations, and vacation.

8.7 Second professional clinical postings shall commence before / after declaration of results of the first professional phase examinations, as decided by the institution/ University. Third Professional parts I and part II clinical postings shall start no later than two weeks after the completion of the previous professional examination.

8.8 25% of allotted time of third Professional shall be utilized for integrated learning with pre- and para- clinical subjects. This will be included in the assessment of clinical subjects.

DURATION OF THE COURSE

- i) Every student shall undergo a period of certified study extending over 4¹/₂ Academic years from the date of commencement of this study for the subject comprising the medical curriculum to the date of completion of the examination followed by one year compulsory rotating Internship.

The 4¹/₂ years course has been divided into three Phases.

Table 1: Time distribution of MBBS Programme & Examination Schedule

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
							Foundation Course	I MBBS			
I MBBS								Exam I MBBS	II MBBS		
II MBBS								Exam II MBBS	III MBBS		
III MBBS Part I									Exam III MBBS Part I	Electives & Skills	
III MBBS Part II											
Exam III MBBS Part II	Internship										
Internship											

One month is provided at the end of every professional year for completion of examination and declaration of results.

Distribution of the duration of various components of the MBBS Course

TABLE 2 DISTRIBUTION OF SUBJECTS PROFESSIONAL PHASEWISE HERE

Table 2: Distribution of subjects by professional phase

Phase & Year Of MBBS Training	Subjects & New Teaching Elements	Duration	University Examination
First professional MBBS	Foundation course (1month) Human Anatomy, Physiology & Biochemistry Introduction of Community Medicine, Humanities Early Clinical Exposure Attitude, Ethics and Communication Module (AETCOM)	1+13 months	I Professional
Second Professional MBBS	Pathology, Microbiology, Pharmacology, Forensic Medicine And Toxicology Introduction to clinical subjects including community Medicine Clinical postings AETCOM	12 months	II Professional
Third Professional MBBS Part I	General Medicine, General Surgery, OBG. Paediatrics, Orthopaedics, Dermatology, Psychiatry, Otorhinolaryngology, Ophthalmology, community Medicine, Forensic Medicine and Toxicology, Respiratory Medicine, Radiodiagnosis & Radiotherapy, Anaesthesiology Clinical Subjects /postings AETCOM	12+1 months	III Professional (Part I)
Electives	Electives, skills and assessment	2 months	
Third Professional MBBS Part II	General Medicine, Paediatrics, General Surgery, Orthopaedics, Obstetrics and Gynaecology including Family welfare and allied specialties Clinical Postings /subjects AETCOM	13 months	III Professional (Part II)

*Assessment of electives shall be included in Internal Assessment

ATTENDANCE & ELIGIBILITY TO TO APPEAR FOR UNIVERSITY PROFESSIONAL EXAMINATION

[Based on the GMR 2019 Regulations 2019 clause no 11.I & its subcauses page nos 82-83]

Eligibility to appear for Professional examinations :

The performance in essential components of training are to be assessed, based on:

(a) Attendance

1. Attendance requirements are 75% in theory and 80% in practical /clinical for eligibility to appear for the examinations in that subject. In subjects that are taught in more than one phase – the learner must have 75% attendance in theory and 80% in practical in each phase of instruction in that subject.
2. If an examination comprises more than one subject (for e.g., General Surgery and allied branches), the candidate must have 75% attendance in each subject and 80% attendance in each clinical posting.
3. Learners who do not have at least 75% attendance in the electives will not be eligible for the Third Professional - Part II examination.

(b) Internal Assessment:

Internal assessment shall be based on day-to-day assessment. It shall relate to different ways in which learners participate in learning process including assignments, preparation for seminar, clinical case presentation, preparation of clinical case for discussion, clinical case study/problem solving exercise, participation in project for health care in the community, proficiency in carrying out a practical or a skill in small research project, a written test etc.

1. Regular periodic examinations shall be conducted throughout the course. There shall be no less than three internal assessment examinations in each Preclinical / Para-clinical subject and no less than two examinations in each clinical subject in a professional year. An end of posting clinical assessment shall be conducted for each clinical posting in each professional year.
2. When subjects are taught in more than one phase, the internal assessment must be done in each phase and must contribute proportionately to final assessment. For example, General Medicine must be assessed in second Professional, third Professional Part I and third Professional Part II, independently.
3. Day to day records and log book (including required skill certifications) should be given importance in internal assessment. Internal assessment should be based on competencies and skills.

4. The final internal assessment in a broad clinical specialty (e.g., Surgery and allied specialties etc.) shall comprise of marks from all the constituent specialties. The proportion of the marks for each constituent specialty shall be determined by the time of instruction allotted to each.
5. Learners must secure at least 50% marks of the total marks (combined in theory and practical / clinical; not less than 40 % marks in theory and practical separately) assigned for internal assessment in a particular subject in order to be eligible for appearing at the final University examination of that subject. Internal assessment marks will reflect as separate head of passing at the summative examination.
6. The results of internal assessment should be displayed on the notice board within a 1-2 weeks of the test. Universities shall guide the colleges regarding formulating policies for remedial measures for students who are either not able to score qualifying marks or have missed on some assessments due to any reason.
7. Learners must have completed the required certifiable competencies for that phase of training and completed the log book appropriate for that phase of training to be eligible for appearing at the final university examination of that subject.

The Principal should notify at the college the attendance details at the end of the each term without fail under intimation to this University. The candidate lacking in the prescribed attendance and progress in any subject(s) in theory or practical/clinical in the first appearance should not be permitted to appear for the examination in that subject(s).

New teaching / learning elements

9.1. Foundation Course

9.1.1 Goal: The goal of the Foundation Course is to prepare a learner to study medicine effectively. It will be of one month duration after admission.

9.1.2 Objectives: The objectives are to: (a) Orient the learner to: (i) The medical profession and the physician's role in society (ii) The MBBS programme (iii) Alternate health systems in the country and history of medicine (iv) Medical ethics, attitudes and professionalism (v) Health care system and its delivery (vi) National health programmes and policies (vii) Universal precautions and vaccinations (viii) Patient

safety and biohazard safety (ix) Principles of primary care (general and community based care) (x) The academic ambience

(b) Enable the learner to acquire enhanced skills in: (i) Language (ii) Interpersonal relationships (iii) Communication (iv) Learning including self-directed learning (v) Time management (vi) Stress management (vii) Use of information technology

(c) Train the learner to provide: (i) First-aid (ii) Basic life support

9.1.3 In addition to the above, learners may be enrolled in one of the following programmes which will be run concurrently: (a) Local language programme (b) English language programme (c) Computer skills (d) These may be done in the last two hours of the day for the duration of the Foundation Course.

9.1.4 These sessions must be as interactive as possible.

9.1.5 Sports (to be used through the Foundation Course as protected 04 hours / week).

9.1.6 Leisure and extracurricular activity (to be used through the Foundation Course as protected 02 hours per week)

9.1.7 Institutions shall develop learning modules and identify the appropriate resource persons for their delivery.

9.1.8 The time committed for the Foundation Course may not be used for any other curricular activity.

9.1.9 The Foundation Course will have compulsory 75% attendance. This will be certified by the Dean of the college.

9.1.10 The Foundation Course will be organized by the Coordinator appointed by the Dean of the college and will be under supervision of the heads of the preclinical departments.

9.1.11 Every college must arrange for a meeting with parents and their wards.

9.2. Early Clinical Exposure

9.2.1 Objectives: The objectives of early clinical exposure of the first-year medical learners are to enable the learner to: (a) Recognize the relevance of basic sciences in diagnosis, patient care and treatment, (b) Provide a context that will enhance basic science learning, (c) Relate to experience of patients as a motivation to learn, (d) Recognize

attitude, ethics and professionalism as integral to the doctor-patient relationship, (e)
Understand the socio-cultural context of disease through the study of humanities.

9.2.2 Elements

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

9.3. Electives

9.3.1 Objectives: To provide the learner with opportunities: (a) For diverse learning experiences, (b) To do research/community projects that will stimulate enquiry, self-directed, experiential learning and lateral thinking.

9.3.2 Two months are designated for elective rotations after completion of the examination at end of the third MBBS Part I and before commencement of third MBBS Part II.

9.3.3 It is mandatory for learners to do an elective. The elective time should not be used to make up for missed clinical postings, shortage of attendance or other purposes.

9.3.4 Structure (a) The learner shall rotate through two elective blocks of 04 weeks each. (b) Block 1 shall be done in a pre-selected preclinical or para-clinical or other basic sciences laboratory OR under a researcher in an ongoing research project.

During the electives regular clinical postings shall continue. (c) Block 2 shall be done in a clinical department (including specialties, super-specialties, ICUs, blood bank and casualty) from a list of electives developed and available in the institution.

OR

as a supervised learning experience at a rural or urban community clinic. (d) Institutions will pre-determine the number and nature of electives, names of the supervisors, and the number of learners in each elective based on the local conditions, available resources and faculty.

9.3.5 Each institution will develop its own mechanism for allocation of electives.

9.3.6 It is preferable that elective choices are made available to the learners in the beginning of the academic year.

9.3.7 The learner must submit a learning log book based on both blocks of the elective.

9.3.8 75% attendance in the electives and submission of log book maintained during elective is required for eligibility to appear in the final MBBS examination.

9.3.9 Institutions may use part of this time for strengthening basic skill certification.

9.4. Professional Development including Attitude, Ethics and Communication Module (AETCOM)

9.4.1 Objectives of the programme: At the end of the programme, the learner must demonstrate ability to: (a) understand and apply principles of bioethics and law as they apply to medical practice and research, (b) understand and apply the principles of clinical reasoning as they apply to the care of the patients, (c) understand and apply the principles of system based care as they relate to the care of the patient, (d) understand and apply empathy and other human values to the care of the patient, (e) communicate effectively with patients, families, colleagues and other health care professionals, (f) understand the strengths and limitations of alternative systems of medicine, (g) respond to events and issues in a professional, considerate and humane fashion, (h) translate learning from the humanities in order to further his / her professional and personal growth.

9.4.2 Learning experiences: (a) This will be a longitudinal programme spread across the continuum of the MBBS programme including internship, (b) Learning experiences may include – small group discussions, patient care scenarios, workshop, seminars, role plays, lectures etc. (c) Attitude, Ethics & Communication Module (AETCOM module) developed by Medical Council of India should be used longitudinally for purposes of instruction.

9.4.3 75% attendance in Professional Development Programme (AETCOM Module) is required for eligibility to appear for final examination in each professional year.

9.4.4 Internal Assessment will include: (a) Written tests comprising of short notes and creative writing experiences, (b) OSCE based clinical scenarios / viva voce.

9.4.5 At least one question in each paper of the clinical specialties in the University examination should test knowledge competencies acquired during the professional development programme.

9.4.6 Skill competencies acquired during the Professional Development Programme must be tested during the clinical, practical and viva voce.

9.5. Learner-doctor method of clinical training (Clinical Clerkship)

9.5.1 Goal: To provide learners with experience in: (a) Longitudinal patient care, (b) Being part of the health care team, (c) Hands-on care of patients in outpatient and inpatient setting.

9.5.2 Structure:

(a) The first clinical posting in second professional shall orient learners to the patient, their roles and the specialty.

(b) The learner-doctor programme will progress as outlined in Table 9.

(c) The learner will function as a part of the health care team with the following responsibilities: (i) Be part of the unit's outpatient services on admission days, (ii) Remain with the admission unit until 6 PM except during designated class hours, (iii) Be assigned patients admitted during each admission day for whom he/she will undertake responsibility, under the supervision of a senior resident or faculty member, (iv) Participate in the unit rounds on its admission day and will present the assigned patients to the supervising physician, (v) Follow the patient's progress throughout the hospital stay until discharge, (vi) Participate, under supervision, in procedures, surgeries, deliveries etc. of assigned patients (according to responsibilities outlined in table 9), (vii) Participate in unit rounds on at least one other day of the week excluding the admission day, (viii) Discuss ethical and other humanitarian issues during unit rounds, (ix) Attend

all scheduled classes and educational activities, (x) Document his/her observations in a prescribed log book / case record.

- (d) No learner will be given independent charge of the patient
- (e) The supervising physician will be responsible for all patient care decisions

9.5.3 Assessment:

- (a) A designated faculty member in each unit will coordinate and facilitate the activities of the learner, monitor progress, provide feedback and review the log book/ case record.
- (b) The log book/ case record must include the written case record prepared by the learner including relevant investigations, treatment and its rationale, hospital course, family and patient discussions, discharge summary etc.
- (c) The log book should also include records of outpatients assigned. Submission of the log book/ case record to the department is required for eligibility to appear for the final examination

Integration and Alignment in teaching and learning :

As per the new curriculum to ensure that the learner attains the broad outcomes of Integration & Alignment in the curriculum, teaching topics that are similar together reducing redundancy and allowing the learner to integrate the concept will be done under Integration and Aligning the teaching of subject material that occurs under a particular organ system/ disease concept from the same phase in the same time frame i.e, temporal coordination shall be done in respective subjects.

Sharing of topics or correlation of topics by using an integration or linker session shall be in a small proportion - not to exceed 20% of the total curriculum .The integration session preferably will be a case based discussion in an appropriate format ensuring that elements in the same phase (horizontal) and from other phases are addressed. As much as possible the necessary correlates from other phases must also be introduced while discussing a topic in a given subject - Nesting Topics that cannot be aligned and integrated must be provided adequate time in the curriculum throughout the year .

The above content is sited from Curriculum Implementation Support Program of the Competency Based Undergraduate Medical Education Curriculum, 2019, Relevant Extract from GMR, pp65-66

Details of the course contents, schedule of Teaching –Learning, hours allotted for subjects etc are as follows:

TABLE :3 Foundation course

Subjects / Contents	Teaching hours	Self directed learning (hours)	Total hours
Orientation ¹	30	0	30
Skills module ²	35	0	35
Field visit to community health centre	8	0	8
Introduction to professional development & AETCOM module	-	-	10
Sports and extracurricular activities	22	0	22
Enhancement of language / Computer skills ³	50	0	50
	-	-	155

1. Orientation course will be completed as single block in the first week and will contain elements outlined in 9.1.
2. Skills modules will contain elements outline in 9.1.
3. Based on perceived need of learners, one may choose language enhancement (English or local spoken or both) and computer skills. This should be provided longitudinally through the duration of the foundation course.
4. Teaching of foundation course will be organized by preclinical departments.

Table:4 First Professional teaching hours

Subjects	Lecture hours	Small group teaching / tutorials / integrated learning/ practical (hours)	Self directed learning (hours)	Total (hours)
Human anatomy	220	415	40	675
Physiology *	160	310	25	495
Biochemistry	80	150	20	250
Early clinical exposure	90	-	0	90
Community Medicine **	20	27	5	52
Attitude, Ethics & Communication module (AETCOM)***	-	26	8	34

Sports and extracurricular activities	-	-	-	60
Formative assessment and term examinations	-	-	-	80
Total	-	-	-	1736

*Including Molecular biology

**Early clinical exposure hours to be divided equally in all three subjects

***AETCOM module shall be a longitudinal programme

Table:5 Second professional teaching hours

Subjects	Lecture hours	Small group teaching / tutorials / integrated learning / practical (hours)	Clinical Postings	Self directed learning (hours)	Total (hours)
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Pathology	80	138	-	12	230
Pharmacology	80	138	-	12	230
Microbiology	70	110	-	10	190
Community Medicine	20	30	-	10	60
Forensic Medicine and Toxicology	15	30	-	5	50
Clinical Subjects	75**	-	540***		615
Attitude, Ethics & Communication module (AETCOM)***	-	29	-	8	37
Sports and extracurricular activities	-	-	-	28	25
Total	-	-	-	-	1440

At least 3 hours of clinical instruction each week must be allotted to training in clinical and procedural skill laboratories hours maybe distributed weekly or as a block in each posting based on institutional logistics.

**25 hours each for General Medicine, General Surgery and Obstetrics &Gynecology

***The clinical postings in the second professional shall be 15 hours per week (3 hrs per day from Monday to Friday).

Table 6: Third Professional part I teaching hours

Subjects	Lecture hours	Small group teaching / tutorials / integrated learning / practical (hours)	Self directed learning (hours)	Total (hours)
General Medicine	25	35	5	65

General Surgery	25	35	5	65
OBG	25	35	5	65
Pediatrics	20	30	5	55
Orthopedics	15	20	5	40
Forensic Medicine & Toxicology	25	45	5	75
Community Medicine	40	60	5	105
Dermatology	20	5	5	30
Psychiatry	25	10	5	40
Respiratory Medicine	10	8	5	20
Otorhinolaryngology	25	40	5	70
Ophthalmology	30	60	10	100
Radiodiagnosis and Radiotherapy	10	8	2	20
Anesthesiology	8	10	2	20
Clinical Postings *	-	-	-	756
Attitude, Ethics & Communication module (AETCOM)		19	06	25
Total	303	401	66	1551

*The clinical postings in the third professional part 1 shall be 18 hours per week (3hrs per day from Monday to Saturday).

Table 7: Third Professional Part II teaching hours

Subjects	Lecture hours	Small group teaching / tutorials / integrated learning / practical (hours)	Self directed learning (hours)	Total (hours)
General Medicine	70	125	15	210
General Surgery	70	125	15	210
OBG	70	125	15	210
Pediatrics	20	35	10	65
Orthopedics	20	25	5	50
Clinical Postings *				792
Attitude, Ethics & Communication module (AETCOM)	28		16	43
Electives				200
Total	250	435	60	1780

*25% of allotted time of third professional shall be utilized for integrated learning with pre- and para clinical subjects and shall be assessed during the clinical subjects examination. This allotted time will be utilized as integrated teaching by para clinical subjects with clinical subjects (as clinical pathology, clinical pharmacology and Clinical microbiology)

**the clinical postings in the third professional Part II shall be 18 hours per week (3hrs per day from Monday to Saturday)

***hours from clinical postings can also be used for AETCOM modules

Table 8: Clinical postings

Subjects	Period of training in weeks			Total Weeks
	II MBBS	III MBBS part I	III MBBS Part II	
Electives	-	-	8*(4 regular clinical posting)	4
General Medicine ¹	4	4	8+4	20
General Surgery	4	4	8+4	20
OBG ²	4	4	8+4	20
Pediatrics	2	4	4	10
Community Medicine	4	6	-	10
Orthopedics – Including Trauma ³	2	4	2	8
Otorhinolaryngology	4	4	-	8
Ophthalmology	4	4	-	8
Respiratory Medicine	2	-	-	2
Psychiatry	2	2	-	4
Radio diagnosis ⁴	2	-	-	2
Dermatology, Venereology & Leprosy	2	2	2	6
Dentistry & Anaesthesia	-	2	-	2
Casualty	-	2	-	2
	36	42	48	126

*In four of the eight weeks of electives, regular clinical postings shall be accommodated.

Clinical postings may be adjusted within the time framework.

¹This posting includes laboratory medicine (para-clinical) & infections diseases (phase III part I).

²This includes maternity training and family welfare (including family planning).

³This posting includes physical medicine and rehabilitation.

⁴This posting includes radiotherapy, wherever available.

Table 9: Learner – Doctor programme (clinical clerkship)

Year of Curriculum	Focus of learner – doctor programme
Year 1	Introduction to hospital environment. Early clinical exposure. Understanding perspectives of illness
Year 2	History taking, Physical examination. Assessment of change in clinical status, communication and patient education
Year 3	All of the above and choice of investigations, basic procedures and continuity of care
Year 4	All of the above and decision making, management and outcomes

Scheme of Examination

Internal Assessment

It shall be based on day to day assessments, evaluation of assignment, presentation of seminar, clinical a Clinical presentation, problem solving exercises participation in project for health care in the community, proficiency in carrying out small research project tests etc. Regular periodic examinations should be conducted throughout the course. Although the question of number of examinations left to the institution, there should be a minimum of at least three (3) sessional examinations during the course. One of these tests can be in the form of MCQS. One of the practical/clinical examination can be in the form of OSPE/OSCE. Average of best two examination marks should be taken into consideration while calculating the marks of the internal assessment..

1. There shall be no less than three internal assessment examinations in each Preclinical / Paraclinical subject and no less than two examinations in each clinical subject in a professional year. An end of posting clinical assessment shall be conducted for each clinical posting in each professional year.
2. In subjects that are taught at more than one phase, proportionate weightage must be given for internal assessment for each Phase. For example, General Medicine must be assessed in second Professional, third Professional Part I and third Professional Part II, independently.

Components of IA

- i) Theory IA can include: theory tests, send ups, seminars, quizzes, interest in subject, scientific attitude etc. Written tests should have short notes and creative writing experiences.
- ii) Practical/Clinical IA can include: practical/clinical tests, Objective Structured Clinical Examination (OSCE)/Objective Structured Practical Examination (OSPE), Directly Observed Procedural Skills (DOPS), Mini Clinical Evaluation
- iii) Exercise (mini-CEX), records maintenance and attitudinal assessment.

This content is cited from :Medical Council of India. Competency Based Assessment Module for Undergraduate Medical Education Training program, 2019: pp 10-12

Day to day records and log book including certification of required skills should be given importance in internal assessment. Internal assessment should be based on competencies and skills.

The final internal assessment in a broad clinical specialty (e.g., Surgery and allied specialties etc.) shall comprise of marks from all the constituent specialties. The proportion of the marks for each constituent specialty shall be determined by the time of instruction allotted to each.

Learners must secure at least 50% marks of the total marks (combined in theory and practicals / clinicals) ;not less than 40%marks in theory and practical/clinical seperately) assigned for internal assessment in a particular subject in order to be eligible for appearing final University Examinations of that subject declared successful at the final University examination of that subject. The learner should be made aware of the results of Internal Assessment. The college has to build its own mechanism and the calendar of the college should show the details regarding conduct of Internal assessment. Internal assessment marks will reflect as separate head of passing at the summative examination.

This content is based on the MCI Document. GMR 2019 page 83 11.1.1b5

The results of internal assessment should be displayed on the notice board within a 1-2 weeks of the test. Universities shall guide the colleges regarding formulating policies for remedial measures for students who are either not able to score qualifying marks or have missed on some assessments due to any reason.

Learners must have completed the required certifiable competencies for that phase of training and completed the log book appropriate for that phase of training to be eligible for appearing at the final university examination of that subject. GMR 2019 page 83 11.1.1b6 &7.

Proper record of the work should be maintained, which will be the basis of internal assessment of all students and should be available for scrutiny.

Weightage for internal assessment shall be 20% of total marks in the subject.

A student must secure at least 35% of total marks fixed for internal assessment in a particular subject in order to be eligible to appear in the University Examination of that subject. (*Vide Medical Council of India Notification on Graduate Medical Education (Amendment.) Regulations 2003, published in the Gazette of India Part III, Section 4. Extraordinary issued on 15th October 2003.*)

Suggested pattern of the Internal Assessment shall be based on the directives received from MCI Competency Based Assessment Module for Undergraduate Medical Education Training Program, 2019.

Phase	Minimum Number of tests during the year	Remarks
1 st	Human Anatomy 3, Physiology 3, Biochemistry 3, Community Medicine 1	ECE assessment should be included subject-wise There should be at least one short question from AETCOM in each subject One of the 3 tests in preclinical subjects should be prelim or pre-university examination.
2 nd	Pathology 3, Pharmacology 3, Microbiology 3, Two tests for- General Medicine (Including Psychiatry, Dermatology, Venereology & Leprosy (DVL) and Respiratory Medicine including Tuberculosis), General Surgery (Including Orthopaedics, Dentistry, Anaesthesiology and Radiodiagnosis), Obstetrics & Gynaecology, Forensic Medicine & Toxicology and Community Medicine End of posting (EOP) examination at each clinical posting including those of allied subjects	<ul style="list-style-type: none"> • Clinical subjects should also be assessed at end of each posting (EOP) – Theory and Practical • There should be at least one short question from AETCOM in each subject • One of the 3 tests in Paraclinical subjects should be prelim or pre-university examination.
3 rd	Forensic Medicine & Toxicology 2, Community Medicine 2 Ophthalmology 2, Otorhinolaryngology 2, Two tests for- General Medicine (Including Psychiatry, Dermatology, Venereology & Leprosy (DVL) and Respiratory Medicine including Tuberculosis), General Surgery (Including Orthopaedics, Anaesthesiology and Radiodiagnosis), Pediatrics, Obstetrics & Gynaecology EOP examination at each clinical posting including allied subjects	<ul style="list-style-type: none"> • Clinical subjects should also be tested at end of each posting (EOP)-Theory and Practical • There should be at least one short question from AETCOM in each subject • One of the tests in Ophthalmology, Otorhinolaryngology /Forensic Medicine & Toxicology/ Community Medicine should be prelim or pre-university examination
4 th	Two Tests for- General Medicine (Including Psychiatry,	<ul style="list-style-type: none"> • Clinical subjects should also

	<p>Dermatology, Venereology & Leprosy (DVL) and Respiratory Medicine including Tuberculosis), General Surgery (Including Orthopaedics, Anaesthesiology and Radiodiagnosis), Pediatrics, Obstetrics & Gynaecology</p> <p>EOP examination at each clinical posting including that in allied subjects</p>	<p>be tested at end of each posting (EOP) -Theory and Practical</p> <ul style="list-style-type: none"> ● There should be at least one short question from AETCOM in each subject ● One of the tests in Medicine, Surgery, Pediatrics and Obstetrics & Gynaecology should be prelim or preuniversity examination ● Assessment of electives to be included in IA
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This content is cited from :Medical Council of India. Competency Based Assessment Module for Undergraduate Medical Education Training program, 2019: Annexure I pp 24-25

Internal assessment conduction should involve all the faculty members of the department including Senior Residents. .Competency based Assessment requires focus on learning process and outcomes including psychomotor, communication and affective domains. Involvement of all the teaching faculty and Senior Residents helps in building ownership of teaching –learning methods and assessment as well.

Designing of IA needs adequate planning and blue printing to include all the domains of competency.

The IA of broader specialties should also include marks from all the allied specialties e.g. General Medicine should include marks of Psychiatry, Dermatology, Venereology & Leprosy and Respiratory Medicine including tuberculosis etc. while General Surgery should include Orthopaedics, Dentistry, Anaesthesiology and Radio-diagnosis etc, so that students do not ignore these postings. The proportion of the marks for each allied specialty shall be proportionate to the time of instruction allotted to each postings. When subjects are taught in more than one phase - the assessment must be done in each phase and must contribute proportionally to final internal assessment.

Assessment of Foundation Course should be included in formative assessment of first phase.

Assessment of Early Clinical Exposure should be included in formative as well as in internal

assessment in first phase subject-wise. Assessment of electives should contribute to internal assessment in final phase part-II.

There should be at least one assessment based on direct observation of skills, attitudes and communication at all levels. Communication and attitudinal assessment should also be built in all assessments as far as possible. A log book must be used to record these components.

Feedback in IA

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

The results of IA should be displayed on notice board within 2 weeks of the test and an opportunity provided to the students to discuss the results and get feedback on making their performance better. Universities should guide the colleges regarding formulating policies for remedial measures for students who are either not able to score qualifying marks or have missed on some assessments due to any reason(s).

It is also recommended that students should sign with date whenever they are shown IA records in token of having seen and discussed the marks. **Internal assessment marks will not be added to University examination marks and will reflect as a separate head of passing at the summative examination.**

Record keeping

The peculiarities of CBA, particularly its longitudinal nature and its use as a measure of progression, require a good record keeping. Such records can vary from manual to electronic. In whatever form they are used, the essential features should include regularity, availability to the students and a documentation of discussion of results (present status, feedback and suggestions for improvement) between the student and the teacher(s). Many aspects can be covered in a group feedback while some will require one to one discussion. The formats for use in Indian settings have been published and can be suitably modified for local use.

This content is cited from :Medical Council of India. Competency Based Assessment Module for Undergraduate Medical Education Training program, 2019: pp 10-14

A candidate who has not secured requisite aggregate in the internal assessment may be provisionally permitted to appear for university examination. However, he/she has to successfully complete the remediation measures prescribed by the institution/ university as the case may be, prior to the declaration of his/her results in that particular phase. Failure to meet prescribed 50% marks in Internal assessment after availing remedial measures will lead to annulment of the results of the candidate in that particular subject (s) in the university examination.

This content is based on the MCI Document, **Curriculum Implementation Support Program of the Competency Based Undergraduate Medical Education Curriculum 2019, extract of the Salient features of Graduate Medical Education Regulations 2019, page number 88-91.**

Internal assessment shall be based on day-to-day assessment. It shall relate to different ways in which learners participate in learning process including assignments, preparation for seminar, clinical case presentation, preparation of clinical case for discussion, clinical case study/problem solving exercise, participation in project for health care in the community, proficiency in carrying out a practical or a skill in small research project, a written test etc.

1. Regular periodic examinations shall be conducted throughout the course. There shall be no less than three internal assessment examinations in each Preclinical / Paraclinical subject and no less than two examinations in each clinical subject in a professional year. An end of posting clinical assessment shall be conducted for each clinical posting in each professional year.
2. In subjects that are taught at more than one phase, proportionate weightage must be given for internal assessment for each Phase. For example, General Medicine must be assessed in second Professional, third Professional Part I and third Professional Part II, independently.
3. Day to day records and log book should be given importance in internal assessment. Internal assessment should be based on competencies and skills. Learners must secure at least 50% marks of the total marks (combined in theory and practicals / clinicals) assigned for internal assessment in a particular subject in order to be declared successful at the final University examination of that subject. The learner should be made aware of the results of Internal Assessment. Each college can build

its own mechanism and the calendar of the college should show the details regarding conduct of Internal assessment. Internal assessment marks will reflect as separate head of passing at the summative examination.

4. A candidate who has not secured requisite aggregate in the internal assessment may be provisionally permitted to appear for university examination. However, he/she has to successfully complete the remediation measures prescribed by the institution university as the case may be, prior to the declaration of his/her results in that particular phase. Failure to meet prescribed 50% marks in Internal assessment after availing remedial measures will lead to annulment of the results of the candidate in that particular subject (s) in the university examination.

UNIVERSITY EXAMINATIONS (As per GMER 2019 clause no 11.2 and its subclauses pages 83-84)

- 11.2.1 University examinations are to be designed with a view to ascertain whether the candidate has acquired the necessary knowledge, minimal level of skills, ethical and professional values with clear concepts of the fundamentals which are necessary for him/her to function effectively and appropriately as a physician offirst contact. Assessment shall be carried out on an objective basis to the extent possible.
- 11.2.2 Nature of questions will include different types such as structured essays (Long Answer Questions - LAQ), Short Answers Questions (SAQ) and objective type questions (e.g. Multiple Choice Questions - MCQ). Marks for each part should be indicated separately. MCQs shall be accorded a weightage of not more than 20% of the total theory marks. In subjects that have two papers, the learner must secure at least 40% marks in each of the papers with minimum 50% of marks in aggregate (both papers together) to pass.
- 11.2.3 Practical/clinical examinations will be conducted in the laboratories or hospitalwards. The objective will be to assess proficiency and skills to conduct experiments, interpret data and form logical conclusion. Clinical cases kept in the examination must be common conditions that the learner may encounter as a physician of first contact in the community. Selection of rare syndromes and disorders as examination cases is to be discouraged. Emphasis should be on candidate's capability to elicit history, demonstrate physical signs, write a case record, analyze the case and develop a management plan.

11.2.4 Viva/oral examination should assess approach to patient management, emergencies, attitudinal, ethical and professional values. Candidate's skill in interpretation of common investigative data, X rays, identification of specimens, ECG, etc. is to be also assessed.

11.2.5 There shall be one main examination in an academic year and a supplementary to be held not later than 90 days after the declaration of the results of the main examination.

11.2.6 A learner shall not be entitled to graduate after 10 years of his/her joining of the first part of the MBBS course.

11.2.7 University Examinations shall be held as under:

(a) First Professional

1. The first Professional examination shall be held at the end of first Professional training (1+12 months), in the subjects of Human Anatomy, Physiology and Biochemistry.
2. A maximum number of four permissible attempts would be available to clear the first Professional University examination, whereby the first Professional course will have to be cleared within 4 years of admission to the said course. Partial attendance at any University examination shall be counted as an availed attempt.

(b) Second Professional

1. The second Professional examination shall be held at the end of second professional training (11 months), in the subjects of Pathology, Microbiology, and Pharmacology.

(c) Third Professional

1. Third Professional Part I shall be held at end of third Professional part 1 of training (12 months) in the subjects of Ophthalmology, Otorhinolaryngology, Community Medicine and Forensic Medicine and Toxicology
2. Third Professional Part II - (Final Professional) examination shall be at the end of training (14 months including 2 months of electives) in the subjects of General Medicine, General Surgery, Obstetrics & Gynaecology and Pediatrics. The discipline of Orthopaedics, Anaesthesiology, Dentistry and Radiodiagnosis will constitute 25% of the total theory marks incorporated as a separate section in paper II of General Surgery.

3. The discipline of Psychiatry and Dermatology, Venereology and Leprosy(DVL), Respiratory Medicine including Tuberculosis will constitute 25% of the total theory marks in General Medicine incorporated as a separate section in paper II of General Medicine

Phase of Course	Written-Theory-Total	Practicals/Orals/Clinicals	Pass Criteria	
First Professional			Internal Assessment: 35% separately in theory and practical for eligibility to appear for University Examinations	
Human Anatomy – 2 papers	200	100		
Physiology – 2 papers	200	100		
Biochemistry – 2 papers	200	100		
Second Professional				
Pharmacology – 2 papers	200	100		
Pathology – 2 papers	200	100		
Microbiology – 2 papers	200	100		
Third Professional Part - I				University Examination Mandatory 50% marks in theory and practical (practical = practical/ clinical + viva)
Forensic Medicine & Toxicology – 1 paper	100	100		
Ophthalmology – 1 paper	100	100		
Otorhinolaryngology – 1 paper	100	100		
Community Medicine – 2 papers	200	100		
Third Professional Part - II				
General Medicine – 2 papers	200	200		
General Surgery – 2 papers	200	200		
Pediatrics – 1 paper	100	100		
Obstetrics & Gynaecology – 2 papers	200	200		

Chart depicting the break up of marks for the University Examinations, Minimum marks to be obtained in Internal Assessment and pass criteria table no 10 page 84 of GMR 2019

Note: At least one question in each paper of the clinical specialties should test knowledge - competencies acquired during the professional development programme (AETCOM module); Skills competencies acquired during the Professional Development programme (AETCOM module) must be tested during clinical, practical and viva.

Criteria for passing in a subject:

[As per clause 11.2.8 GMR 2019 page 85]

A candidate shall obtain 50% marks in University conducted examination separately in Theory and Practical (practical includes: practical/ clinical and viva voce) in order to be declared as passed in that subject.

In subjects that have two papers, the learner must secure at least 40% marks in each of the papers with minimum 50% of marks in aggregate (both papers together) to pass in the said subject.

University examination –Subjects and marks phase III/I

	Forensic medicine & toxicology	Ophthalmology	Oto-rhinolaryngology	Community medicine
Theory marks				
Paper I	100	100	100	100
Paper II	---	----	----	100
Total theory marks in University exams	100	100	100	200
Practicals/clinicals +viva –voce				
Practicals/clinicals	80	80	80	80
Viva-voce	20	20	20	20
Total marks inclusive of clinicals/practicals +viva-voce	100	100	100	100
Internal assessment				
Theory	20	20	20	20
Practicals/clinicals+viva-voce	20	20	20	20
Total	40	40	40	40

University examination –Subjects and marks phase III/II

	General Medicine	General Surgery	Pediatrics	Obstetrics & Gynecology
Theory marks				
Paper I	100	100	100	100
Paper II	100	100	-----	100
Total theory marks in University exams	200	200	100	200
Clinicals+viva-voce				
Clinicals	160	160	80	160
Viva-voce	40	40	20	40
Total marks in clinicals +viva-voce in University exams	200	200	100	200

Internal assessment				
Theory	40	40	20	40
Clinicals + viva-voce	40	40	20	40
Total IA	80	80	40	80

University examination Question paper pattern:

(Applicable to General Medicine, General Surgery & OBGY) Total Marks: 200

(Pediatrics 1 paper Total marks: 100)

For paper I

Type of Questions	Number of questions	Marks for each question	Total marks
(MCQS)	20	1 (ONE)	20
Essay type questions	2	10	20
Short Essay types questions	6	5	30
Short Answers	10	3	30
Total			100

For paper II

Type of Questions	Number of questions	Marks for each question	Total marks
MCQs	20	01	20
Long Essay type questions	2	10	20
Short Essay types questions	6	5	30
Short Answer questions	10	3	30
			100

Paper II Section I

Type of Questions	Number of questions	Marks for each question	Total marks
MCQs	10	01	10
Long Essay type questions	1	10	10
Short Essay types questions	3	5	15
Short Answer questions	5	3	15
			50

Paper II Section II**(Allied subjects of Medicine : Dermatology, Psychiatry, Respiratory Medicine)****(Allied Subjects of Surgery: Orthopedics, Anaesthesiology, Radiology & Dentistry)****Weightage for each subject shall be proportionate to allotted teaching hours**

Type of Questions	Number of questions	Marks for each question	Total marks
MCQs	10	01	10
Long Essay type questions	1	10	10
Short Essay types questions	3	5	15
Short Answer questions	5	3	15
			50

Clinical /practical examinations shall be conducted as per University /NMC norms of CBME curriculum. The division of the clinical/practical marks are described in detail in the concerned subject wise curricula. The total practical/clinical marks shall be as per the NMC norms.

8. SUBMISSION OF CLINICAL POSTINGS RECORD NOTE BOOK

Each candidate shall submit to the Examiners his/her clinical postings notebook duly certified by the Head of the Department as a bonafide record of the work done by the candidate at the time of Practical/Clinical Examination.

After fulfilling the requisite criteria in Internal Assessment and Attendance, the candidate, must obtain 50% marks in aggregate with a minimum of 50% marks in Theory minimum of 50% marks in Practical / Clinical + viva voce separately in each of the subjects. In subjects having two theory papers the candidate should secure minimum 40% of marks and 50% together to be declared as pass.

A candidate not securing 50% marks in aggregate in Theory or Practical/Clinical examination in a subject shall be declared to have failed in that subject and is required to appear for both theory and Practical/Clinical again in the subsequent examination in that subject.

10. DECLARATION OF CLASS:

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

[Please note fraction of marks should not be rounded off for clauses (a), (b) and (c)]

11. MIGRATION

Rules regarding migration of the student from one institution other institution shall be as per the MCI/NMC norms as applicable.

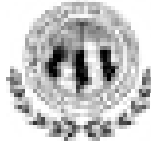
Note III:

Only candidates who pass in all the Phase I (Pre Clinical) subjects shall be eligible to join the Phase II of the course.

A learner, who fails in the second Professional examination, shall not be allowed to appear in third Professional Part I examination unless she/he passes all subjects of second Professional examination.

Passing in third Professional (Part I) examination is not compulsory before starting part II training; however, passing of third Professional (Part I) is compulsory for being eligible to appear for third Professional (Part II) examination.

Second professional clinical postings shall commence before / after declaration of results of the first professional phase examinations, as decided by the institution/ University. Third Professional parts I and part II clinical postings shall start no later than two weeks after the completion of the previous professional examination.



BLDE (DEEMED TO BE UNIVERSITY)
SHRI B. M. PATIL MEDICAL COLLEGE, HOSPITAL & RESEARCH CENTRE, VIJAYAPURA
COMMUNITY MEDICINE CURRICULUM

Goal:

To enable the undergraduate medical student function as a competent Community & Primary Care Physician

Objectives:

To be able to use basic epidemiological studies to assess the health problems in the area and prioritize the most important problems and help formulate a plan of action to prevent and control under National Health Programme guidelines.

1. Understand the health care delivery system at different levels in India and plan health care service delivery at primary level for vulnerable groups (mother, infants, under five children, adolescents and geriatrics) and during disasters/emergencies.
2. Inculcate values like compassion, empathy, honesty, sincerity and integrity to ensure high quality ethical professional practice.
3. Work as an effective leader of the health team at the primary health care set-up and maintain liaison with various agencies. (Government, non-government and voluntary organizations) involved in public health.
4. Plan and implement health education programmes and promote community participation.

Cognitive domain:

The student shall be able to:

1. Explain the principles of sociology including demographic population dynamics;
2. Identify social factors related to health, disease and disability in the context of urban and rural societies;
3. The impact of urbanization on health and disease;
4. Observe and interpret the dynamics of community behavior;
5. Describe the elements of normal psychology and social psychology;
6. Observe the principles of practice of medicine in hospital and community setting.
7. Understand the basics of Research in medical field
8. Describe different levels of health care delivery system in the country.
9. Describe different levels of prevention of diseases at community & individual level.
10. Describe the National Health Programmes like maternal and child health programmes, family planning programmes & programmes related to communicable & non-communicable diseases.
11. List epidemiological methods and their application to treat, control & prevent communicable and non-communicable diseases of public health importance.
12. To understand the basic biostatistical methods and their application.
13. Describe the demographic indicators of the country.

14. Describe the role of individual, family, community & socio-cultural milieu in health and diseases.
15. Describe the health information systems available in India.
16. Enunciate the principles and components of primary health care and the national health policies to achieve the goal of 'Health for All'.
17. Understand environmental and occupational hazards and their methods of prevention & control.
18. Describe the importance of water and sanitation in human health.
19. To understand the principles of health economics, health administration, health education in relation to community health

Affective domain

1. Should be able to function as a part of a team, develop an attitude of cooperation with colleagues and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff for effective teaching

Psychomotor domain:

At the end of the course, the student shall be able to make use of:

1. Principles of practice of medicine in hospital and community settings and familiarization with elementary nursing practices.
2. Art of communication with patients including history taking and medico social work.
3. To formulate a research plan to undertake projects funded by STS ICMR, BLDE University etc.
4. Understand the steps of outbreak investigation & apply it to community and individual level by using epidemiological tools.
5. Collect, analyze, interpret and present community and hospital-based research data.
6. Diagnose and manage common health problems and emergencies at the individual, family and community levels keeping in mind the existing health care resources and in the context of the prevailing socio-cultural beliefs.
7. Diagnose and manage common maternal and child health problems and advise a couple and the community on the family welfare planning methods available in the context of the national priorities.
8. Diagnose and manage common nutritional problems at the individual and community level.
9. Plan, implement and evaluate a health education Programme with skill to use simple audio-visual aids.
10. Interact with other members of the health care team and participate in the organization of health care services and implementation of National Health Programmes.

Integration:

Develop ability to understand the role of socio-cultural and environmental factors in maintenance of health at an individual, family and community level. Develop leadership qualities to promote health, prevent and control diseases at primary health care level.

Teaching of community medicine shall be both theoretical as well as practical. The practical aspects of the training programme shall include visits to the health establishments and to the community where health intervention programmes are in operation so as to make students understand the role of social, cultural, economic and environmental factors on the health of population in urban & rural communities & also to orient the student about health care facilities available and the services provided by them in the underserved population.

In order to inculcate in the minds of the students the basic concept of community medicine to be introduced in this phase of training, it is suggested that the detailed curriculum drawn shall include at least 52 hours of lectures, demonstrations, seminars etc. together with community visits.

Course contents

Evolution of Public Health and Concepts of Health (CM 1.1 - 1.8)

Must know

1. Evolution of Public Health.
2. Definition of health, holistic concept of health, appreciation of health as a relative concept, determinants of health.
3. Characteristics of agent, host and environmental factors in health and disease and the multifactorial etiology of disease.
4. Understanding Natural history of disease and application, interventions at various levels of prevention with appropriate examples.
5. Indices used in measurement of health.
6. Health profile in India.

Desirable to know

1. ICD Classification of diseases.

Nice to know

1. Complementary Alternative Medicine.

Environment and Health (CM 3.1 - 3.8)

Must know

1. Water:
 - a) The concept of safe and wholesome water.
 - b) Understanding the methods of purification of water on small scale and large scale.
 - c) Various biological standards, including World Health Organization (WHO) guidelines for third world countries.
 - d) Principles and methods for assessing quality of water.
 - e) Concept of water conservation, rain water harvesting.
2. Sources, health hazards and control of environmental pollution.
3. Problems in the disposal of refuse, sullage, human excreta and sewage and its remedies.
4. Awareness of standards of housing and the effect of poor housing on health.
5. Role of vectors in the causation of diseases.

6. Identifying features of methods of vector control and mode of transmission of vector borne diseases.
7. Hospital Waste Management.

Desirable to know

Global Warming.

Nice to know

Electronic waste management.

Health Education (Cm 4.1 - 4.3)

Must know

1. The art of communicating: effectively with individuals, family and community using tools and techniques of information, education, and communication. To do so, the student should know:
 - a) Principles of communication, methods and evaluation of health education.
 - b) Appreciate barriers to effective communication.

Desirable to know

1. Evaluation of health promotion and education programme.
2. Behavior change communication.
3. Counseling in health & diseases.

Nice to know

1. Social Marketing.

Nutrition and Dietetics (CM 5.1 - 5.8)

Must know

1. Common sources of various nutrients and special nutritional requirement according to age, sex, activity, physiological condition.
2. Nutritional assessment of individual, families and the community by:
3. selecting and using appropriate methods such as : anthropometry, clinical,
4. Dietary, laboratory techniques.
5. Plan and recommend a suitable diet for the individuals and families bearing in mind the local availability of foods, economic status, etc.
6. Common nutritional disorders: protein energy malnutrition, vitamin A deficiency, anemia, iodine deficiency disease, fluorosis, food toxin diseases and their control and management.
7. Food adulteration, Prevention of Food Adulteration Act, Food hygiene.
8. National Programmes in Nutrition.

Desirable to know

1. Nutritional surveillance, education and rehabilitation.

Nice to know

1. Preservation of foods.

2. Genetically modified crops.

Occupational Health (CM 11.1 - 11.5)

Must know

1. Relate the history of symptoms with the specific occupation including agriculture.
2. Identification of the physical, chemical, biological and social hazards to which workers are exposed to while working in a specific occupational environment.
3. General preventive measures against these diseases including accident prevention.
4. Employees State Insurance Scheme.

Desirable to know

1. Various legislations in relation to occupational health.
2. Women in Industry.

Nice to know

1. Social Security
2. Offensive Trades & Occupations.

Social Science and Medicine (CM 2.1 - 2.5)

Must Know

1. Conduct of a clinico-social evaluation in relation to social, economic and cultural aspects, educational and residential background; attitude to health, disease and to health services; the individuals, family and community.
2. Assessment of barriers to good health, recovery from sickness and to lead a socially and economically productive life.
3. Development of good doctor – patient and community relationship.

Desirable to know

1. Hospital Sociology.

Nice to know:

1. Social Research.

Fundamentals of Bio-Statistics and Health Information (CM 6.1 - 6.4)

Must know

1. The scope and uses of biostatistics.
2. Collection of data, simple statistical methods for the analysis, classification interpretation and presentation of data, frequency distribution, measures of central tendency, measures of variability.
3. Analyze and interpret data
4. Common sampling techniques
5. Obtaining health information, computing indices (rates and ratio) and making comparisons.
6. Applying test of significance

Desirable to know

1. Calculation of sample size in different settings.

2. Co-relation & regression analysis.

Nice to know

1. Use of statistical Software like – MS-Excel, Epi-Info, SPSS.

Basic Epidemiology and Screening for Diseases (CM 7.1 - 7.9)

Must know

1. Epidemiology; definition, concept and role in health and disease.
2. Epidemiological study design and research methodologies, concept of association & causation and bias.
3. Use of basic epidemiological tools to make a community diagnosis of the health situation in orders to formulate appropriate intervention measures.
4. Definition of terms used in describing disease transmission & control.
5. Modes of transmission & measures for prevention & control of communicable & non-communicable diseases.
6. Principle sources of epidemiological data.
7. Definition, calculation & interpretation of the measures of frequency of diseases & mortality.
8. Need and uses of screening tests.
9. Accuracy and clinical value of diagnostic and screening test (sensitivity, specificity).
10. Planning, collecting, analyzing. & interpreting data with community participation to reach a community diagnosis.
11. General principles of epidemiology of communicable & non-communicable diseases of public health importance and their control.
 - a) Planning and investigation of an epidemic of communicable diseases in a community setting.
 - b) Institution of control measures and evaluation of the effectiveness of these measures.

Desirable to know

1. Risk association and causation.
2. GIS mapping.

Epidemiology of Specific Diseases Communicable and Non-Communicable Diseases (CM 8.1 - 8.7)

Must know

The specific objectives of selected communicable and non-communicable diseases of public health importance of which National Disease control/Eradication Programmes have been formulated are described here. For other diseases, the individual teacher would formulate the objectives while drawing the lesson plans. The idea of formulation objectives for a few diseases here is to highlight their importance and to emphasize certain learning outcomes.

Communicable diseases: Intestinal infection: Poliomyelitis, viral hepatitis. Diarrhoeal diseases, Food poisoning, Typhoid, Cholera, Helminthiasis, Amoebiasis.

Respiratory infections: Acute Respiratory infections/Tuberculosis, Measles, Mumps, Rubella,

Diphtheria, Whooping cough, Meningococcal meningitis, H₁N₁.

Vector-borne infection: Malaria, Filariasis, Kala-Azar, Dengue, Chickungunya

Surface Infections: Sexually Transmitted Diseases (Syphilis, Gonorrhoea, Herpes), HIV & AIDS, Tetanus, Leprosy.

Zoonosis: Rabies, Japanese encephalitis, Plague, Kyasanur Forest Disease, Brucellosis, Anthrax.

Non-communicable diseases: Coronary heart diseases Hypertension, Rheumatic heart disease, Cancers, Diabetes Blindness and accidents.

Off the above communicable & non communicable diseases, study the following:

1. Extent of the problem, epidemiology and natural history of the disease.
2. Relative public health importance of particular disease in a given area.
3. Influence of social, cultural and ecological factors on the epidemiology of the disease.
4. Prevention and control of communicable and non-communicable disease by diagnosing and treating a case and in doing so demonstrate skills in:
 - i. Clinical methods.
 - ii. Use of essential laboratory techniques.
 - iii. Selection of appropriate treatment regimes.
 - iv. Follow-up of cases.
5. National Disease Control/Eradication Programmes.

Desirable to know

1. Level of awareness of causation and prevention of disease amongst individuals and communities.
2. Yellow fever, Rickettsial diseases, Leptospirosis, Giardiasis.
3. Hospital acquired infections.

Nice to know

1. Essential medicines, Study of emerging and re-emerging diseases.

Demography and Family Planning (CM 9.1 - 9.7)

Must know

1. Definition of demography and family welfare program.
2. Stages of the demographic cycle and their impact on the population, concept of demographic gap and population explosion.
3. Definition, calculation and interpretation of demographic indices like birth rate, death rate, fertility rates.
4. Reasons for rapid population growth in India and population dynamics.
5. Identify and describe the different family planning methods and their advantages and shortcomings.
6. Demonstrate skills in motivating a couple for selecting an appropriate family planning method.
7. Medical Termination of Pregnancy Act, (MTP) Revised act 2002-03.

Desirable to know

1. Unmet need of family planning.
2. National Population Policy.

Nice to know

1. Recent advances in family planning methods.
2. Population Stabilization.
3. Replacement level fertility.

Reproductive and Child Health (CM 10.1 - 10.6)

Must know

1. Need for specialized services for these groups.
2. Magnitude of morbidity and mortality in these groups in the local area and different regions.
3. Local customs and practices during pregnancy, child birth and lactation and complementary feeding.
4. Components of Reproductive & Child Health (RCH-I & RCH-II).
5. Organization, implementation and evaluation of reproductive child health program components.
6. Children in difficult circumstances.
7. Adolescent Health Problems & its prevention & control.

Desirable to know

1. Organization, technical and operational aspects of the National Family Welfare Programme and participate in the implementation of the programme.

Nice to know

1. Integrated Mother & Child Development Service Scheme (IMCDS).

School Health Programme (CM 10.7 - 10.9)

Must know

1. Objectives of the School Health Programme.
2. Activities of the Programmes like:
 - a) Carrying out periodic medical examination of the children & the teachers.
 - b) Immunization of children in the school.
 - c) Health education.
 - d) Mid-day meals.
 - e) School health counseling.

Desirable to know

1. Obtaining participation of the teachers in the school health programmes including maintenance of records, defining healthy practices; early detection of abnormalities, national school health programmes.

Nice to know

1. School visit to obtain health profile of school children.

Urban Health (17.5)

Must know

1. Common health problems (Medical, Social, Environmental, Economical, Psychological) of urban slum dwellers.
2. Organization of health services for slum dwellers.

Health Care System in India (CM 17.1 - 17.5)

Must know

1. Concept of Primary Health Care and comprehensive health care
2. Health profile of India.
3. Health care delivery system in India and infrastructure at peripheral, primary, secondary and tertiary care level.
4. Job responsibilities of different category of workers in health system.

Desirable to know

1. Voluntary Health agencies working in India.
2. Indian Public Health Standards (IPHS).

Nice to know

1. Central Govt. Health Scheme (CGHS).
2. Public Private Partnership in Public Health.

Health Planning and Management (CM 16.1 - 16.4)

Must know

1. Concepts of Planning, Management, Public Health Administration.
2. Components of planning a health activity-conducting immunization session.
3. Classification and understanding of various qualitative and quantitative health management techniques.
4. Overview of administration at village, block district, state and central level in India.
5. Integrated Disease Surveillance Project (IDSP).
6. Health related Millennium Development Goals, Sustainable Development Goals.
7. National Health Policy & National Health Mission (NHM).

Desirable to know

1. Concepts of Health Economics in health planning and management evaluation of health services.
2. Concepts, scope and methods of Health Audit.

Nice to know

1. Operational research

Public Health Legislations (CM 20.4)

Must know

1. Awareness regarding important health legislation in India such as Birth and Death registration act, Child Labour act, Prevention of Food Adulteration (PFA) act.
2. Consumer protection act, Prenatal diagnostics act, Human organ transplant Act health legislations.

Desirable to know

1. Recent Amendments in Public Health legislation.

International Health (CM 18.1 - 18.2)

Must know

1. Role of various multilateral, bilateral international health organizations like World Health Organization (WHO), UNICEF, Red Cross, CARE, World Bank.

Desirable to know

1. Organizational structure of these organizations.

Nice to know

1. International Health Regulation (IHR).

Geriatrics (CM 12.1 - 12.4)

Must know

1. Size of elderly population, their common health problems and justification of their special care.
2. Screening procedures for early detection of various diseases and disabilities of elderly.
3. Comprehensive health care aspects of elderly.

Desirable to know

1. National policy for care of elderly.
2. Benefits & social security for elderly in India.

Mental Health & Genetics (CM 15.1 - 15.3)

Must know

1. Importance of mental health care in primary care settings.
2. Comprehensive mental health care at primary care settings.
3. Factors responsible for good mental health.
4. Chromosomal disorders.
5. Population Genetics & Genetic Counseling.

Desirable to know

1. National mental health programme.
2. National mental health policy.

Nice to know

1. Community psychiatry.

Disaster Management (CM 13.1 - 13.4)

Must Know

1. Definition, classification of disasters.
2. Triage in disasters.
3. Principles of disaster preparedness and application of these in disaster management.
4. Manmade disasters.

Desirable to know

1. Bio-terrorism
2. Chemical war fare.

National Health Programmes (8.1 – 8.7)

Must Know

1. National Programmes Related to Communicable Diseases - Revised National Tuberculosis Control Programme (RNTCP), National Leprosy Elimination Programme (NLEP), National AIDS Control Programme (NACP), National Vector Borne Disease Control Programme (NVBDCP), Integrated Disease Surveillance Project (IDSP), Nutritional Programmes, Integrated Child Development Scheme (ICDS), Reproductive Child Health (RCH), Poshan Abhiyaan programme National Health Mission (NHM), National Blindness Control Programme (NBCP), National Programme for Prevention & Control of Cancer, Diabetes, Cardiovascular Diseases & Stroke (NPCDCS); Ayushman Bharat programme or is it health insurance ?? Strategies and functioning of these programmes at centre, state & primary care level.

Desirable to know

1. Twenty Point Programme, Minimum Needs Programme, Swacch Bharat Abhiyan,

Nice to know

1. Revised Strategies of National Health Programmes.

Recent Advances in Community Medicine (20.1 – 20.4)

Must Know

1. Important events in public health
2. Outbreak investigation, management and prevention
3. Recent advances in terms of newer national programmes, legislations and public health acts

PROFESSIONAL YEAR I

Introduction to Humanities and Community Medicine

Introduction to Humanities and Community Medicine, which includes Evolution of Medicine, Demography, Medical Sociology, Behavioral Sciences inclusive of Communication Skills and brief introduction to Research methodology and Biostatistics.

Course Contents

Theory Classes

(1hr each)

20 Hours

Evolution of Public Health and Concepts of Health & Disease (Number of competencies 10 – (CM – 1.1 to 1.10)

Relationship of Social And Behavioural To Health And Disease (Number of competencies 05 – (CM – 2.1 to 2.5)

Nutrition (Number of competencies 08 – (CM – 5.1 to 5.8)

Principles of Health Promotion And Education (Number of competencies 02 – (CM 4.1, 4.2)

Practical's (2hrs each) 27 hours
Research Methodology (CM 6.1)
Environment & Health (CM 3.1, 3.2)
Field visits (Rural Health Training Center, Ukkali & Urban Health Training Center, Chandabawadi)

Self-Directed Learning (3 hrs each) 06 hours
Population Explosion
Global warming

Assessment
Regular written assignments
1st Internal examination (written test) Total 50 marks

PROFESSIONAL YEAR II

Course Contents

Theory Classes (1hr each) 20 hours
Epidemiology (Number of competencies 08 – CM – 7.1 to 7.8)
Epidemiology of Communicable Diseases (Number of competencies 07 – CM – 8.1 to 8.7)

Practicals (2 hrs each) 30 hours
Basic statistics and its applications (Number of competencies 04 – CM – 6.1 to 6.4)
Environment & Health (CM 3.1, 3.2)

Self-Directed Learning (2 hrs each) 10 hours
Environment & Health (CM 3.1, 3.4, 3.5)

Block posting (3hrs/day) 4 weeks
Family Health Study & Field Visit (CM 2.1, 2.2, 2.3, 5.2, 5.4)

Assessment
Regular formative assessments – Written/Viva/ Skill assessment/Log book
2nd & 3rd Internal examination (written test & OSPE/ OSCE)

PHASE – III (Term 5 & 6)

Topics		
Theory Classes	(1hr each)	40 Hours
Sr.no.	Topic	Competencies
1	Epidemiology of Non-communicable diseases – HTN, DM	CM - 8.2
2	Epidemiology of Non-communicable diseases – Cancer, Obesity	CM – 8.2
3	Epidemiology of Non-communicable diseases– Accident, Blindness	CM – 8.2
4	National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases	CM – 8.2
5	Occupational Health – Introduction, Pneumoconiosis	CM - 11.1
6	Occupational Health – other health hazards	CM - 11.3
7	Prevention of occupational disease	CM - 11.4
8	Legislative measures of occupational health	CM - 11.2
9	National Health legislations/acts	CM – 8.3
10	National Health legislations/acts	CM – 8.3, 20.4
11	Health education principles	CM – 4.1
12	Communication for health education	CM – 4.1
13	Health information system in India	CM – 8.7
14	Health Planning	CM – 16.1, 16.2
15	Management techniques	CM – 16.3
16	Health planning in India, National Health Policy	CM – 16.4, 17.4
7	Health care of the community	CM – 17.1, 17.2, 17.3
18	Health care delivery system in India	CM – 17.5
19	International health	CM – 18.1, 18.2
20	voluntary health agencies	CM – 17.5
21	MCH – Ante natal care	CM -10.1, 10.2, 10.3, 10.7
22	MCH – Intra natal care	CM-10.1, 10.2, 10.3, 10.7
23	MCH – Post natal care	CM-10.1, 10.2, 10.3, 10.7

24	MCH – Care of the children	CM-10.1, 10.2, 10.3, 10.7
25	MCH – Growth & Development, LBW	CM-10.1, 10.2, 10.3, 10.7
26	MCH – Child health problems	CM – 10.1, 10.2, 10.3, 10.7
27	Indicators of MCH	CM – 10.1, 10.2, 10.3, 10.7
28	School health services	CM – 10.8
29	Adolescent health	CM – 10.8
30	RMNCH+A	CM – 10.4
31	IMNCI, ICDS	CM – 10.5
32	Other Programs related to MCH	CM – 10.5
33	Family planning	CM – 10.6
34	Geriatrics	CM – 12.1, 12.2, 12.3, 12.4
35	Mental Health & Program	CM – 15.1,15.2,15.3
36	Disposal of solid waste	CM – 3.4
37	Disposal of liquid waste	CM – 3.4
38	Biomedical waste management	CM – 14.1, 14.2, 14.3
39	Disaster management	CM – 13.1, 13.2, 13.3, 13.4
40	Public Health Update – Recent Advances	CM – 20.3

Self-Directed Learning (1 hrs each)**05 hours**

Tribal health, Essential Medicine (CM 19.1-3), Emerging & re-emerging infections (CM 20.1), Hospital acquired infections, New Public health threats (CM 20.1)

Block posting (3hrs/day)**6 weeks**

Medico-Social Case Study (CM 2.1, 2.2, 2.3, 5.2, 5.4) - 4 weeks
Epidemiological problems (CM – 8.1, 8.2, 8.3, 8.4, 8.5, 20.2) - 2 weeks

Small Group Teaching/ Tutorials/ Integrated learning (2hrs/day)**60 hours**

Linker case discussion with respect public health/preventive measures
Tutorials, Group discussions, Integrated seminars, Written tests, MCQ test, revision of Problems/spotters

Assessment

- Regular formative assessments - written test/MCQ test/Viva/ Skill assessment/ Log book
- 4th Internal examination (written and practical test)
- Block posting (ward ending) exams
- Preliminary examination (Written & Practical)

Skills

Part-I: General Skills

The student should be able to:

1. Elicit the clinico-social history to describe the agent, host and environment factors that determine and influence health.
2. Recognize and assist in management of common health problems of the community.
3. Carry out health education effectively for the community.
4. Apply elementary principles of epidemiology in carrying out simple epidemiological studies in the community.
5. Work as a team member in rendering health care.

Part-II: Skills in Relation to Specific Topic

A. Communication:

The student should be able to communicate effectively with patients, family members, at community and with peers at scientific forums.

Communicable and non-communicable diseases (including social problems)

1. Eliciting clinico-social history and examining the patient for diagnosis and treatment.
2. Assessing the severity and / or classifying dehydration in diarrhoea, upper respiratory tract infection, dog bite, leprosy.
3. Adequate and appropriate treatment and follow-up of leprosy, malaria, filariasis, rabies, upper respiratory tract infections, diarrhoea and dehydration.
4. Advise on the prevention and prophylaxis of common diseases like vaccine preventable diseases, tetanus, malaria, filariasis, rabies, cholera, typhoid, intestinal parasites.

B. Maternal and child health:

1. Antenatal examination of the mother, application of the risk approach in antenatal care.
2. Postnatal-assessment of the mother and newborn, advice on appropriate family planning method, promotion of breast feeding, advice on weaning.
3. Assessment of growth & development of the child-use of the road to health, immunization to the child, identifying high risk infant.
4. Skills in vaccine management (cold chain).

C. Statistics:

1. Simple random sampling technique.
2. Apply appropriate tests of significance to make a correct inference.
3. Sample analysis and presentation of data.
4. Calculation of various health indices.

5. Calculation of relative and attributable risks.
6. Calculation of sensitivity, specificity and predictive values of screening test.

D. Nutrition:

1. Conducting a diet survey.
2. Community survey and clinical diagnosis of nutritional deficiencies:
3. Vitamin - A deficiency, Iodine deficiency, Malnutrition.
4. Making recommendation regarding diet.

E. Health Management:

1. Be an effective team leader.
2. Guide and train workers.
3. Supervision of workers and programmes.

F. Environmental health:

1. Collect water samples for microbiological evaluation.

Integrated teaching:**Horizontal:**

Topic	Collaborating Departments
Food Hygiene (CM 5.7)	Microbiology
Investigation of an Epidemic (CM 7.7)	Microbiology
Hospital Waste Management (CM 14)	Microbiology
Epidemiology & Disease Control Measures (CM 8.1 to 8.5)	Microbiology; Pathology
Disorders of air pollution, Tobacco and alcohol (CM 3.1)	Pathology
Essential Medicine (CM 19)	Pharmacology

Vertical Integration Topics:

Topic	Collaborating Departments
Family Welfare (CM 9.5)	Physiology; OBG
Community Psychiatry (CM 15.1 to 15.3)	Psychiatry
Nutritional Disorders and Prevention (CM 5)	Biochemistry; General Medicine
NCDs and its prevention (CM 8.2)	General Medicine
Emerging Infectious Diseases (CM 7.7)	Microbiology; General Medicine
Antenatal Care and Postnatal care (CM 10.1 to 10.5)	OBG
Mortality indicators in MCH (CM 9.1 & 9.2)	OBG; Pediatrics
Assessment of nutritional status in children and adolescents (CM 5.1 to 5.8)	Pediatrics
Immunization in children (CM 10.5)	Microbiology; Pediatrics
National Programmes for women, infants, children and adolescents (CM 8)	OBG; Pediatrics
Tuberculosis and RNTCP (CM 8)	Pathology; Microbiology; Pharmacology; Respiratory Medicine
Disaster Management (CM 13.1 to 13.4)	General Medicine. Surgery

ATECOM Module

Learning Modules for Professional Year III

Module 3.1: The foundations of communication – 3

Demonstrate ability to communicate to patients in a patient, respectful, nonthreatening, non-judgmental and empathetic manner

Introductory small group session - 1-hour, Focused small group session - 2 hours, Skills Lab session(Role play) - 2 hour

Formative: Participation in session 2 and performance in session 3 may be used as part of formative assessment.

Summative: A skill station in which the student may administer informed consent to a standardized patient.

Module 3.3: The foundations of communication – 4

Demonstrate ability to communicate to patients in a patient, respectful, nonthreatening, non-judgmental and empathetic manner

Identify, discuss and defend, medico-legal, socio-cultural and ethical issues as they pertain to consent for surgical procedures

Administer informed consent and appropriately address patient queries to a patient undergoing a surgical procedure in a simulated environment

Introductory small group session - 1-hour, Focused small group session - 2 hours, Skills Lab session (Role play)- 2 hour.

Formative: Participation in session 2 and performance in session 3 may be used as part of formative assessment.

Summative: A skill station in which the student may administer informed consent to a standardized patient.

Teaching Learning Methods

Large group - Lectures (Interactive)

Small group - Practical's/ Demonstrations

epidemiology case scenario Problem Based Learning with epidemiological case scenarios

Self-directed learning

OSPE/OSCE

Pandemic Module (PY II-2.2 & 2.4; PY III-3.1 to 3.3)

ATECOM Module

Innovative Methods (Quiz, Role Play, Street Play, One–Minute Paper, Student Seminars, Community Diagnosis, DOAP Sessions (8 hours), Debate. Focused group discussions

Pandemic Module

22 hours

- | | |
|--------------|----------|
| 1. Phase II | 12 hours |
| 2. Phase III | 10 hours |

Teaching hours:

Professional year	Lecture	Small Group Teaching	Self-Directed Learning	Total	Clinical Postings
First	20	27	5	52	--
Second	20	30	10	60	4 weeks
Third	40	60	5	105	6 weeks
Total	80	117	20	217	10 Weeks

Internal Assessment Exam Schedules:

- 1st Internal Assessment will be held at the end of 2nd term.
- 2nd & 3rd Internal Assessment at the end of 3rd & 4th term.
- 4th Internal Assessment at the end of 5th term.
4. Preliminary examination at the end of 6th term

Total Marks – 100 (Theory-60; Practical-40)

Distribution of Marks	Out of
Theory (60 marks)	
50% of IA derived from Theory Summative assessment	30
20% of IA derived from Logbook	12
15% of IA derived from AETCOM assessment by OSCE	09
15% of IA derived from MCQ test of PY3	09
Practical (40 marks)	
50% of IA derived from Practical Summative assessment	20
20% of IA derived from Logbook	08
20% of IA derived from Family Health Study	08
10% of IA derived from Record book maintenance	04

University Examination:

* Note: The examination for Community Medicine will be held in Phase III along with Phase – III, Part – I subjects.

A. Written Paper: 200 Marks

There shall be two papers, each carrying 100 marks. Each paper shall be of 3 hours duration. The pattern of questions would be of three types:

- | | | |
|---|---|-------------------------|
| 1. Multiple Choice questions (MCQs) | - | 20 Marks x 20 questions |
| 2. Long essay question – each question carrying | - | 10 Marks x 02 questions |
| 3. Short essay question – each question carrying | - | 05 Marks x 06 questions |
| 4. Short answer question – each question carrying | - | 03 Marks x 10 questions |

Topic wise marks distribution in Paper - I and Paper - II, from the University examination is given below*.

Paper - I: 100 Marks

Topic	Marks
Environment and Health, Biomedical Waste Management	15
Basic Epidemiology & Screening of Diseases; Pandemic Module (2.2 & 2.4)	15
Nutrition and Dietetics	15
Occupational Health, Genetics & Mental Health	15
Evolution of Public health and Concepts of Health	10
Health Education & Communication	10
Medical Sociology	10
Bio-statistics	05
ATECOM Module 3.1 & 3.3	05

Paper - II: 100 marks

Topic	Marks
Epidemiology of specific diseases: Communicable & Non-communicable diseases, National Health Programmes including Pandemic Module (3.1 to 3.3)	40
Reproductive and Child Health, School Health, Geriatrics	20
Demography & Family Planning	10
Health System in India	10
Health Planning & Management	10
Disaster Management, International Health, NGO	10

* The topics assigned to the different papers are generally evaluated under those sections. However, a strict division of the subject may not be possible and some overlapping of topics is inevitable, students should be prepared to answer overlapping topics.

B. Practical: 80 Marks (The distribution of different components shall be)

Problem Solving Exercises (05 x 6 marks)	-	30 marks
(Problems based on Epidemiology, Biostatistics, Demography, Environmental health, Nutrition and Health care of Community)		
Medico-Social case presentation	-	40 marks
Spotters	-	10 marks

C. Viva Voce: 20 Marks

Covering all topics in the syllabus and may include relevant recent advances in the subject

List of Text Books and Reference Books:

1. K.Park. Text Book of Preventive & Social Medicine, 26th Edition, Ms Baranarasidas Bhanot, Jabalpur.
2. B.K.Mahajan & M.Gupta. Text Book of Preventive & Social Medicine, 4th Edition,
 - a. Jaypee Brothers Medical Publishers (P) Ltd., New Delhi
3. A H Suryakantha. Community Medicine with Recent Advances, 5th Edition, Jaypee Brothers Medical Publishers (P) Ltd., New Delhi.
4. Gopalan et al. Nutritive Value of Indian Foods Stuffs, 3rd Edition, NIN-ICMR, Hyderabad.
5. J. Kishore. National Health Programmes of India, 10th Edition, Century Publications, New Delhi.
6. B.K. Mahajan. Biostatistics, 8th Edition, Jaypee Brothers Medical Publishers (P) Ltd., New Delhi.
7. Sundarlal, Adarsh, Pankaj. Text Book of Community Medicine (P&SM), 5rd Edition, CBS Publishers & Distributor (P). Ltd., New Delhi.
8. G.K. Ratnaswamy. A Hand Book of Medical Entomology, 2nd Edition.
9. IAPSM's Textbook of Community Medicine, 2nd Edition, Jaypee Brothers Medical Publishers (P) Ltd., New Delhi.
10. Rajvir Bhalwar; Textbook of Community Medicine. 2nd Edition, Wolters Kluwer India (P) Ltd; Pune.

MODEL QUESTION PAPER
(PROFESSIONAL YEAR III)
COMMUNITY MEDICINE- PAPER I

Multiple Choice Questions

20 Marks

Instructions:

1. All questions are compulsory
2. Your answer should be specific to the question asked
3. Draw neat labeled diagrams wherever necessary
4. Each answer should be written on new page only
5. Write correct question number on left side of the margin.

Total Marks: 80

Long Essays

2 x 10 = 20 marks

1. Mr. ABC works as a team manager in UNICEF, Karnataka division and he is asked to find out if the funding provided for ORS packets as treatment of diarrhea was beneficial in saving lives of under-five children
 - a. What is the best suit management technique for the above purpose? (2+4)
Enumerate the different management techniques
 - b. Mention the differences between Cost effective and Cost benefit analysis (4)

2. "Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination."
 - a. In which of the famous international conference on primary health care was this definition coined? (2)
 - b. What are the principles of Primary Health care? (3)
 - c. What are the elements of Primary Health Care? (3)
 - d. What is Inter-sectoral coordination? (2)

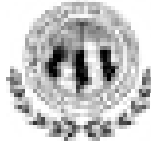
Short Essay

1. What are different methods of treatment & disposal techniques for health-care waste?
2. Write briefly the Employment state Insurance (ESI) benefits
3. Describe clinical features of lead poisoning and preventive measures for it
4. Describe in brief screening of school children under school health program
5. Enumerate the causes of maternal mortality rate
6. Write epidemiology of Coronary heart disease

Short Answers

10 × 3 = 30 Marks

1. Human Development Index
2. Criteria for selection of Anganwadi worker
3. Enumerate job responsibilities of 'ASHA'.
4. Properties of 'Normal curve'.
5. Discuss the effects of Tobacco use. What are the Preventive measures?
6. What is 'Triage'
7. Write briefly about Beri-beri
8. List out 6 Contraindications for Oral Contraceptive Pills
9. Measles vaccine
10. Chi-Square Test



BLDE (DEEMED TO BE UNIVERSITY)
SHRI B. M. PATIL MEDICAL COLLEGE, HOSPITAL & RESEARCH CENTRE, VIJAYAPURA
FORENSIC MEDICINE AND TOXICOLOGY CURRICULUM

Goal:

The broad goal of the teaching undergraduate student in Forensic Medicine is to produce a physician who is well informed about medico legal responsibilities in practice of medicine. He/She acquires knowledge of law in relation to medical practice, medical negligence and respect for codes of medical ethics.

Objectives

Knowledge

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

1. Identify the basic medico legal aspects of hospital and general practice
2. Define the medico legal responsibilities of a general physician while rendering community service either in a rural primary health centre or an urban health center.
3. Be able to identify, examine and prepare report or certificate in medico legal cases/situations in accordance with the law of land.
4. Able to perform medico legal postmortem and interpret findings and results of other relevant investigations to logically conclude the cause, manner and time since death.
5. Be aware of medical ethics, etiquette, duties, rights, medical negligence and legal responsibilities of the physicians towards patient, profession, society, state and humanity at large.
6. Be aware of relevant legal / court procedures applicable to the medico legal / medical practice

Skills

1. Make observations and logical inferences in order to initiate enquiries in criminal; matters and medico legal problems.
2. Diagnose and treat common emergencies in poisoning and manage chronic toxicity.
3. Make observations and interpret funding at postmortem examination.
4. Observe the principles of medical ethics in the practice of his profession
5. Be able to preserve and dispatch specimens in medico legal / postmortem cases and other concerned materials to the appropriate government agencies for necessary examination.

Attitude / Communication:

At the end of the course in the Forensic Medicine and Toxicology, the MBBS student should:

1. Practice selflessness, integrity, responsibility, accountability and respect.
2. Respect and maintain professional boundaries between patients, colleagues and society.
3. Demonstrate ability to recognize and manage ethical and professional conflicts.
4. Abide by prescribed ethical and legal codes of conduct and practice.
5. Demonstrate a commitment to the growth of the medical profession as a whole.

Integration:

Department shall provide an integrated approach towards allied disciplines like Anatomy, Pathology, Radiology, Forensic Sciences, Hospital administration etc., to impart training regarding medico legal responsibilities of physicians at all levels of health care. Integration with relevant disciplines will provide scientific basis of Clinical Toxicology e.g., Medicine, Pharmacology, etc.

Course Contents

The contents of the Forensic Medicine and Toxicology curriculum is based on the competencies enlisted in the Competency Based Undergraduate Curriculum for the Indian Medical Graduate (IMG) 2018 - Volume I, drafted in conjunction with the new Graduate Medical Education Regulations (GMR).

A. Theory

1. Introduction 01 Hr

(FM 1.1, FM 1.2)

Desirable to know

Definitions - Forensic Medicine, Medical Jurisprudence, Medical Ethics and Etiquette.
History of Forensic Medicine and Toxicology

2. Legal Procedure 06 Hrs

(FM 1.3 1.4, 1.5, 1.6, 1.7, 1.8)

Desirable to know

Investigation of Death in Suspicious Circumstances, Inquest, Different types of Inquests, Offences and types, types of Courts, Prosecutors, Fast Track Courts, Consumer's Courts, Trial of a Criminal Case, Pretrial preparation, Witness and types, Summons, Procedure in court, Record of evidence. Evidences, Types of evidence, Guidelines to a doctor in witness box.

Relevant CrPC, IPC, I E Act, Examination of dead body at the scene of crime / death.

Must Know

Dying declaration and dying deposition

3. Thanatology 06 Hrs

(FM 2.1, 2.2, 2.3, 2.4, 2.5 2.6 2.7 2.8 2.9 2.10)

Must Know

Death: Definition of Death, Types, Suspended Animation, Moment of Death, Modes of Death, Coma, Asphyxia, Syncope. Natural and Sudden Deaths, Postmortem diagnosis of Myocardial Infarction, Causes of Death, Presumption of Death and Survivorship.

Postmortem Changes -Types, Immediate, Early and Late Changes, Estimation of Time of Death, Cold Storage Effect.

Preservation of Dead Bodies, Embalming, Transplantation of organs / tissues.

4. Postmortem Examination: Medico legal Autopsy and Artifacts in Postmortem Examination 06 Hrs
(FM 2.11 2.12 2.13 2.14 2.15 2.16 2.17 2.30)

Must know

Autopsy - Definition, Types, Purpose, Rules and Procedure
Autopsy room and facility for autopsy and Biosafety, Exhumation, External and Internal Examination, Viscera preservation - Procedure, Preservative used, Obscure autopsy, Negative autopsy, Postmortem Artifacts, Examination of mutilated and charred bodies, Skeletal remains.

5. Identification 08 Hrs
(FM 1.9 1.10, 1.11, 3.1, 3.2)

Must know

Definition, Types, Data for identification, Determination of Race, ethnicity, Sex, Age, and their Medico legal Importance
Anthropometry: Stature, Scars, Tattoo marks,
Forensic odontology: Teeth Morphology, Eruption, Bite marks, Gustafson's technique, etc.
Bones - Ossification and other changes, Developmental features in different ages,
Dactylography, Foot print, other prints, Poroscopy / Locard's principle, Hair and other fibres, Occupational Marks, Other identification features, Superimposition technique.

Desirable to know

DNA Fingerprinting, Facial reconstruction

Identification from Trace Substances and their other Evidential Values

Must know

Method of Collection and preservation of trace substance, Locard's Principle of Exchange, Blood - Physical, Microscopic, Spectroscopic, Chemical, Micro chemical, Serological (group) tests, Disputed Paternity, abnormal Hemoglobin; Seminal fluid, Saliva, Vaginal fluid,
Fecal and Urinary stain, Examination of Skin, Tooth pulp, Nail.

6. Forensic traumatology
i. Injuries - legal considerations and types 02 Hrs
(FM 3.4, 3.5)

Must know

Definitions, Different sections of I.P.C. related to offences against human body, Different classifications of bodily injuries.
Hurt (S. 319 IPC), Grievous hurt (S. 320 IPC), Assault (S. 351IPC),
Culpable homicide (S. 299, 300-302 IPC) - amounting to / not amounting to murder, Wound certificate
Manslaughter.

ii. Mechanical Injuries 04 Hrs
(FM 3.3, 3.6 3.7 3.8)

Must know

Definition, Classification and mechanism of various types of mechanical injuries; Definition, Classification and mechanism of Abrasions, Bruise / Contusion, Lacerations, Incised wounds, Chop wounds and Punctured wounds; Defense, Self-inflicted and fabricated wounds / cuts.

Influence of biological and physical factors.

iii. Thermal Injuries 04 Hrs
(FM 2.24)

Must know

Definition and Classification, General effect of exposure to heat and cold; Local effect of exposure to heat and cold; Hypothermia, Frostbite, Trench foot, Immersion foot; Heat hyperpyrexia / Heatstroke / Sunstroke, Heat Exhaustion / Collapse / Syncope, Heat cramps / Miner's cramps; Burns and Scalds; Causes of death.

Chemical burns

iv. Injuries due to Electricity, Lightning and Radiations 01 Hr
(FM 2.25)

Must know

Electrocution, Electric burns, Causes of death, judicial electrocution.

Lightning - wound of entry, wound of exit and causes of death.

Radiation - UV Rays, X-Rays, Radio Active substance, LASER beams injuries.

v. Regional Injuries 04 Hrs
(FM 3.11)

Must know

Head injury in detail

Head - Scalp and face injury; Fracture of Skull - Coup and Contre coup injuries, Intracranial hemorrhages, Alcohol and Intracranial Hemorrhage; Concussion, Punch drunk, Injuries to brain substance.

Injury to Neck, Chest, Abdomen, Limbs, Genital organs and Spinal cord.

vi. Communication and Transportation Injuries 02 Hrs
(FM 3.12)

Must know

Road Traffic Accidents, Injuries to pedestrian, two wheeler riders and occupant of vehicle. Alcohol and RTA.

Railway Accidents, Aviation Accidents, Shipwrecks in brief.

vii. Firearm Injuries and Explosion Injuries 06 Hrs
(FM 3.9, 3.10)

Must know

Definitions, types and parts of weapon, Cartridge, parts of cartridge. Entry and Exit wound in rifled and smooth bored weapons. Wound Ballistics, removal of bullet / pellet and preservation. Collection of material in living and dead victims of firearm injury

Blast injuries.

Comparative microscope

viii. Medico Legal Aspects of Injuries 02 Hrs
(FM 3.6, 3.7)

Must know

Factors influencing in the dating of wound; Infliction of Injuries and Healing; Different legal questions; Examination and Certification of Wounds; Causes of death in injury.

Examination of weapon and certification

7. Violent Asphyxial Deaths 05 Hrs
(FM 2.22 2.23)

Must know

Definitions, Classification, Hanging, Lynching, Strangulations by ligature, other materials, Throttling, Garroting, Mugging, Suffocations - Smothering, Choking, Cafe coronary, Traumatic asphyxia, Bansdola, Gagging, Overlying, Burking

Drowning - types, mechanism and PM findings.

Masochistic asphyxial deaths.

8. Medical Jurisprudence 08 Hrs
Legal and Ethical Aspects of Practice of Medicine
(FM 4.1 to 4.30)

Must know

Oath of Hippocrates; Declaration of Geneva-1948; International and National Code of Medical Ethics and Etiquette.

Acts related to Medical Practice e.g. Indian Medical Council and State Medical Council Acts.

Rights, Privileges and Duties of a Registered Medical Practitioner, Professional secrecy, Privileged communication, Rights of patient, Infamous conduct, Codes laid down by M.C.I.,

Malpractice or Negligence - Civil and Criminal, Medical Maloccurrence, Therapeutic Misadventure, Corporate Negligence, Doctrine of Common knowledge, Novus Actus Interventions, Product liability, Duties of a Patient, Contributory negligence, Vicarious responsibility, Doctrine of Res Ipsa Loquitur, etc.,

Maintenance of Medical Records; Certification of birth, death, illness and fitness; Consent, Human organ Transplant Act 1994, Euthanasia, COPRA.

Precautions against charge of Negligence

Desirable to know

Protection of Human Rights Acts, Human Experimentation and Cloning.

Protection of Human Rights Acts, Human Experimentation and Cloning.

9. Forensic Psychiatry 04 Hrs

(FM 5.1 to 5.6)

Must know

Role of Forensic Psychiatrist, Causes of Mental illness (insanity), Types, Some definitions - Psychopathic disorders, Schizophrenia, Epileptic insanity, Maniac-Depressive Psychosis, Mental retardation, Dementia, Impulse, Mental sub-normality, Diagnosis of mental illness, True and Feigned Mental illness. Civil and Criminal responsibilities of mentally ill person, related different criminal rules. Diminished responsibility, Mental Health Certificate

Desirable to know

Mental Health Act 1987, Restraint procedures - Admission of Mentally ill person in a Hospital or Nursing Home; Discharge from Hospital.

10. Medico legal aspects related to sex and marriage annulment

i. Impotence, frigidity sterility, virginity and defloration

02 hrs

(FM 3.18 3.22 3.23 3.24 3.25 3.26)

Must know

Definitions, Medico legal aspects, Causes of Sterilization, Certification, difference between sterility and impotence, Artificial insemination. Definitions, Types of hymen, True virgin, False virgin.

Impotence in female

ii. Pregnancy and Delivery 02 Hrs

(FM 3.19, 3.20, 3.21, 3.22, 3.23, 3.24, 3.25, 3.26)

Must know

Signs of pregnancy, Duration of pregnancy, fetal viability, Pseudocyesis, Fictitious child, Posthumous child and Medico legal aspects; Precipitate labor, Signs of recent and remote delivery in living and dead, Parous and Nulliparous uterus. Superfetation, Superfecundation, Surrogate mother, Concealment of birth, Legitimacy, Disputed paternity and maternity.

Artificial insemination – Its Types, Ethical and Legal issues

In vitro fertilization, Test Tube Baby, Cloning

iii. Abortion 02 Hrs

(FM 3.27 3.28)

Must know

Types of abortion; Causes of natural abortion; Criminal abortion and related IPC; PCPNDT Act

Methods of abortion; MTP Act and Rule; Causes of death in abortion; Diagnosis in living and dead; Preserve Material for investigation

Medical Abortion, MTP drugs

iv. Sexual Offences and Perversions **04 Hrs**
(FM 3.16 3.17)

Must know

Definitions, Types, Natural offences, Unnatural offences, Sexual Perversions, Relevant IPC sections and POCSO Act; Method of examination of victim and accused; Preservation of material for microscopic and serological study
Date Rape drugs,

11. Infanticide **04 Hrs**
(FM 3.29)

Must know

Definitions, Medico legal questions, Still birth, Dead birth, Live birth, viability, Signs of full term fetus, Natural causes of infant death, Modes of infanticide, acts of omission, acts of commission,
Concealment of birth, Crib death, Battered Baby Syndrome
English law provision, Abandonment of child

12. Miscellaneous

Must know

i. Blood Transfusion and Aids: 01 Hr
(FM 4.7)

Hazards of Blood Transfusion; Social, Medical, Legal and Ethical Problems with AIDS; Autopsy in AIDS Cases

ii. Crime and Cruelty At Home: 01 Hr
(FM 3.29)

On children (Battered child), Battered wife / husband / elderly people and other members.

iii. Starvation: 01 Hr
(FM 2.26)

Types, Features, Medico legal importance

iv. Forensic Science Laboratory (F.S.L.): 02 Hrs
(FM 6.1 7.1 8.10)

Chromatography - Types, Electrophoresis, Spectroscopy, Spectrophotometry - Types, Uses of - Neutron Activation Analysis, Comparative microscope, Fluorescent microscope,
Polarizing microscope, Electron Scanning Microscope,

Desirable to know

Polygraph, Narcoanalysis in brief.

v. Anaesthetic Deaths 01 Hr

13. Forensic Toxicology

i. General aspects 04 Hrs

(FM 8.1 to 8.9)

Must know

Definitions of Toxicology, Poisons, Drugs; Different Acts, Classifications of poisons, Their Sources, Nature of use, Route of use, Actions, Factors influencing; Duties of Doctor, Diagnosis in living, Common bedside screening tests - Thin Layer Chromatography (TLC); Treatment - Method, Antidotes; Ideal Suicidal and Homicidal poisons; Diagnosis in dead - by examination, Viscera preservation, Poison Detection Laboratory / Centre, HPLC, Gas chromatography and Recent advances in diagnostic techniques

ii. Corrosive Agents 02 Hrs

(FM 9.1)

Must know

Sulphuric acid, Nitric acid, Hydrochloric acid, Carboic acid, Oxalic acid, Corrosive alkalis

iii. Organic and Inorganic Chemical Irritants 02 Hrs

(FM 9.2 9.3 9.5)

Must know

Metallic inorganic Chemical irritants: - Arsenic, Mercury, Lead, Copper, Iron, etc.

Organic Chemical irritants :- Agricultural poisons - Classification, Organophosphorus, Carbamate, Organochlorine (endrine), Pyrethrine / Pyrethroids, Zinc phosphide, Aluminium phosphide, etc.

Non-metallic inorganic Chemical irritants: - Phosphorus, Iodine

Mechanical: - Glass powder, Diamond Powder, Others

Non-metallic inorganic Chemical irritants: - Chlorine

iv. Vegetable Irritants 02 Hrs

Must know

Abrus precatorius, Castor beans, Croton tiglium, Semicarpus anacardium, Calotropis, Capsicum

v. Animal Irritants 02 Hrs

(FM 11.1)

Must know

Snakes, Scorpions, Centipedes, Cantharides, Bees and Wasps.

Venomous aquatic animals (By Stinging, Contact, Eating)

vi. Cerebral Poisons 04 Hrs

(FM 9.4 10.1 12.1)

Must know

Somniferous - Opium and Opiates, Morphine, Heroin, Pethidine, Codeine,

Inebriants - Ethyl alcohol, Methyl alcohol, Isopropyl alcohol, Chloroform,

Hypnotics - Barbiturates, Chloral hydrate.

Cerebral stimulants - Amphetamine, Caffeine, Tranquillisers,

Deliriants - Datura, (hyoscine, hyoscyamine, atropine, belladonna) Cocaine, Cannabis,

Miscellaneous - Kerosene, Formaldehyde.

Hallucinogen - L.S.D., Mescaline, Nutmeg, Hallucinogenic Dimethyl tryptamine,

Phencyclidine, Date rape drugs

vii. Spinal And Peripheral Nerve Poisons 01 Hr

Must know

Strychnine,

Other than cholinesterase inhibitors, Curare

viii. Cardiac Poisons 02 Hrs

(FM 10.1)

Must know

Aconite, Nicotine, Digitalis, Cerbera Thevetia, Nerium Odorum, Quinine, Cinchonine, Glory

Lilly, Cerebera Odalum

ix. Asphyxiants 02 Hrs

(FM 9.6)

Must know

HCN, CO, CO₂, H₂S

COCl₂ (Phosgene), SO₂, Phosphine, War Gases, Gases / Chemicals used in recent war

x. Food Poisoning 02 Hrs

Must know

Botulin Toxin, Poisonous Mushrooms (Amanita Muscaria, phalloides, Destroying Angel)
Ichthyotoxicosis, Lathyrus Sativa, Ergot, Argemone Mexicana, Ptomaines, Food Allergy
Aflatoxin,

xi. Drug Dependence and Abuse 02 Hrs

(FM 12.1)

Must know

Definitions, Types of drug users, abused drugs, Psychological and Physiological Dependents,
Factors mattering, Assessment and dealing of the problem.

Rave Parties, Drug addict rehabilitation centers, Acts and punishment for drug abuse and
dependence.

B. Practicals

1. Demonstrations of 10 medico-legal autopsies (variety cases).
“Students must witness minimum of 10 autopsy cases prior to preliminary examination”.
2. Casualty posting for 15 days for demonstration of medico legal cases and briefing about casualty functioning.
3. Age estimation by physical, dental and radiological examination (preferably child).
4. Examination of X-Rays
5. Examination of Bones.
6. Examination of Weapons.
7. Toxicological specimens and poisonous plants.
8. Wet specimens
9. Photographs.
10. Briefing about Drunken case and sexual offence cases.
11. Microscopy - slides (spermatozoa, diatoms, nucleated RBC, non-nucleated RBC, Hair and fiber).
12. Training to issue medico legal certificates with SPMP (simulated patient management problem) Technique

- i. Injury / wound certificate,
 - ii. Potency certificate,
 - iii. Drunkenness certificate,
 - iv. Death certificate,
 - v. Sickness leave certificate,
 - vi. Fitness certificate
 - vii. Drafting consent,
13. Highlight about documentation of identification marks and writing report.
14. Visit to court and scene of crime

Objective Structured Practical Examination

OSPE training will be conducted during the 2nd Internal assessment including procedure stations, Slides, Charts with patient Vignettes, etc.

Course content distribution in 2nd and 3rd professionals Teaching content for 2nd professional

Sl.No.	Theory Topic
1	FM-1.1 to 1.3, Introduction to FMT & FM-1.4 to 1.6 – Legal Procedure
2	FMT-1.7 to 1.9 – Legal Procedure
3	FMT-3.1 Identification
4	FMT-3.2 Identification
5	FMT-2.1, 2.4 Postmortem Changes
6	FMT-2.5,2.6 Postmortem Changes
7	FMT-2.7 to 2.10 Postmortem Changes- FMT-2.11 to 2.19 Medico legal autopsy
8	FMT-3.4 to 3.5 Mechanical injuries
9	FMT-3.6, 3.7 Mechanical injuries
10	FMT-3.8 Mechanical injuries
11	FMT-3.11, Regional injuries
12	FMT-3.11 Regional injuries
13	FMT-3.12 Regional injuries
14	FMT-3.30,3.31 Medico legal aspect of wounds
15	FMT-3.32 Medico legal aspect of wounds
16	FMT-3.33 Medico legal aspect of wounds

Self-Directed Learning

FMT- 8.1- 8.5

History of Toxicology, Definition of Toxicology, Forensic Toxicology, Clinical Toxicology and Poison, Types of poisons, Toxicokinetics, and Toxicodynamics, Diagnosis of poisoning in living and dead, Laws in relations to poisons including NDPS Act, Medico-legal aspects of poisons, Medico-legal autopsy in cases of poisoning, preservation and dispatch of viscera for chemical analysis

FMT- 8.6 - 8.8

General symptoms, Principles of diagnosis and management of common poisons encountered in India, Simple Bedside clinic tests for detection of poison/drug in body fluids, Basic methodologies in treatment of poisoning: Decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination

FMT-8.9, 8.10

Intimation of suspicious cases of foul play to the police, maintenance of records, preservation and dispatch of relevant samples for laboratory analysis.

General principles of Analytical Toxicology, Analytical methods for toxicological analysis: Chromatography – Thin Layer Chromatography, Gas Chromatography, Liquid Chromatography and Atomic Absorption Spectroscopy

FMT-9.1- 9.6

General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to:

- i. Caustics: Inorganic – sulphuric, nitric, and hydrochloric acids; Organic-Carboic Acid (phenol), Oxalic and acetylsalicylic acids
- ii. Phosphorus, Iodine, Barium
- iii. Arsenic, lead, mercury, copper, iron, cadmium and thallium
- iv. Ethanol, methanol, ethylene glycol
- v. Organophosphates, Carbamates, Organochlorines, Pyrethroids, Paraquat, Aluminium and Zinc phosphide
- vi. Ammonia, carbon monoxide, hydrogen cyanide & derivatives, methyl isocyanate, tear (riot control) gases

Practical Topics for 2nd Professional	
FMT Introduction to FMT Practicals	FM 1 4.1 wound certificate
FM-14.2	Suspected case of poisoning
FM-14.3	Suspected case of poisoning
FM-14.4	Estimation of age of the person
FM-14.5	Conduct & prepare PM report
FM-14.9	Skeletal remains examination
FM-14.6	Demonstration/interpreted slides
FM-14.7	Demonstration/identify the blood stain
FM 14.8	ABO/RH blood grouping
FM-14.9	Skeletal remains examination
FM-14.10	Specimens from various injuries
FM-14.11	Weapon examination

Teaching Content for Third Professional Year

Sl. No.	Theory topics
1	FM-3.13,3.14,3.15- Sexual Offences
2	FM-3.16,3.17- Sexual Offences
3	FM-3.18 to 3.20- Impotency, Sterility
4	FM-3.21 to 3.23- Impotency, Sterility
5	FM-3.24 to 3.28- Abortion
6	FM-3.29- Infant death
7	FM-3.30- Infant death
8	FM-3.31,3.33- Torture
9	FM-3.32- Forensic Science Lab
10	FM-4.1 to 4.5- Medical Ethics & Law
11	FM-4.6 to 4.11- Medical Ethics & Law
12	FM-5.1,5.2- Forensic Psychiatry
13	FM-5.3,5.4- Forensic Psychiatry
14	FM-5.5,5.6- Forensic Psychiatry
15	FM-6.1,6.2- Forensic Lab investigation in medical practice
16	FM-6.3- Forensic Lab investigation in medical practice
17	FM-7.1- DNA Profiling
18	FM-8.1 to 8.5- General Toxicology
19	FM-8.6 to 8.10- General Toxicology
20	FM-9.1 to 9.6- Chemical Toxicology
21	FM-10.1- Management of poisoning

22	FM-11.1- Bio Toxicology
23	FM-12.1- Socio medical Toxicology FM-13.1,13.2 - Environmental toxicology
24	FM-1.22- Drug Abuse
25	FM-20.1 to 20.4- Animal Poison
26	FM-21.4 to 21.8- Corrosive Poison Integration-I M
27	FM-21.2, 21.3- Plant Poison Integration-IM

Practical Topics for Third Professional
1.16-Introduction to Forensic Medicine & Toxicology.
3.17- Sexual perversions fetishism, transvestism, voyeurism, sadism, necrophagia, masochism, exhibitionism, frotteurism, Necrophilia.
2.8- Postmortem changes including signs of death, cooling of body, post-mortem lividity, rigor mortis, cadaveric spasm, cold stiffening and heat stiffening.
2.9- Putrefaction, mummification, adipocere and maceration.
2.10- Estimation of time since death.
2.11- Autopsy procedures including post-mortem examination, different types of autopsies, aims and objectives of post-mortem examination.
2.12- Legal requirements to conduct post-mortem examination and procedures to conduct medico-legal post-mortem examination.
2.14- Examination of clothing, preservation of viscera on post-mortem examination for chemical analysis and other medico-legal purposes, post-mortem artifacts.
2.15- Special protocols for conduction of medico-legal autopsies in cases of death in custody or following violation of human rights as per National Human Rights Commission Guidelines.
2.20- Asphyxia and medico-legal interpretation of post-mortem findings in asphyxial deaths.
2.21- 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.
2.22- Patho-physiology, clinical features, postmortem findings and medico-legal aspects of traumatic asphyxia, obstruction of nose & mouth, suffocation and sexual asphyxia.
2.23- Types, patho-physiology, clinical features, postmortem findings and medico-legal aspects of drowning, diatom test and, Gettler test.
2.25- Ttypes of injuries, clinical features, patho-physiology, postmortem findings and medico-legal aspects in cases of burns, scalds, lightening, electrocution and radiations.
2.31- Ability to work in a team for conduction of medico-legal autopsies in cases of death following alleged negligence medical dowry death, death in custody or following violation of human rights as per National Human Rights Commission Guidelines on exhumation.

2.35-Professionalism while conducting autopsy in medico legal situations, interpretation of findings and making inference/opinion, collection preservation and dispatch of biological or trace evidences.
3.11-Regional injuries to head (Scalp wounds, fracture skull, intracranial haemorrhages, coup and countercoup injuries), neck, chest, abdomen, limbs, genital organs, spinal cord and skeleton. 3.12-Injuries related to fall from height and vehicular injuries – Primary and Secondary impact, Secondary injuries, crush syndrome, railway spine.
3.13- Types of sexual offences. 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.
3.32- Preparation of reports in medico-legal situations, interpretation of findings and making inference/opinion, collection preservation and dispatch of biological or trace evidences. 6.3- Collection and sending of 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.
8.5- Medico-legal autopsy in cases of poisoning including preservation and dispatch of viscera for chemical analysis. 8.6- General symptoms, principles of diagnosis and management of common poisons encountered in India. 8.7- Simple Bedside clinic tests to detect poison/drug in a patient's body fluids. 8.8- Basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination.
8.9- Procedure of intimation of suspicious cases or actual cases of foul play to the police, maintenance of records, preservation and dispatch of relevant samples for laboratory analysis. 8.10-General principles of Analytical Toxicology and analytical methods: Chromatography – Thin Layer Chromatography, Gas Chromatography, Liquid Chromatography and Atomic Absorption Spectroscopy. 9.1-9.6- General Principles and basic methodologies in treatment of poisoning: decontamination, supportive therapy, antidote therapy, procedures of enhanced elimination with regard to; Caustics Inorganic – sulphuric, nitric, and hydrochloric acids; Organic-Carboic Acid (phenol), Oxalic and acetylsalicylic acids Phosphorus, Iodine, Barium Arsenic, lead, mercury, copper, iron, cadmium and thallium Ethanol, methanol, ethylene glycol Organophosphates, Carbamates, Organochlorines, Pyrethroids, Paraquat, Aluminium and Zinc phosphide Ammonia, carbon monoxide, hydrogen cyanide & derivatives, methyl isocyanate, tear (riot control) gases
14.10- Identification and preparation of medico legal inference from specimens obtained from various types of injuries e.g. contusion, abrasion, laceration, firearm wounds,

<p>burns, head injury and fracture of bone.</p> <p>14.11- Commonly used Weapons of medico legal importance e.g,lathi, knife, kripa, axe, gandasa, gupta,farsha, dagger, bhalla, razor & stick.</p> <p>Preparation of 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.</p>
<p>20.1-Poisonous snakes of your area and distinguishing marks of each</p> <p>20.2- The correct initial management of patient with a snake bite in the field</p> <p>20.3- The initial approach to the stabilisation of the patient who presents with snake bite</p> <p>20.4- Appropriate history, the circumstance, time, kind of snake, evolution of symptoms in a patient with snake bite</p>

Integrated Teaching
Horizontal Integration

Sl. No.	Topics	Coordinating department
1	<p>Drugs of abuse (PH1.22)</p> <p>Drugs of abuse (stimulants, depressants, psychedelics) (Pharmacology)</p> <p>Drugs used for criminal offences (Forensic medicine and Toxicology)</p> <p>Drug Dependence and Addiction (Psychiatry)</p> <p>Medico legal aspects of Drugs of Abuse (Forensic Medicine and Toxicology)</p>	Psychiatry

Vertical Integration

Sl. No.	Topics	Coordinating department
1	<p>Ossification centres (AN14.3)</p> <p>The importance of ossification of lower end of femur & upper end of tibia,</p>	Anatomy
2	<p>Drugs of abuse (PH1.22)</p> <p>Drugs of abuse (stimulants, depressants, psychedelics) (Pharmacology)</p> <p>Drugs used for criminal offences (Forensic medicine and Toxicology)</p> <p>Drug Dependence and Addiction (Psychiatry)</p> <p>Medico legal aspects of Drugs of Abuse (Forensic Medicine and Toxicology)</p>	Pharmacology

3	Drug Prescription (PH5.7) Legal and ethical aspects of prescribing drugs (Forensic Medicine and Toxicology)	Pharmacology
4	Legal and Ethical Issues in Psychiatry. Basic legal and ethical issues in psychiatry (Forensic Medicine and Toxicology)	Psychiatry and AETCOM
5	Snake Bite IM20.1, IM20.2 Poisonous snakes of your area and describe the distinguishing marks of each Initial approach to the stabilisation of the patient who presents with snake bite	General Medicine
6	PC AND PNDT act (OG20.3, RD1.13) The components of the PC & PNDT act and its medico legal implications (Forensic Medicine and Toxicology) Pre-conception and Pre Natal Diagnostic Techniques (PC & PNDT) Act 1994 & its amendments (Forensic Medicine and Toxicology)	Radio diagnosis and OBG
7	Toxicology (IM21.2, IM21.3, IM21.4, IM21.6) Common plant poisons, Corrosives, Drug Overdose seen in your area and description of their toxicology, clinical features, prognosis and specific approach to detoxification (Pharmacology) Medico legal aspects of suspected suicidal or homicidal poisoning and the correct procedure to write a medico legal report on a suspected poisoning (Forensic Medicine and Toxicology)	General Medicine and Pharmacology
8	Still birth and Abortion: (OG1.3, OG20.1) Still birth and abortion (OBG) Legal aspects, indications for first and second trimester MTP; (Forensic Medicine and Toxicology) Methods of first and second Trimester pregnancy, Complications and management of complications of medical termination of pregnancy (OBG)	OBG
9	Principles of ethics: (SU8.1, SU8.2, SU8.3) The principles of Ethics as it pertains to surgery (AETCOM) Professionalism and empathy to the patient undergoing surgery (AETCOM) Medico legal issues in surgical practice (Forensic Medicine and Toxicology)	General Surgery

Teaching Hours

Subject	Theory	Practical/SGT/Tutorials/Integrated teaching	SDL	AETCOM	Total Hours
Forensic Medicine and Toxicology					
Second professional	15	30	5	00	50
Third professional Part I	25	45	5	09	84
Total	40	75	10	09	134

Scheme of Examination**A. Internal Assessment****Theory (60 marks)**

A minimum of two theory examinations shall be conducted in 2nd Professional, two theory examinations including preliminary examination in 3rd Professional. The 4th IA (Preliminary) examination preceding the university examination will be similar to the pattern of university examination i.e., one theory paper of 100 marks. Best of two among four internals will be considered for calculation of final internal assessment marks will be reduced to 40 marks. Additional 20 marks derived from the formative assessment marks based on evaluation of assignments, seminars, SDL etc. shall be added from log book to make a grand total of 60 marks of theory Internal assessment marks.

Practical and Viva-voce (40 marks)

A minimum of two practical examinations shall be conducted in 2nd Professional, two practical including preliminary examinations in 3rd Professional. The 4th IA (Preliminary) examination preceding the university examination will be similar to the pattern of university examination i.e., 100 marks - 60 marks for practical's and 40 marks for viva voce. Average marks of the 4 internals will be considered for calculation of final internal assessment marks will be reduced to 20 marks. Additional 20 marks derived from the formative assessment marks based on day to day records (practical records and log book) etc. shall be added from log book to make a grand total of 40 marks of practical Internal assessment marks.

Theory

Assessments	Marks	Reduced to (Marks)
First internals	50	40
Second internals	50	
Third Internals	50	
Fourth internals (Preliminary)	100	
Formative assessment-Part completion test, and integrated assessment, etc. from log book	50	20
Final internal assessment marks		60

Practical's and Viva

Assessments	Marks	Reduced to (Marks)
First internals	50	20
Second internals	50	
Third Internals	50	
Fourth internals (Preliminary)	100	
Formative assessment-Part completion test, and integrated assessment, etc. from log book	20	
Final internal assessment marks		40

B. University examination**Eligibility for examination**

1. The candidate must have undergone satisfactorily the approved course of the study in the subject within prescribed duration.
2. Should have at least 75% of attendance in theory and 80% in practical separately to become eligible to appear for the examination in the subject.
3. Should have at least 50% of total marks fixed by internal assessment both in theory and practical individually.
4. Should secure 50% marks in aggregate of the total marks combined in theory and practical assigned for IA in the subject.

Written Paper: 100 Marks

There shall be one theory paper carrying 100 marks and duration of the paper shall be of three hours. (Duration of MCQ examination shall be 25 minutes and there is no negative marking for wrong answers. The MCQ answer script should be collected after 30 minutes)

Type of questions	Number of questions	Marks for each question	Total Marks
MCQS	20	1	20
Structured Long Essay questions (SLEQ)	2	10	20
Short Essay questions (SEQ)	6	5	30
Short Answers questions (SAQ)	10	3	30
Grand Total			100

Blue Printing: The distribution of topics and weightage of marks for University examination is as under:

Sl. No.	Topic	Competency	Weightage	Q
1	Introduction and Legal procedure	FM 1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.8, 1.9, 8.1, 8.2, 2.29, 2.30, 14.20, 14.22	8 marks	A-1 SN, 4MCQ B- 2 SN C- 2 SN
2	Thanatology	FM 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9, 2.10, 2.19, 2.26	6 marks	A-1 SN 2 MCQ B-1 SN 2 MCQ C-1 SN 2 MCQ
3	Medico legal autopsy	FM 2.11, 2.12, 2.13, 2.14, 2.17, 2.18.	4 marks	A-1 SN B-1 SN C-1 SN
4	Mechanical Asphyxia	FM 2.20, 2.21, 2.22, 2.23	6 marks	A-1 SN 2 MCQ B-6 MCQ C-1 SN 2 MCQ
5	Identification	FM 3.1, 3.2, 2.33, 2.34, 6.1 7.1,	5 marks	A-1 SN 1 MCQ B-1 SN 1 MCQ C-5MCQ
6	Injuries	FM 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12, 2.24, 2.25, 2.15, 2.32. 3.30,	14 marks	A-3 SN 2 MCQ B-1 E 1 SN

		3.31, ,14.18		C-1 E 1SN
7	Sexual Jurisprudence	FM 3.13,3.14,3.15,3.16, 3.17, 3.18, 3.19, 3.20, 3.22, 3.23, 3.24, 3.25, 3.26, 3.27,3.28 , 3.29, 2.27, 14.13, 2.28	10 marks	A-1 E B-2SN 2 MCQ C-2SN 2 MCQ
8	Medical Jurisprudence	FM 3.21, 4.1, 4.2,4.3,4.4,4.5,4.6,4.7, 4.8, 4.9, 4.10, 4.11, 4.12, 4.13, 4.14, 4.15, 4.16, 4.17, 4.18, 4.19, 4.20, 4.21, 4.22, 4.23, 4.24, 4.25,4.26,4.27 4.28, 4.29, 4.30, 3.33, 2.32	21 marks	A-1 E 2SN,3MCQ B-4SN 5 MCQ C-1 E 2SN 3 MCQ
9	Forensic Psychiatry	FM 5.1, 5.1,5.2,5.3,5.4, 5.5,5.6	6 marks	A- 1 SN B-1 SN C-4MCQ
10	Toxicology	FM 8.3,8.4, 8.6,8.7,8.8,8.9,8.10, 9.1, 9.2,9.3,9.4, 9.5,9.6, 10.1, 11.1, 12.1, 13.1, 13.2, 14.2, 14.3	20 marks	A-3 SN 8 MCQ B-1 E 1 SN 6 MCQ C-4 SN 4 MCQ

II. Practical Examination**60 Marks**

Sl. No.	Content of each spotters	Number of spotters Total 12 spotters with 5 min duration for each and each spotters carries 5 marks)
1	Age and sex determination by PDR	1
2	Weapon examination	2
3	Poisons	2
4	MCCD and wound certificates	1
5	Autopsy Questions	1
6	wet specimen	2
7	Photographs	2
8	Models	1

Viva-Voce examination**Maximum Marks – 40**

The candidate shall be examined by all the four examiners at four tables. Viva will focus on application and interpretation. Viva marks will be added to practical and not to theory.

Internal assessment marks will not be added to University examination marks and will reflect as a separate head of passing at the summative examination. The distribution of topics and marks for each table are shown below:

Examination components with distribution of marks

1	Written Paper: Number of paper and maximum marks for each paper	1 X 100 = 100
2	Practical examination	60
3	Viva / Orals	40
Total		200

For declaration of pass in the subject in university examination, the candidate should pass both theory and practical separately in the same examination securing an aggregate of 50% marks individually in theory and practical shall be declared to pass.

For a pass in theory examination, a student must secure minimum 50% of marks in theory paper.

For a pass in practical examination in the subject, a student must secure minimum 50% of marks in aggregate in practical and viva-voce examination.

Candidate must secure 50% aggregate in internal assessment examination (separately in theory and practical) in the subject.

Internal assessment shall be reflected as a separate head of passing at the final university examination.

Recommended books:

1. Narayana Reddy KS – The Essentials of Forensic Medicine & Toxicology, 35th Edition
2. Apurba Nandy– Principles of Forensic Medicine, 3rd Revised Edition.
3. Parekh CK – Parikh’s Textbook of Medical Jurisprudence and Toxicology, 8th edition
4. Guharaj PV – Forensic Medicine, 3rd Edition
5. Parikh CK – Parikh’s Colour Atlas of Medico-legal Postmortems and Forensic Pathology Guidelines for Crime Investigation, 3rd Edition
6. Pekka Saukko, Bernard Knight – Knight’s Forensic Pathology, 4th Edition
7. Pillay VV – Textbook of Forensic Medicine and Toxicology, 19th Edition
8. Krishan Vij – Textbook of Forensic Medicine & Toxicology, 6th Edition.

Model Question Paper
Forensic Medicine & Toxicology

1. MCQ'S**20 X 01 = 20 Marks****2. LONG ESSAY****20 X 01 = 20 Marks**

Q. No. 01. A 26 years old female body is brought for postmortem examination. She was married one year back, allegedly died due to harassment by husband for additional dowry. An oblique ligature mark is present over the neck. Dried salivary stain over right angle of mouth. Hyoid bone is intact.

Answer the following:

- a) Procedure of Inquest - 2 Marks
- b) what is your probable opinion regarding cause of death - 2 Marks
- c) Difference between hanging and strangulation - 3 Marks
- d) How will you differentiate ante mortem hanging from postmortem hanging - 3 Marks

Q. No. 02. A 28 years old female was brought to casualty with a history of consumption of unknown poison two hours back. Patient was drowsy with vomitus material on the shirt with kerosene like odour. She had breathlessness with excessive salivation and profuse sweating. On examination, it was observed that pupils were constricted and patient had bradycardia, hypotension, abdominal cramps, wheezing and crepitations on lung auscultation.

- a) What is the most probable diagnosis in this case - 1 Marks
- b) Explain the mechanism of this poisoning - 2 Marks
- c) Interpret the lung findings in this case - 2 Marks
- d) Suggest the investigations to be sent - 2 Marks
- e) Create a treatment plan for this poisoning - 3 Marks

3. Short Essay**06 X 05 = 30 Marks**

Q.No.03. Acts of omission and commission in infanticide.

Q.No.04. Cross Examination.

Q.No.05. Mac Naughten's rule.

Q.No.06. Changes in the eyes after death.

Q.No.07. Battered baby syndrome.

Q.No.08. Delusion and its types.

Short Answers

Q.No. 13. Medical mal occurrence.

Q.No. 14. Tandem bullet.

Q.No. 15. Vicarious liability.

Q.No. 16. Positive sings of pregnancy.

Q.No. 17. Fabricated wounds.

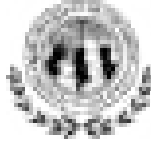
Q.No. 18. Priapism

Q.No. 19. Barr bodies.

Q.No. 20. Spalding sign.

Q.No. 21. Chain of custody.

Q.No. 22. Obscure Autopsy.



BLDE (DEEMED TO BE UNIVERSITY)
SHRI B. M. PATIL MEDICAL COLLEGE, HOSPITAL & RESEARCH CENTRE, VIJAYAPURA
OTORHINOLARYNGOLOGY CURRICULUM

Goal:

Graduate capable of delivering effective first contact Otorhinolaryngological care.

Objectives:

2.1. Knowledge:

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

1. Should be competent to diagnose and describe management of common Otorhinolaryngological diseases including emergencies.
2. Understand, describe and apply the knowledge of fluid and electrolyte therapy.
3. Describe indications of blood transfusion, apply it and manage complications.
4. Understand and describe principles of asepsis, disinfection and sterilization, take up rational drug therapy and appropriate use of antibiotics in Otolaryngological conditions.
5. Develop basic awareness and detect common Head and Neck malignancies in the country, understand principles of management and prevention.
6. Enumerate different types of anaesthetic agents, their indications, uses contraindications and side effects.
7. Commitment to advancement of quality and patient safety in otolaryngological practice.
8. Understand the nature of the natural calamities and disasters, be an effective team leader or member and deliver appropriate health care during emergencies.

2.2 Skills:

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

1. Examine and diagnose common Otorhinolaryngological conditions.
2. Plan for various tests and their interpretation.
3. Resuscitate and manage air-way, a critically injured Patients with cardio-respiratory failure.

4. Acquire knowledge of basic principles of operative surgery, including per operative procedures and manage patients in post-operative period.
5. Diagnose neonatal and paediatric airway emergencies and provide sound primary care before referring the patient to secondary/tertiary Centres
6. Identify congenital anomalies of Head and neck and refer them for appropriate management.
7. In addition to the skills referred above in items he shall have observed/assisted/performed the following during internship:
 - a) Incision and drainage of abscess
 - b) Debridement and suturing of open wounds Venesection/I.V.line insertion
 - c) Nasogastric intubation
 - d) Diagnostic Endoscopy
 - e) Endotracheal intubation
 - f) Tracheostomy and cricothyroidotomy

2.3 Affecter Domain:

1. Understand and follow ethical approach in management of otolaryngological conditions.
2. Counsel and guide the patients regarding need, options, advantages and disadvantage of common otorhinolaryngological procedures.
3. Develop overall humane approach in management of terminal care for needy patients.
4. Co-ordinate and organize needful services at the time of natural disasters and mass casualties.
5. Work in tandem with National and State level health care policies.
6. Understand and follow medico legal aspects in otorhinolaryngological care.
7. Develop Ability to administer informed consent and counsel patient prior to otorhinolaryngological procedures.

2.4 Integration:

The teaching should be aligned and integrated horizontally and vertically in order to provide a sound biologic basis and a holistic approach to the care of the otolaryngological patient.

The undergraduate teaching in Otolaryngological shall be integrated to various stages with preclinical, para clinical and other clinical departments.

Competencies as per CBME

Sl. no	Competency No.	Competency Description	Type of T/L Session (Lecture/SGD/SDL)	Level of Competency with core	No. of Hours
1	1.1	Anatomy of Nasal Septum and its Blood Supply	Lecture Class	Y	1 hours
		Surgical Anatomy of Lateral Wall of Nose			
		Mucociliary Clearance of Nose and Functions of Nose (Physiology)			
2	4.2	Surgical Anatomy of External Ear & Diseases of External Ear	Lecture Class	K/S	1 hours
				SH	
				Y	
3	4.3	ASOM / AOM Clinical Features and Management	Lecture Class	K/S	1 hours
				SH/ K	
				Y	
4	4.7	Surgical Anatomy of Middle Ear	Lecture Class	K/S	1 hours
		Causes and Clinical Manifestation of CSOM		SH	
		Management of CSOM		Y	
5	4.18	Surgical Anatomy of Facial Nerve	Lecture Class	K	1 hours
		Causes of LMN Type of Facial Nerve Palsy		KH	
		Management of Facial Weakness and Protection of Eye		Y	
6	4.19	Anatomy of Vestibular Apparatus	Lecture Class	K	1 hours
		Causes of Vertigo		KH	
		Management of Vertigo		Y	
7	4.23, 4.24	Causes of Deviated Nasal Septum, DNS	Lecture Class	K	1 hours
		Clinical Manifestation of DNS		KH	
		Surgical Management of DNS		K/Y	
8	4.29, 4.30	Surgical anatomy of PNS	Lecture Class	K/S	1 hours
		Clinical manifestation of sinusitis.		SH	
		Management of Sinusitis.		Y	
9	4.3	Anatomy of Little's Area, Woodruff Pexus	Lecture Class	K/S	1 hours
		Causes and Management of Epistaxis		SH	
10	4.34	Classifications of Tumors of Nose and PNS	Lecture Class	K	1 hours
		Clinical manifestations including orbital involvement.		KH	
		Management of Malignant Tumors of Maxilla		Y	

11	4.14	Causes	Lecture Class	K	1 hours
		Evaluation of Hearing Loss		KH	
		Management		Y	
12	4.10	Myringoplasty and Tympanoplasty	Lecture Class	K	1 hours
				KH	
				Y	
13	4.11	Indications and steps of mastoidectomy	Lecture Class	KS	1 hours
				KH	
				Y	
14	4.28	Elicit Correct History, Clinical Features and Management of Vaso Motor and Allergic Rhinitis	Lecture Class	KS	1 hours
				SH	
				Y	
15	4.24	Indications & Steps of Septoplasty and SMR	Lecture Class	KS	1 hours
				K,SH	
				Y	
16	4.27	Elicit Correct History, Clinical Features and Management of Nasal Polyposis	Lecture Class	KS	1 hours
				SH	
				Y	
17	4.45	Surgical anatomy of nerve supply to vocal cords.	Lecture Class	KS	1 hours
		Classification of Vocal Cord Palsy		K	
		Management of Vocal Cord Palsy		Y	
18	4.37	Describe clinical features and management of Ludwigs angina	Lecture Class	K	1 hours
				KH	
				Y	
19	4.4	Indications and Surgical Steps of Tonsilectomy / Adenoidectomy	Lecture Class	K	1 hours
				K	
				Y	
20	4.43	Surgical Anatomy of Larynx	Lecture Class		1 hours
		Clinical Features and Management of Laryngitis		Y	
21	4.44	Diagnosis and Management of Benign Lesions of V.C	Lecture Class	K	1 hours
				KH	
				Y	
22	4.47	Describe Causes of and Management of Stridor in Children	Lecture Class	K	1 hours
				KH	
				Y	
23	4.50, 4.51	Indications and Complication of Tracheostomy and Post-Operative Care	Lecture Class	SH	1 hours
				KH	
				Y	
24	3.2	Diagnostic Nasal Endoscopy	Lecture Class	SH	1 hours
				KH	
				N	
25	2.13	Identify, Resuscitate and Manage ENT Emergency Conditions	Lecture Class	K/S/A	1 hours
				SH	
				Y	

EAR

Must know:

Basic sciences:

1. Anatomy: external, middle and inner ear. Anatomy of facial nerve.
2. Anatomy and physiology of Eustachian tube.
3. Anatomy and pneumatisation of temporal bone.
4. Physiology of hearing and vestibular function.
5. Bacterial flora, specific antibiotic therapy of upper respiratory infection
6. Common antibiotics used in ear infections; acute and chronic, topical antibiotics, ototoxic and vestibulotoxic drugs

Clinical conditions:

1. Symptoms of ear disease and referred pain in the ear.
2. Examination of the Ear: Tuning fork tests: Rinne, Weber and Absolute bone conduction. Caloric test, Positional test. Instruments for ear examination.
3. Eustachian tube function tests
4. Deafness: types and causes.
5. Diseases of the external ear: Perichondritis; otitis externa; cerumen; foreign body, hematoma auris, Malignant otitis externa, Keratosis Obturans, preauricular sinus, Myringitis granulosa
6. Diseases of the middle ear: Acute and Chronic suppurative otitis media (Mucosal and squamous disease); Otitis media with effusion, Tympanosclerosis, Adhesive otitis media, tuberculous otitis media.
7. Audiometry – Pure tone; Impedance Audiometry- basics, Assessment of hearing in Paediatric patients. (Basics)
8. Determination of type and degree of hearing loss by pure tone audiogram.
9. Facial nerve-anatomy, functions and clinical evaluation. Bell's palsy
10. Congenital hearing loss and delayed speech development.
11. Complications of otitis media, intratemporal and intracranial: Mastoiditis (acute and chronic); facial palsy, labyrinthitis; petrositis; lateral sinus thrombosis; otogenic meningitis; otogenic brain abscess,
12. Vertigo - how to ask basic history, examination. Meniere's disease symptomatology and management, BPPV, Vestibular neuronitis
13. X-ray of mastoid; Laws view in normal and in patients with acute or chronic Mastoiditis
14. Pseudocyst Pinna
15. Ototoxicity
16. Sudden hearing loss
17. Non organic hearing loss
18. Injuries to ear- traumatic, acoustic trauma and barotrauma
19. Presbycusis

20. Tinnitus
21. Myringotomy and grommet insertion
22. Surgery: Cortical and Modified Radical Mastoidectomy, Tympanoplasty/ Myringoplasty – Principles and complications. Instruments used.

Desirable to know:

1. Otosclerosis: Diagnosis and management; basics of Stapedectomy
2. Vestibular function tests, caloric test, positional test.
3. Meniere's disease –detailed evaluation.
4. Brainstem Audiometry, Electrocochleography, OAE.
5. Tests for recruitment
6. Cochlear implants basics.
7. Tumours of the Ear, Glomus jugulare and tympanicum and squamous cell carcinoma
8. Clinical features, diagnosis and management.
9. Epidemiology of otitis media and hearing loss in India
10. Hearing aids
11. Acoustic neuroma
12. Deaf mutism
13. Middle ear risk index (MERI)

Nice to know:

1. Surgery for vertigo
2. Surgery for facial palsy
3. Surgery for tumours of the ear
4. High resolution CT of Temporal bone
5. Temporomandibular joint disorders
6. Implantable hearing aids including bone anchored hearing aids
7. CP angle tumours
8. National programme of prevention and control of deafness. NPPCD
9. Congenital ear disorders

Nose and Paranasal Sinuses

Must know:

Basic Sciences:

1. Anatomy and physiology of the nose and paranasal sinuses including olfaction. Nasal cycle and nasal resistance
2. Viruses and bacteria causing acute and chronic rhinitis and sinusitis
3. Antibiotics used in acute and chronic sinusitis, nasal furunculosis
4. Mechanism of sinonasal allergy (basics)
5. Mucociliary clearance mechanism

Clinical Conditions:

1. Symptoms of nasal diseases; causes of nasal obstruction, and nasal discharge

2. Methods of examination of the nose and paranasal sinuses. Instruments used.
3. Diseases of the nasal septum: deviation of nasal septum and principles of Management
4. Types of Septal surgery- basics and instruments used
5. Diagnosis and management of nasal bone fracture
6. Epistaxis; anterior and posterior, common causes and emergency management
7. Foreign bodies in nose including Rhinolith.
8. CSF Rhinorrhoea: diagnosis and causes
9. Nasal allergy – Diagnosis, evaluation and management, Vasomotor rhinitis
10. Nasal Polyposis; types and management.
11. Inflammation of the nose: Furunculosis of vestibule of the nose, acute rhinitis.
12. Inflammatory diseases of paranasal sinuses: acute and chronic maxillary sinusitis, frontal sinusitis, Ethmoidal sinusitis and complications of sinusitis.
13. Atrophic rhinitis,
14. Types of fungal sinusitis- invasive and non-invasive; Rhino cerebral Mucormycosis- clinical features, diagnosis and management (Broad outline)
15. Nasal Septum Perforations, Septal haematoma and Septal Abscess.
16. Juvenile Nasopharyngeal Angiofibroma clinical features, diagnosis and management
17. Granulomatous diseases of the nose, Rhinoscleroma, Rhinosporidiosis
18. Rhinitis Medicamentosa
19. X-ray of paranasal sinuses and its indications
20. Rigid nasal endoscopy; basic steps and indications
21. Endoscopic sinus surgery(FESS): indications and basic steps and complications
22. Outline of management of benign tumors of nose and paranasal sinuses – Inverted Papilloma & Osteoma
23. Outline of management of malignant tumors of nose and paranasal sinuses – Squamous cell carcinoma.
24. Nasal Myiasis
25. Caldwell Luc surgery

Desirable to know:

1. Maxillectomy: indications and brief steps
2. Maxillofacial trauma types and management, blow out fracture
3. CT scan of paranasal sinuses basics
4. Tests for nasal allergy
5. Choanal Atresia
6. Mucocele of paranasal sinuses
7. Craniopharyngioma
8. Proptosis

Nice to know:

1. Rhinometry
2. Balloon sinuplasty

3. Navigation techniques
4. Endoscopic skull base surgeries (hypophysectomy, orbital decompression and opticnerve decompression)
5. Microdebrider uses
6. Endoscopic DCR
7. Septorhinoplasty

PHARYNX

Must know:

Basic Sciences:

1. Anatomy and physiology of the Oropharynx, Nasopharynx and Laryngopharynx
2. Commensals of the oral cavity and Oropharynx, Organisms causing acute and chronic tonsillitis.
3. Antibiotics used in acute and chronic tonsillitis

Clinical Conditions:

1. Symptoms of diseases of Nasopharynx, Oropharynx and Laryngopharynx Methods of examination – Nasopharynx Oropharynx and Laryngopharynx. Instruments used.
2. Diseases of the pharynx: adenoids including x rays; acute and chronic pharyngitis; Diphtheric pharyngitis;
3. Acute follicular tonsillitis and differential diagnosis of membranous tonsillitis: chronic tonsillitis; tonsillectomy and adenoidectomy – indication; Peritonsillar abscess. Including instruments
4. Dysphagia including acid ingestion emergency management.
5. Ludwig's angina; causes, presentation and management
6. Premalignant lesions of the oral cavity and differential diagnosis of white patch over tonsil, Oral Candidiasis.
7. Acute and Chronic Retropharyngeal abscess
8. Plummer Vinson's syndrome
9. Laryngopharyngeal reflux
10. Snoring and obstructive sleep apnoea: basics
11. Stertor
12. Foreign body oesophagus
13. Dysphagia
14. Tongue tie
15. Nasopharyngeal carcinoma
16. Pharyngeal pouch

Desirable to know:

1. Broad outline of management of malignant tumors of Oropharynx.
2. Submandibular gland sialolithiasis
3. 1st and 2nd branchial arch anomalies
4. Eagles's syndrome
5. Lingual thyroid
6. Post Cricoid malignancy

7. Pan- endoscopy including laryngoscopy, bronchoscopy, oesophagoscopy
8. Polysomnography and UVPP
9. Corrosive Stricture – Oesophagus.
10. Achalasia Cardia

Nice to know:

1. Oesophageal Diverticulum.
2. Drooling
3. Robotic surgeries,
4. Thyroid gland diseases
5. Salivary gland diseases
6. Functional evaluation of swallowing disorders
7. Parapharyngeal tumours

LARYNX

Must know:

Basic sciences:

1. Anatomy and physiology of the larynx.
2. Organisms causing acute laryngotracheal bronchitis.

Clinical Conditions:

1. Symptoms of diseases of the larynx
2. Methods of examination of the larynx. Instruments used
3. Hoarseness of voice
4. Etiology and Management of Stridor in Children and Adults.
5. Paralysis of Vocal cords including bilateral abductor palsy.
6. Laryngocele
7. Puberphonia and functional aphonia
8. Inflammatory lesions of the larynx. eg: acute laryngitis, acute Epiglottitis
9. Vocal cord nodules, contact ulcer and polyps and Reinke's edema
10. Benign tumors of larynx (including Papilloma Larynx.)
11. Premalignant lesions of the Larynx.
12. Malignant tumors of larynx: etiology, clinical presentation, classification and broad management.
13. FB larynx, trachea and bronchus presentation and management.
14. Tracheostomy: Indications, techniques and complications. Types of Tracheostomy tubes.
15. Gastroesophageal reflux disease
16. X ray neck; views and indications
17. Flexible laryngoscopy; basic steps and indications.
18. Laryngomalacia
19. Micro laryngoscopy and surgery and direct laryngoscopy: Indications and basic steps. Including instruments.

Desirable to know:

1. Tuberculosis of the larynx.
2. Basic speech disorders including stuttering
3. Cricothyrotomy
4. Subglottic stenosis, tracheal stenosis
5. Percutaneous dilatation Tracheostomy
6. Laser
7. Stuttering and stammering

Nice to know:

1. Laryngocele
2. Total laryngectomy; indications and steps
3. Post laryngectomy rehabilitation
4. Phonosurgery
5. Thyroplasty
6. Co- ablation, cryosurgery
7. Stroboscopy.

IV. HEAD AND NECK**Must know:****Basic Sciences:**

1. Broad anatomy of neck nodes, levels or groups

Clinical Conditions:

1. TB of neck nodes: diagnosis and management.
2. Secondaries in the neck: common sites of primary, diagnosis and broad management.
3. Neck Space infections - causes and management.

Desirable to know:

1. Thyroglossal cyst, Sistrunk's operation
2. Neck dissection: basic types and indications

Nice to know:

Neck trauma

Monitoring of teaching-learning and assessment:

Time allotted for Otorhinolaryngology year wise:

Year	Lecture hours	Small group teaching/ tutorials/ group discussion/ integrated teaching*	Clinical postings (including skill lab in 2 nd year)	Self-directed learning	Total hours
II Phase	-	-	(4 weeks x 5 days x 3 hrs/day) = 60 hrs	-	60
III/I Phase	25	40 hrs	(4 weeks x 6 days x 3 hrs/day) = 72 hrs	5 hrs	25+40+72+5=139hrs

*Each of this topic will be announced earlier, a co-ordinator will be chosen. The co-ordinator will coordinate with concerned departments and organize either a student symposium, group discussion or panel discussion.

Teaching Learning Methodology

Sl. No	Topic/System with competency numbers	Core (Y/N)	Competency Number	Small group teaching	No. of Hours 40 Hours
1	(EN 1.1/AN/PY). Anatomy / Physiology of ear	Y	EN 1.1/AN/PY		2 hours
2	Physiology of hearing, tuning fork tests, audiometry, causes of otalgia, referred otalgia, and tinnitus. PY10.15	Y	PY10.15	Integrated teaching with physiology (PY10.15)	2 hours
3	Physiology of equilibrium, investigation of vestibular function and D/D of vertigo	Y	EN4.19	Seminar	2 hours
4	(EN 4.5, 4.6, 4.7, 4.8). AOM/SOM/ Chronic otitis media – tubotympanic and atticofacial	Y	EN 4.5, 4.6, 4.7, 4.8	Integrated teaching with Paediatric Dept.	2 hours
5	Complications of CSOM. CSOM treatment plan	Y	EN4.8	Small group discussion	2 hours
6	(EN 4.6, 4.21). Otorrhea/Tinnitus	N	EN 4.6, 4.21	Seminar	2 hours
7	(EN 2.4, 2.8, 4.16, 4.17, IM 24.17). Evaluation of hearing and rehabilitation of hearing loss in elderly	N	EN 2.4, 2.8, 4.16, 4.17, IM 24.17	Integrated teaching with General medicine	2 hours
8	Tinnitus and PTA (EN4.21, EN4.16)	Y	EN4.21, EN4.16	Small group discussion	2 hours
9	Facial nerve anatomy bell's palsy and management (ENS.18)	Y	EN.18	Seminar	2 hours
10	Surgical anatomy and physiology of nose and PNS including mucociliary transport mechanism	Y	EN 1.1/AN/PY	Seminar	2 hours
11	Sinonasal polyposis and D/D nasal mass and allergy	Y	EN4.25	Small Group Discussion	2 hours
12	Surgical anatomy of nasopharynx, juvenile angiofibroma and nasopharyngeal Ca.	Y	EN 1.1, EN 4.32, EN 4.35	Seminar	2 hours
13	Surgical anatomy of oral cavity oropharynx, pharyngeal infection. Oral cancer pharyngeal cancer and its management	Y	(EN 1.1, DE 4.2, DE 4.2, DE 4.3, SU20.1)	Integrated teaching with General surgery	2 hours
14	Salivary glands, surgical anatomy and physiology of salivary calculous, parotitis, tumours of salivary glands.	Y	EN 1.1, EN 4.36	Seminar	2 hours
15	Surgical anatomy and physiology of larynx with reference to phonation, respiration and deglutition (EN 1.1)	Y	EN 1.1	Seminar	2 hours
16	Stridor, stertor and sleep apnoea syndrome. Acute infections of larynx, laryngitis, laryngotracheobronchitis and epiglottitis.	Y	EN 4.43, EN 4.47	Small Group Discussion	2 hours

17	Management of compromised airway, endotracheal intubation, laryngotomy and tracheostomy: indication procedure post-operative management and complications.	Y	EN 4.48, EN 4.50, EN 4.51	Small Group Discussion	2 hours
18	Hoarseness of voice, D/D and management.	Y	EN 4.42	Seminal	2 hours
19	Radiology in ENT, X-ray demonstrations.	Y	PE 28.17	Integrated teaching with Prdiatrics Radiology Dept.	2 hours
20	Dysphagia. Oesophago laryngo mediastinal and neurological integrated conditions.	Y	EN 4.52	Seminar	2 hours
Total					40 Hours

Sl. No	Topic/System (With competency Number)	Core	Self-directed Learning	No. of Hours 5 hours
1	Headache Evaluation and management		SDL	1 Hour
2	Deafness Evaluation and Management		SDL	1 Hour
3	Vertigo Evaluation and Management		SDL	1 Hour
4	Epistaxis evaluation and Management		SDL	1 Hour
5	Head and Neck Cancer Evaluation & Management		SDL	1 Hour
Total				5 Hours

Sl. No.	Topic/System	Bedside Clinics/DOAP	No. of Hours 4 Weeks
1	Demonstrate the correct technique to perform and interpret pure tone audiogram & impedance audiogram.	DOAP	3 Hours
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 CSOM.	DOAP	3 Hours
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 squamosal type of CSOM.	DOAP	3 Hours
4	Demonstrate the correct technique for syringing wax from the ear in a simulated environment.	DOAP	3 Hours
5	Demonstrate and describe the indications and steps involved in myringotomy and myringoplasty.	DOAP	3 Hours
6	Enumerate the indications describe the steps and observe a mastoidectomy.	DOAP	3 Hours
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 Hearing loss.	DOAP	3 Hours

8	Describe the clinical features, investigations and principles of management of Otosclerosis.	DOAP	3 Hours
9	Describe the clinical features, investigations and principles of management of Sudden Sensorineural and Noise induced Hearing Loss.	DOAP	3 Hours
10	Describe the clinical features, investigations and principles of management of Facial Nerve palsy.	DOAP	3 Hours
11	Describe the clinical features, investigations and principles of management of Vertigo.	DOAP	3 Hours
12	Describe the clinical features, investigations and principles of management of Tinnitus.	DOAP	3 Hours
13	Enumerate the indications observe and describe the steps in a septoplasty.	DOAP	3 Hours
14	Elicit document and present a correct history, demonstrate and describe the clinical features, choose the correct investigations and principles of management of Nasal Polyps	DOAP	3 Hours
15	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 and Vasomotor Rhinitis	DOAP	3 Hours
16	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.	DOAP	3 Hours
17	Describe the clinical features, investigations and principles of management of nasopharyngeal Angiofibroma.	DOAP	3 Hours
18	Describe the clinical features, investigations and principles of management of Tumors of Maxilla.	DOAP	3 Hours
19	Present correct history, describe the clinical features, choose the correct investigations and describe the principles of management of type of dysphagia.	DOAP	3 Hours
20	Observe and describe the indications for and steps involved in a tonsillectomy / adenoidectomy.	DOAP	3 Hours
21	Describe the clinical features, investigations and principles of management of Acute & chronic abscesses in relation to Pharynx.	DOAP	3 Hours
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 hoarseness of voice.	DOAP	3 Hours
23	Describe the clinical features, investigations and principles of management of benign lesions of the vocal cord.	DOAP	3 Hours
24	Describe the clinical features, investigations and principles of management of Malignancy of the Larynx & Hypo pharynx.	DOAP	3 Hours

25	Describe the clinical features, investigations and principles of management of Stridor.	DOAP	3 Hours
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 Airway Emergencies.	DOAP	3 Hours
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 foreign bodies in the air & food passages.	DOAP	3 Hours
28	Observe and describe the indications, steps involved in tracheostomy and care of a patient with tracheostomy	DOAP	3 Hours
29	Describe and identify by clinical examination malignant & pre- malignant ENT diseases	DOAP	3 Hours
30	Demonstrate the correct technique to instilling topical medications into the ear, nose and throat in a simulated environment	DOAP	3 Hours
31	Observe and describe the indications and steps involved in the performance of Rigid/Flexible Laryngoscopy	DOAP	3 Hours
32	Observe and describe the indications and steps involved in the removal of foreign bodies from ear, nose & throat	DOAP	3 Hours
33	Observe and describe the indications and steps involved in the skills of emergency procedures in ear, nose & throat	DOAP	3 Hours
34	Choose correctly and interpret radiological, microbiological & histological investigations relevant to the ENT disorders	DOAP	3 Hours

Comp no.	Competency Description [P]	No. required to certify	Duration hours	Number of batches [number of students per batch]
1	Elicit document and present an appropriate history in a patient presenting with an ENT complaint	2	1 hour	4 -6 students in each batch
2	Demonstrate the correct use of a headlamp (head mirror/headlight) in the examination of the ear, nose and throat	2	1 hour	4 -6 students in each batch
3	Demonstrate the correct technique of examination of the ear including Otoscopy.	2	1 hour	4 -6 students in each batch
4	Demonstrate the correct technique of performance and interpret tuning fork tests.	2	1 hour	4 -6 students in each batch
5	Demonstrate the correct technique of examination of the nose & paranasal sinuses including the use of nasal speculum	2	1 hour	4 -6 students in each batch
6	Demonstrate the correct technique of examining the throat including the use of a tongue depressor			
7	Identify and describe the use of common instruments used in ENT OPD/ Surgeries.			

Vertical & horizontal integration

Sl.no	Competency No.	Competency Description	Type of T/L Session (Lecture/SGD/SDL)	Integration with department	Level of Competency
1	1.1	Anatomy of Nasal Septum and its Blood Supply	Lecture Class	Physiology	
		Surgical Anatomy of Lateral Wall of Nose			
		Mucociliary Clearance of Nose and Functions of Nose (Physiology)			Y
2	4.18	Surgical anatomy of facial Nerve	Lecture Class	Ophthalmology	K
		Causes of LMN Type of Facial Nerve Palsy			KH
		Management of Facial Weakness and Protection of Eye			Y
3	4.3	Anatomy of Little's Area, Woodruff Pexus	Lecture Class	Medicine	K/S
		Causes And Management of Epistaxis			SH
					Y
4	4.34	Classifications of Tumors of Nose and PNS	Lecture Class	Ophthalmology	K
		Clinical Manifestations including Orbital involvement.			KH
		Management of Malignant Tumors of Maxilla			Y
5	4.47	Describe Causes of and Management of Stridor in Children	Lecture Class	Paediatrics	K
					KH
					Y
6	4.50,4.51	Indications and Complication of Tracheostomy and Post-Operative Care	Lecture Class	Surgery	SH
					KH
					Y
7	2.13	Identify, Resuscitate and management emergency conditions	Lecture Class	Ophthalmology	SH

Remedial measures for slow learners

1. Assignments
2. Extra class
3. Solving question papers

AETCOM modules**Module 3.5: Case studies in bioethics - Fiduciary duty (Based on NMC Modules)****Background**

This module discusses doctor's duty including fiduciary duty (also see module 2.5)

Competencies addressed

The student should be able to Level

1. Identify, discuss and defend medico-legal, socio-cultural, professional and ethical issues as it pertains to the physician - patient relationship (including fiduciary duty)
KH
2. Identify and discuss physician's role and responsibility to society and the community that she/ he serves KH

Learning Experience

Year of study: Professional year 3

Hours: 5

- i. Introduction of case – 1 hour
- ii. Self-directed learning – 2 hours
- iii. Anchoring lecture – 1 hour
- iv. Discussion and closure of case – 1 hour

Points for discussion:

1. Duty of a doctor.
2. The concept of fiduciary duty.
3. Balancing personal and professional life.
4. Where to draw the line!

Assessment

1. **Formative:** The student may be assessed based on their active participation in the sessions.
2. **Summative:** Short questions on: What is fiduciary duty?

Formative Assessment

The distribution of Internal Assessment Marks shall be as mentioned below:

Department of ENT				
Theory		Phase III/ I		Final Total
		IA – 1	IA – 2 Preliminary Exam	
Written	Theory	50	75	
	MCQ	10	20	
	AETCOM*	--	05	
FA	Formative assessment: SDL/Class tests / MCQs/Tutorials/ Seminars/ Assignments	10	10	
	Log Book	10	10	
	Total	80	120	200
Final Theory IA Marks = 100 (Divide final total by 2)				
*To be included as a question in theory paper				

Blue –Printing of Internal Assessments in ENT

Blue Print	Number of Questions	
	IA – 1	IA – 2 Preliminary Exam*
MCQ (1 Mark each)	10	20
Structured Long Essay (10 Marks Each)	01	02
Short Essay (5 Marks each)	04	08
Short Answer (2 Marks each)	10	10
Total Marks	60	100
*AETOM should have a weightage of 5 marks		

Practical Internal Assessment

1. Clinical end posting exams [EOP] will be conducted
2. Viva/oral examination should assess approach to clinical context and included in practical IA marks.

Practical's:

Department of ENT				
Integrated phase-wise Internal Assessment				
Practical		Phase 2 4wk posting	Phase 3-1 4wk posting	Final Total
EOP	Clinical skills assessment(OSCE/ Mini-CEX/ Case presentation/ AETCOM)	30	40	
	Viva-voce (may include AETCOM)	--	10	
Others	Formative assessment (including Clinical- Clerkship*)	05	05	
	Logbook/ Record book	05	05	
Total		40	60	100
Final Practical IA Marks = 100 (sum of both EOP's) At least one EOP is to be conducted with OSCE as a part of it. AETCOM may be included as an OSCE station or as a part of viva-voce during EOP, if it needs to be assessed in practical (Refer competency booklet & AETCOM module) * Only if applicable				

Summative Assessment:

Otorhinolaryngology is learnt and assessed during professional years [PY] 2 and 3 part 1. SA will be held at the end of 3rd professional year part 1.

Pass criteria: Refer regulations

University Theory Exam – Student should secure at least 50% marks in theory to pass.

University Practical Exam – Student shall secure at least 50% marks (including Viva-voce) to pass

Student shall secure at least 50% of the total marks (combined in theory and practical) assigned for internal assessment in order to be declared successful at the final university of that subject.

Internal assessment will appear as a separate head of passing at summative exams

A candidate, who has not secured requisite aggregate in the internal assessment has to successfully complete the remediation measures prescribed by the University as the case may be prior to the declaration of his/her results in that particular phase.

Candidates who fail to meet prescribed 50% marks in internal assessment after availing remedial measures will not be eligible for the university exams.

Marks Distribution for University Summative Examination

Theory			Theory Total	Practical		Total
Paper 1	Written paper	MCQ's		Practical	Viva	
	80	20	100	80	20	100
Total marks			100	Total marks		100

Time: 3 hours for theory paper

The pattern of questions in theory paper shall be as mentioned below:

Type of Question	Number of Questions	Maximum Marks for each question	Total
Structured Long essay questions (SLEQ)	2	10	20
Short essay questions (SEQ) (includes case vignette based questions)	8	05	40
Short answer questions (SAQ)	10	02	20
Multiple Choice Questions (MCQs)	20	01	20
Total marks			100

The question papers shall be based on the blue print of question paper setting.

Practical Summative Examination: Total 100 Marks

Practical Exercises: 80 Marks

- A. Case: 1: 40 Marks
Case: 2: 40 Marks
- B. Practical Viva Voce: 20 Marks
- Total: 100 Marks

BOOKS RECOMMENDED:

1. Diseases of ear, nose and throat-Dhingra current edition
2. Short practice of Otolaryngology-Prof. KK Ramalingam
3. Logan Turner-Otolaryngology
4. Diseases of ear, nose throat- Mohan Bansal
5. Textbook of ear nose and throat –SS Tuli
6. Textbook of ear, nose and throat and head and neck surgery- Hazarika
7. Scott Brown Otolaryngology, 7th edition

Sample Otorhinolaryngology Question Paper

Marks: 100

Time: 3 hours

**Your answers should be specific to the questions asked.
Draw neat, labelled diagrams wherever necessary.**

Long essays (2 X 10 = 20 marks)

1. A 14 year old adolescent boy presents with left nasal obstructions and recurrent episodes of spontaneous, profuse and self-limiting epistaxis. On examination pinkish mass was found in left nasal cavity along with fullness of left cheek
 - a) What is the most likely diagnosis?
 - b) Describe the etiopathogenesis of this condition?
 - c) Discuss the laboratory investigations for diagnosing the above condition.
 - d) Write a note on various modalities of treatment.

(1+3+2+4)
2. A 35 year old woman complaints of bilateral hearing loss for 5 years, which had worsened during her pregnancy 1 year back. She does not give any past history of ear discharge.
 - a) What is the most likely disease she is suffering from?
 - b) Discuss the etiopathogenesis & types of this disease?
 - c) Describe the investigations for confirming the diagnosis?
 - d) Discuss the treatment modalities along with their contraindications?

(1+3+3+3)

Short Essays (8 x 5 = 40 Marks)

1. A 38 year old female complains of fever, sore throat and pain during swallowing Since 3 days. On examination, the left tonsil is congested and enlarged and bulge in the soft palate on left side, and uvula pushed to the right.
 - a) What is the diagnosis of this condition?
 - b) What are the symptoms and signs of this condition?
 - c) How do you manage this patient?

(1+2+2)

2. Write a note on Graft materials for tympanoplasty.
3. Discuss Vocal rehabilitation following total laryngectomy.
4. Describe the Clinical features & management of Otosclerosis.
5. Discuss the Causes & management of nasal septal abscess.
6. Write a note on Antihistamines in ENT.
7. Discuss the Clinical features & management of Post Covid-19 mucormycosis
8. A 27 year old male patient who met with a road traffic accident was seen in the emergency room with complaint of clear watery nasal discharge.
 - a) What are the bed side clinical tests to diagnose this condition?
 - b) What are the investigations that need to be done for this patient?
 - c) What is the treatment for this condition?

(1+2+2)

Short answer questions (10x3=30)

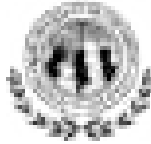
1. Write a note on malignant otitis externa.
2. Enumerate five causes for Membranous tonsillitis.
3. Write three Top diagnostic tests for facial nerve palsy.
4. Constrictions of Oesophagus.
5. Write a note on Objective tests of hearing.
6. Structure forming Welder's ring.
7. Three causes for Referred Otalgia
8. Removal of Ear foreign body.
9. Stylalgia.
10. Informed consent for tracheostomy.

MCQ's (10 x 1=10)

- I. Cart wheel appearance of tympanic membrane is seen in
 - a) ASOM
 - b) Glomus tumor
 - c) OME
 - d) CSOM
- II. Cricothyroid muscle is supplied by:
 - a) External laryngeal nerve
 - b) Recurrent laryngeal nerve
 - c) Internal laryngeal nerve
 - d) Glossopharyngeal nerve

- III. Which of the following is known as gateway of tears
- Killian's dehiscence
 - Rathke's pouch
 - Waldeyer ring
 - Sinus of Morgagni
- IV. Bony septal perforation is seen in:
- TB
 - Syphilis
 - Leprosy
 - None of the above
- V. Steeple sign is seen in:
- Quinsy
 - Larngomalacia
 - Acute epiglottitis
 - Croup
- VI. Grommet insertion with myringotomy is done at
- Antero-inferior quadrant
 - Postero- inferior quadrant
 - Antero superior quadrant
 - Postero superior quadrant
- VII. Thyroid angle in male
- 60 degree
 - 90 degree
 - 100 degree
 - 120 degree
- VIII. Following are the landmarks for identifying Facial nerve in temporal bone
- Nerve pass above the oval window
 - Nerve pass above the harizontal semicircular canal
 - Nerve exit anterior to digastric ridge
 - Nerve lies posterior to posterior belly of digastric musle
- IX. Aucostic neuroma can present all except
- High frequency hearing loss
 - Low frequency hearing loss
 - Flat hearing loss
 - Sudden hearing loss
 - All the above

- X. Xerostomia can be caused by all of this except
- a) Antihistamine
 - b) Mouth breathing
 - c) Sjogrens syndrome
 - d) Uremia
 - e) Cerebral palsy
- XI. Drug used in the treatment of rhinoscleroma includes all except
- a) Streptomycin
 - b) Tetracyclin
 - c) Ciprofloxacin
 - d) erythromycin
- XII. Complication following septal abscess includes all except
- a) Severe sepsis
 - b) Meningitis
 - c) Saddle deformity
 - d) Cavernous sinus thrombosis
- XIII. Tonsil develops from
- a) First arch
 - b) Second pouch
 - c) First pouch
 - d) First cleft
- XIV. Gold standard surgical procedure for aspiration
- a) Thyroplaty
 - b) Tracheostomy
 - c) Gastrostomy
 - d) Tracheal diversion and permanent tracheostomy
- XV. Space involved in Ludwigs angina
- a) Sublingual
 - b) Submandibular
 - c) Danger space
 - d) Submental
 - e) Parapharyngeal
- XVI. All of the following will cause gray white membrane except
- a) Infectious mononucleosis
 - b) Ludwigs angina
 - c) Streptococcal tonsillitis
 - d) Diphtheria
- XVII. Caldwell view is done for :
- a) Sphenoid sinus
 - b) Ethmoid sinus
 - c) Maxillary sinus
 - d) Frontal sinus



BLDE (DEEMED TO BE UNIVERSITY)
SHRI B. M. PATIL MEDICAL COLLEGE, HOSPITAL & RESEARCH CENTRE, VIJAYAPURA
OPHTHALMOLOGY CURRICULUM

Goal:

The broad goal of the teaching of students in Ophthalmology is to provide such knowledge and skills to the student that shall enable him/her to practice as a primary eye care physician and also to function effectively as community health leader to assist in the implementation of National Program for the Prevention of Blindness [NPCB] and rehabilitation of visually impaired.

Objectives

Knowledge

At the end of the course, medical graduate should know

1. Common problems affecting the eye
2. Principles of management of major ophthalmic emergencies
3. Main systemic diseases affecting the eye
4. Effects of local and systemic diseases on patients' vision and the necessary action required to minimize the sequel of such diseases.
5. Adverse drug reactions with special reference to ophthalmic manifestations
6. Magnitude of blindness in India and its main causes
7. National program for control of blindness and its implementation at various levels & its integration with other national health programs
8. Eye care education for prevention of eye problems
9. Role of primary health centre in organization of eye camps
10. Organization of primary health care and the functioning of the ophthalmic assistant.
11. Eye Bank Organization

Skills

At the end of the course, students shall be able to perform

1. Elicit history pertinent to general health and ocular status.
2. Assist in diagnostic procedure such as visual acuity testing, examination of eye, Schiottz tonometry, staining for corneal pathology confrontation Perimetry, subjective refraction including correction of presbyopia and aphakia, direct ophthalmoscopy and conjunctival smear examination and cover test.

3. Diagnose and treat common problems affecting the eye.
4. Interpret ophthalmic signs in relation to common systemic disorder
5. Assist/observe therapeutic procedures such as sub conjunctival injection, corneal, conjunctival foreign body removal, carbolic cautery for corneal ulcers, nasolacrimal test syringing and tarsorrhaphy.
6. Provide first aid in major ophthalmic emergency
7. Assist in organization of community surveys for visual check-up.
8. Assist in organization of primary eye care service through primary health centres.
- 9.

Affector domain

10. Use effective means of communication with public and individuals to motivate for surgery incataract and for eye donation
11. Establish rapport with his senior colleagues and para medical workers so as to effectively function as member of the eye care team.

Integration

The under graduate training in ophthalmology will provide an integrated approach toward disciplines especially Neurosciences, Community medicine, Pediatrics, Otorhino-laryngology, General Surgery and General Medicine.

Course Contents

Competency	Sub Topic
Visual Acuity Assessment (1.1-1.7) Number of Competency =07	
Must Know	
1.1	Physiology of Vision, Visual cycle
1.2	Definition & classification of different type of refractive errors, clinical features, methods of correction
1.3	Assessment of distance visual acuity, near visual acuity, pin hole test, menace & blink reflexes
1.4	Identification of convex, concave, spherical, cylindrical lenses & prisms from the trial set
Desirable to know	
1.5	Identification of different types of spectacles including single vision, kryptok, executive, d-bifocal, progressive type of lenses

1.6	Indications & principles of different type of refractive Surgeries
1.7	Definition, types, aetiology & management of Amblyopia
Eye Lids (2.1-2.5) Number of Competency = 05	
Must know	
2.1	Demonstration of 1) Epilation 2) Assessment of entropion/ectropion 3) bell's phenomenon 4) lid taping
2.2	Describe gross anatomy of eye lids with seven layered structure of eye lids
2.3	Enumerate the causes, describe and discuss the aetiology, clinical presentations, diagnostic feature & treatment of common condition of the lid including Hordeolum externum/internum, blepharitis, Chalazion
Desirable to know	
2.4	Enumerate the causes, describe and discuss the aetiology, clinical presentations, diagnostic feature & treatment of ptosis, entropion, ectropion, lagophthalmos, congenital lid disorders
Nice to know	
2.5	Benign & Malignant lid tumours- predisposing factors, clinical presentation, diagnosis & treatment
Orbit (3.1-3.6) Number of Competency = 06	
Must know	
3.1	Anatomy of orbit including orbital walls, fascia, orbital content, Surgical spaces
3.2	Enumerate the causes, describe and discuss the aetiology, clinical presentations, diagnostic feature & treatment of pre septal cellulitis, orbital cellulitis orbital mucormycosis, cavernous sinus thrombosis & orbital Pseudotumor
Desirable to know	
3.3	Definition, aetiology, classification, clinical evaluation investigations, imaging, pathology & treatment of proptosis
3.4	Etiology, pathogenesis, Clinical features & management of thyroid eye disease
Nice to know	
3.5	Enumerate different orbital tumours & their diagnostic features

3.6	aetiology, classification clinical features, imaging & Management of orbital blowout fractures
Lacrimal system (4.1-4.9) Number of Competency = 09	
Must know	
4.1	Anatomy of lacrimal apparatus
4.2	Structure, functions, secretion & drainage of tear film
4.3	Definition, Aetiology, clinical features, diagnostic tests, grading & treatment of dry eye diseases
4.4	Definition, Aetiology & clinical evaluation of Epiphora
4.5	Performing Regurgitation Test
4.6	Sac Massaging in Congenital Dacryocystitis
4.7	Definition, Aetiology, clinical features, complication & management of congenital, acute & chronic dacryocystitis
Desirable to know	
4.8	Types of dacryocystorhinostomy with surgical steps
4.9	Inflammation of lacrimal gland
Conjunctiva (5.1-5.10) Number of Competency = 10	
Must know:	
5.1	Elicit document and present an appropriate history in a patient presenting with a "red eye" including congestion, discharge, pain
5.2	Demonstrate document and present the correct method of examination of a red eye including vision assessment, corneal lustre, pupil abnormality, ciliary tenderness
5.3	describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of various causes of conjunctivitis
5.4	Demonstrate correct technique of removal of foreign body from the eye in a simulated environment
5.5	Demonstrate the correct technique of instillation of eye drops & ointment in a simulated environment
5.6	Irrigation of Conjunctiva in chemical injuries
Desirable to know	
5.7	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of trachoma

5.8	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of catarrh
5.9	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of pterygium
Nice to know	
5.10	Describe the aetiology, pathophysiology, ocular features, differential diagnosis, complications and management of symblepharon
Cornea (6.1-6.13) Number of Competency = 13	
Must Know	
6.1	Anatomy physiology of cornea
6.2	Enumerate, describe & discuss the types and causes of corneal ulceration
6.3	Enumerate & discuss the differential diagnosis of infective keratitis
6.4	Enumerate the causes of corneal edema
6.5	Enumerate the causes of corneal blindness
Desirable to know	
6.6	Counsel patients & family about eye donation in a simulated environment
6.7	enumerate the indications and describe the methods of tarsorrhaphy
6.8	Assesment of corneal sensation
6.9	Flourescent staining of ocular surface
6.10	Demonstrate technique of removal of foreign body in the cornea in a simulated environment
6.11	Enumerate the indications and the types of Keratoplasty
6.12	Describe & discuss the importance & protocols involved in eye donation & eye banking
Nice to know	
6.13	An overview of corneal degenerations, ectasias & dystrophies
Sclera (7.1-7.3) Number of Competency = 03	
Desirable to know	
7.1	Define, enumerate & describe the aetiology, associated systemic conditions, clinical features complications indications for referral and management of episcleritis
7.2	Define, enumerate & describe the aetiology, associated systemic conditions, clinical features complications indications for referral and management of scleritis

7.3	Definition & classification of staphylomas
Iris & Anterior chamber (8.1-8.9) Number of Competency = 09	
Must know:	
8.1	Describe clinical signs of intraocular inflammation and enumerate the features that distinguish granulomatous from non-granulomatous inflammation. Identify acute iridocyclitis from chronic condition.
8.2	Identify and distinguish acute iridocyclitis from chronic iridocyclitis.
8.3	Describe and distinguish hyphema and hypopyon
Desirable to know	
8.4	Clinical Assessment of Anterior chamber reaction
8.5	Enumerate and choose the appropriate investigation for patients with conditions affecting the uvea
8.6	Counsel patients with conditions of the iris and anterior chamber about their diagnosis, therapy and prognosis in an empathetic manner in a simulated environment.
8.7	Aetiology clinical features and treatment of endophthalmitis & panophthalmitis.
Nice to know	
8.8	Enumerate systemic conditions that can present as iridocyclitis and describe their ocular manifestations
8.9	Coloboma of Iris & Choroid
Glaucoma (9.1-9.12) Number of Competency = 12	
Must know:	
9.1	Anatomy of angle of anterior chamber
9.2	Physiology of aqueous humour production & drainage
9.3	To perform various methods of intraocular pressure (IOP) measurement including Digital tonometry, Schiottz tonometry & Non-contact tonometry under supervision.
9.4	To assess the depth of anterior chamber clinically & to differentiate open angle versus closed angle glaucoma
9.5	Classification of glaucoma. pathogenesis, clinical features & management of each type of glaucoma
9.6	Anti-Glaucoma Drugs
Desirable to know	
9.7	IOP lowering medications - mode of action, side effects & Recommended dosage.

9.8	Describe Visual field changes in glaucoma & perform confrontation Perimetry
9.9	Lens induced glaucoma
9.10	Surgical procedures for glaucoma including laser iridotomy, iridectomy, goniotomy, trabeculectomy & trabeculectomy.
Nice to know	
9.11	Traumatic Glaucoma
9.12	Malignant Glaucoma
Lens (10.1-10.14) Number of Competency = 14	
Must know	
10.1	Describe anatomy of Lens & Its metabolism
10.2	Causes of Cataract formation, morphology & Clinical features of different types of Cataract
10.3	Demonstrate distant direct Ophthalmoscopy
10.4	Demonstration of Iris Shadow
10.5	Differentiating between Pseudophakia versus Aphakia
10.6	Enumerate types & steps of Cataract Surgery
10.7	Instruments used in Cataract Surgery
10.8	Counsel Patient for Cataract Surgery & obtain informed Consent
Desirable to know	
10.9	Management of Congenital Cataract
10.10	Subluxated versus dislocated Lens
10.11	IOL- Materials & Generations
10.12	Complications of Cataract Surgery
Nice to know	
10.13	Laser Cataract Surgery
10.14	Phakonit
Retina & Vitreous (11.1-11.9) Number of Competency = 09	
Must know:	
11.1	Discuss the aetiology, pathology, clinical features and management of vascular occlusions of the retina
11.2	Pathogenesis, clinical features, staging, diagnosis & treatment modalities of retinal diseases (Including retinal detachment, diabetic retinopathy,

	hypertensive retinopathy, retinitis pigmentosa, retinopathy of pre-maturity, central serous chorioretinopathy, cystoid macular edema, macular hole & age related macular degeneration
11.3	Demonstrate the correct technique of a fundus examination and describe and distinguish the fundoscopic features in a normal condition and in condition causing an abnormal retinal exam.
11.4	Enumerate causes of vitreous hemorrhage
Desirable to know	
11.5	Genetics, clinical features & management of retinoblastoma
11.6	Pathogenesis of posterior Vitreous detachment
11.7	Indications of Vitrectomy
Nice to know	
11.8	Enumerate fundus changes in Myopia, Toxemia of pregnancy, AIDS, Renal diseases Hematological diseases
11.9	Clinical features, genetics & management of Retinitis Pigmentosa
Neuro ophthalmology (12.1-12.9) Number of Competency = 09	
Must know:	
12.1	Pathway of Pupillary reflexes. Demonstrate direct & Indirect light reflex
12.2	Anatomy of visual pathway. Discuss field defects with lesions at each levels
12.3	Describe the evaluation and enumerate the steps involved in the stabilization, initial management and indication for referral in a patient with ocular injury
Desirable to know	
12.4	Causes of papilloedema
12.5	Aetiology, clinical features, treatment of different types of optic neuritis.
12.6	Explain effect of pituitary tumors on visual pathway
12.7	Describe anatomical basis of horners syndrome
12.8	Describe the position, nerve supply and actions of intraocular muscles
Nice to know	
12.9	Optic Nerve Tumors
Squint (13.1-13.8) Number of Competency = 08	
Must know	
13.1	Anatomy of extraocular muscles

13.2	Demonstrate the correct technique to examine extra ocular movements (Unilateral & Binocular)
13.3	Assessment of tropia/phoria, convergence & binocularity
13.4	Cranial Nerve Assessment
Desirable to know	
13.5	Differentiating between exotropia versus esotropia, concomitant versus inconcomitant squint
13.6	Classify, enumerate the types, methods of diagnosis & indications for referral in a patient with heterotropia/ strabismus
13.7	Explain the anatomical basis of oculomotor, trochlear and abducent nerve palsies along with strabismus
Nice to know	
13.8	Types & Causes of Nystagmus
Community Ophthalmology (14.1-14.4) Number of Competency = 04	
Must know:	
14.1	Definition of low vision & Blindness & world -wide causes & Statistics
14.2	Enumerate, describe and discuss the causes of avoidable blindness and the National Programs for Control of Blindness and Vision 2020
Desirable to know	
14.3	Vitamin A deficiency & importance of inclusion of vitamin A prophylaxis in National Immunization Schedule
14.4	District Blindness control societies functioning & organizing of camps
Ocular Trauma (15.1-15.7) Number of Competency = 07	
Must know	
15.1	Classification of Ocular Trauma
15.2	Etiology, Pathogenesis & management of Blunt Trauma
15.3	Management of Ocular Perforating Injuries, Principles of Wound Repair
15.4	Describe the evaluation & enumerate the steps involved in the stabilization, initial management and indication for referral in a patient with ocular injury
Desirable to know	
15.5	Diagnosis & Surgical Management of retained Intraocular foreign body
15.6	Chemical Injuries

Nice to know	
15.7	Medico legal aspects of Ocular Trauma
Miscellaneous (16.1-16.10) Number of Competency = 10	
Must know	
16.1	Describe & demonstrate parts and layers of eyeball
16.2	Describe the role of refractive error correction in a patient with headache & enumerate the indications for referral
Desirable to know	
16.3	Lasers in ophthalmology
16.4	Ophthalmic operation theater etiquettes
16.5	Describe & discuss the aetiopathogenesis, clinical presentation, identification, functional changes, stabilization, management & rehabilitation of vision & visualloss in the elderly
16.6	Applying Eye Patch
16.7	Eversion of upper eyelid
16.8	Use of lid retractor for examination of an eye of a child
16.9	Microbiological profile of Ocular Infections
16.10	Elicitation of Bells Phenomenon

Practical Skills

Competency	Topic
Able to perform independently	
12.1	Assessment of pupillary reflexes
13.3	Hirschberg Test
5.6	Irrigation of Conjunctiva
5.5	Technique of Instillation of eye drops
5.5	Technique of Instillation of eye ointment
6.8	Assessment of Corneal Sensation
8.3	Differentiating Hyphema versus Hypopyon
11.4	Examination of Cataract Patient
9.8	Visual Field Examination- Confrontation Perimetry

9.3	Digital Tonometry
9.3	Schiotz Tonometry
16.6	Applying Eye Patch
16.7	Eversion of upper eyelid
13.4	Cranial Nerve Assessment
13.4	Differentiating Phoria Versus Tropia
Perform Under Guidance	
1.3	Visual Acuity Test
1.3	Colour Vision Test
1.3	Pin Hole Test
1.3	Menace Reflex Testing
1.3	Blink Reflex Testing
16.10	Elicitation Of Bells Phenomenon
2.1	Assessment Of Entropion
2.1	Assessment Of Ectropion
4.5	Perform Regurgitation Test
4.6	Perform Massage Technique In Congenital Dacryocystitis
2.1	Perform Epilation
5.2	Clinical Examination Of Red Eye
5.4	Conjunctival Foreign Body Removal
6.10	Corneal foreign body removal
6.9	Fluorescent staining to assess corneal abrasion
8.4	Clinical assessment of anterior chamber reaction
10.4	Enumeration of types of cataract surgery, describe steps and complication
10.3	Distant direct ophthalmoscopy
10.8	Counsel patient for cataract surgery and obtain informed consent
11.3	Fundus examination
11.3	Direct ophthalmoscopy
13.2	Examination of ocular movement
16.1	Describe parts of the eyeball
Assist Following Procedures	

16.8	Use of lid retractor for examination of eye of a child
Observe following Procedures	
2.2	Entropion surgery
2.3	Chalazion or styel excision
6.11	Keratoplasty surgery
6.7	Tarsorrhaphy surgery
9.10	Glaucoma surgery
10.6	Cataract surgery

Integrated Teaching

Horizontal Integration			Vertical Integration		
Collaborative departments	Competency	Topics	Collaborative departments	Competency	Topics
Community Medicine	14.2	NPCB	Anatomy	13.7	3,4,5 &6 Cranial Nerve Anatomy
ENT	3.2	Orbital Cellulitis	Physiology	1.1	Physiology of Vision
	4.7	Lacrimal drainage system			
General Medicine	11.2	Diabetic Retinopathy	Biochemistry	1.1	Visual cycle
	3.4	Thyroid eye disease			
General Surgery	15.3	Principles of wound repair	Pathology	11.5	Retinoblastoma
				12.9	Optic nerve tumors
Pediatrics	11.2	Retinopathy of prematurity	Pharmacology	9.6	Ocular Pharmacology
Obstetrics & Gynaecology	11.8	Ocular Changes in Pregnancy	Microbiology	16.9	Microbiological profile of Ocular infections

Attitude, Ethics and Communication Module (AETOM) Module 3.4: studies in Bioethics - Confidentiality

Background

This introduces the student to confidentiality and its limits.

Competency addressed

The student should be able to

Identify, discuss and defend medico-legal, socio-cultural and ethical issues as it pertains to confidentiality in patient care

Learning Experience

Year of study: Professional year 3

Hours: 6

- i. Introduction of case – 1 hour
- ii. Self-directed learning – 2 hours
- iii. Anchoring lecture – 1 hour
- iv. Discussion and closure of case – 1 hour

Points for discussion:

1. The primacy of confidentiality in patient care.
2. What does confidentiality entail?
3. When can confidence be breached with whom and how?
4. Confidentiality and diseases that may engender patients and society.

Assessment

1. **Formative:** The student may be assessed based on their active participation in the sessions.
2. **Summative:** Short questions on 1) what are the instances in which confidentiality of patient information may be breached?

Clinical Teaching during Postings

1. Clinical posting in batches during 2nd professional & 3rd professional- 48 sessions of 3 hours each.
2. 2nd professional- 4 week
3. 3rd professional- 4 weeks

Teaching Schedule and Hours Allotted

Sl. No	Topics	Lectures (30 X 1 hr)	Tutorial/Small Group discussion/ Seminars/AETOM (20 X 2 hrs)	SDL (10 X 1 hr)
1	Basic science, Refractive errors	2hrs	2hrs	1hr
2	Disease of Eye Lids	1hrs	2hrs	1hr
3	Disease of Orbit	2hrs	2hrs	
4	Disease of Lacrimal Apparatus	2hrs	2hrs	1hr

5	Disease of Conjunctiva	2hrs	2hrs	
6	Disease of Cornea	2hrs	4hrs	1hr
7	Disease of Sclera	1hrs		
8	Disease of Iris and Anterior Chamber	2hrs	2hrs	1hr
9	Glaucoma	2hrs	4hrs	1hr
10	Disease of Lens	2hrs	4hrs	1hr
11	Disease of Retina & Vitreous	2hrs	2hrs	1hr
12	Neuro-Ophthalmology	2hrs	2hrs	
13	Squint	2hrs	2hrs	1hr
14	Community Ophthalmology	2hrs	2hrs	
15	Ocular Trauma	1hrs	2hrs	1hr
16	Miscellaneous	3hrs		
	AETCOM		6hrs	
	Total	30hrs	40hrs	10hrs

Assessment for Under Graduate (MBBS III PHASE I)

Total marks: 240

1. Theory examination : 100 marks
2. Practical : 100 marks
3. Internal assessment : 40 marks

Scheme of Examination

Theory Examination: 100 marks /3 hours paper consists of following:

- a) Structured Essay = 1×10 marks each = 20 marks
- b) Short Essay = 6×5 marks each = 30 marks
- c) Short answers = 10×3 marks each = 30 marks
- d) MCQs = 20×1mark each = 20 marks

Practical Examination

Total: 100 Marks Consisting of

- a) 2 Long cases (2 × 40 marks = 80marks)
- b) Viva: 20marks including
 - i. Spotters
 - ii. Surgical instruments
 - iii. Specimens
 - iv. Imaging

- v. Trial Lenses , Spectacles
- vi. Ocular Drugs

Formative assessment:**MCQ test:**

After every 10 theory classes, one MCQ test will be conducted on covered topics. Each MCQ test will be for 30 marks, comprising of 30 MCQ questions.

OSCE: will be conducted in middle of each clinical posting, for 20 marks each.

Internal assessment:

Besides theory & Practical components, marks are given for overall involvement of student in the departmental activities.

Theory (20 Marks)	2 Theory Written tests To be conducted mid of 6 th and 7 th terms 40 marks each Total marks out of 80 will be reduced to marks out of 20
Practical (15 Marks)	Clinical tests will be conducted at end of each posting. 10 marks for case presentation + 5 marks for spotters. Total 15 marks Aggregate of both will be considered
Participation (5 Marks)	Log book maintenance (1 mark) Assignments (1 mark) Skill demonstrator of SDLs (1 mark) Projects (1 mark) Extension Activities (1 mark)

Text Books of Ophthalmology

1. Parsons Disease of the eye, 22nd Ed 2015 Revised by Dr. Ramanjisihoti and Radhika Tandon, Published by Butterworth – Heinemann, Elsevier.
2. Comprehensive Ophthalmology by A K Khurana, 6th Ed 2015 published by Jaypee Brother Medical Publishers.
3. Clinical Ophthalmology a systemic approach by Kanski, 8th Ed 2016 Published by Elsevier.
4. Text book of Ophthalmology by Nema 6th edition