

Regulation & Syllabus

Revised Ordinance Governing MBBS DEGREE COURSE AND CURRICULUM

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SECTION I

PREAMBLE

The new Graduate Medical Education Regulations attempts to stand on the shoulder of the contributions and the efforts of resource persons, teachers and students of medical education (past and present). It intends to take the learner to provide health care to the evolving needs of the nation and the world. The undergraduate medical curriculum of the medical council of India is created to ensure that the medical doctor who emerges from the MBBS training program can assist the nation to achieve its goal of "health for all". In addition, it aspires to ensure that the "Indian Medical Graduate" meets or exceeds global benchmarks in knowledge, attitude, skills and communication. This intent is at the core of the Graduate Medical Regulations, 2019.

More than twenty years have passed since the existing Regulations on Graduate Medical Education, 1997 was notified, necessitating a relook at all aspects of the various components in the existing regulations and adapt them to the changing demography, socio-economic context, perceptions, values and expectations of stakeholders. Emerging health care issues particularly in the context of emerging diseases, impact of advances in science and technology and shorter distances on diseases and their management also need consideration.

A significant advance is the development of global competencies and subject wise outcomes that define the roles of the "Indian Medical Graduate". Learning and assessment strategies have been outlined that will allow the learner to achieve these competencies/outcomes. Effective appropriate and empathetic communication, skill acquisition, student doctor method of learning, aligned and integrated learning and assessment are features that have been given additional emphasis in the revised curriculum.

This document represents a compilation of the resource material that was used in the Curriculum Implementation Support Program (CISP) and has attempted to provide a stepwise and comprehensive approach to implement the curriculum. It details the philosophy and the steps required in a simple and richly illustrated manner. Teaching slide decks, faculty guides and online resource material through the Learning Management Software (LMS) of JSS AHER supplement this document. The document is to be used in conjunction with the Competency document, AETCOM module and the GMER 2019 document.

The thrust in the new regulations is continuation and evolution of thought in medical education making it more learner-centric, patient-centric, gender-sensitive, outcome-oriented and environment appropriate. The result is an outcome driven curriculum which conforms to global trends. Emphasis is made on alignment and integration of subjects both horizontally and vertically while respecting the strengths and necessity of subject-based instruction and assessment. This has necessitated a deviation from using "broad competencies"; instead, the reports have written end of phase subject (sub) competencies. These "sub-competencies"

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

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

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

SECTION II

ELIGIBILITY & SELECTION

Admission to the Medical Course-Eligibility Criteria: No candidate shall be allowed to be admitted to the Medical Curriculum proper of first Bachelor of Medicine and Bachelor of Surgery course until he /she has qualified the National Eligibility Entrance Test, and he/she shall not be allowed to appear for the National Eligibility-Cum- Entrance Test until:

1. He/she shall complete the age of 17 years on or before 31st December of the year of admission to the MBBS. 1A) He/She has obtained a minimum of marks in National Eligibility-Cum-Entrance Test as prescribed in Clause 5 of Chapter II. IB) Provided further that in order to be eligible, the upper age limit for candidates appearing for National Eligibility Entrance Test and seeking admission to MBBS programme shall be 25 years as on the date of examination with a relaxation of 5 years for candidates belonging to SC/ST/OBC category and persons entitled for reservation under the Rights of Persons with Disabilities Act, 2016.
2. In order to be eligible to take the National Eligibility-cum-Entrance Test (NEET), He/She has passed qualifying examination as under.
 - a. The higher secondary examination or the Indian School Certificate Examination which is equivalent to 10+2 Higher Secondary Examination after a period of 12 years study, the last two years of study comprising of physics, Chemistry, Biology and Mathematics or any other elective subjects with English at a level not less than the core course for English as prescribed by the National Council for Educational Research and Training after the introduction of the 10+2+3 years educational structure as recommended by the National Committee on education. Provided that two years of regular and continuous study of Physics, Chemistry, Biology/Biotechnology taken together shall be required at 10+2 level for all the candidates. Candidates who have passed 10+2 from Open Schools or as Private candidates shall not be eligible to appear for National Eligibility-cum-Entrance Test. Furthermore, study of Biology/Biotechnology as an Additional Subject at 10+2 level also shall not be permissible
Note: Where the course content is not as prescribed for 10+2 education structure of the National Committee, the candidates will have to undergo a period of one year pre-professional training before admission to the Medical colleges.
Or
 - b. The Intermediate examination in science of an Indian University/Board or other recognized examining body with Physics, Chemistry and Biology which shall include a practical test in these subjects and also English as a compulsory subject.
Or
 - c. The pre-professional/pre-medical examination with Physics, Chemistry and Biology, after passing either the higher secondary school examination, or the pre-university or an equivalent examination. The pre-professional/premedical examination shall include a practical test in Physics, Chemistry & Biology and also English as a compulsory subject.

Or

- d. The first year of the three years degree course of a recognized university, with Physics, Chemistry and Biology including a practical test in these subjects provided the examination is a "University Examination" and candidate has passed 10+2 with English at a level not less than a core course
Or
- e. 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)/Bio-technology and further that he/she has passed the earlier qualifying examination with the following subjects – Physics, Chemistry, Biology and English.
Or
- f. Any other examination which, in scope and standard is found to be equivalent to the intermediate science examination of an Indian University/Board, taking Physics, Chemistry and Biology/Biotechnology including practical test in each of these subjects and English.
3. In respect of candidates with benchmark disabilities specified under the Rights of Persons with Disabilities Act, 2016, the minimum marks in qualifying examination in Physics, Chemistry and Biology (or Botany and Zoology)/Bio-technology taken together in qualifying examination shall be 45% instead of 50%.
4. 5% seats of the annual sanctioned intake capacity shall be filled up by candidates with benchmark disabilities in accordance with the provisions of the Rights of Persons with Disabilities Act, 2016, based on the merit list of 'National Eligibility-Cum-Entrance Test'. For this purpose the Specified Disability contained in the Schedule to the Rights of Persons with Disabilities Act, 2016 is annexed in Appendix 'G' of the Graduate Medical Education Regulations of the MCI. Provided further that this entire exercise shall be completed by each medical college / institution as per the statutory time schedule for admissions and in no case any admission will be made in the MBBS course after 31st of August
Note: The pre-medical course may be conducted either at Medical College, or a science College. Marks obtained in Mathematics are not to be considered for admission to MBBS Course. After the 10+2 course is introduced, the integrated courses should be abolished.

5. Procedure for selection to MBBS course shall be as follows

- i. There shall be a uniform entrance examination to all medical educational institutions at the under graduate level namely 'National Eligibility-cum-Entrance Test for admission to MBBS course in each academic year and shall be conducted under overall supervision of the Ministry of Health & Family Welfare, Government of India
- ii. The "designated authority" to conduct the 'National Eligibility-Cum-Entrance Test' shall be the Central Board of Secondary Education or any other body/ organization so designated by the Ministry of Health & Family Welfare, Government of India, in consultation with the Medical Council of India.
- iii. The language and manner of conducting the 'National Eligibility-Cum- Entrance Test' shall be determined by the "designated authority" in consultation with the Medical Council of India and the Ministry of Health and Family Welfare, Government of India

- iv. In order to be eligible for admission to MBBS Course for a academic year, it shall be necessary for a candidate to obtain minimum of marks at 50th percentile in 'National Eligibility-cum-Entrance Test to MBBS course' held for the said academic year. However, in respect of candidates belonging to Scheduled Castes, Scheduled Tribes, Other Backward Classes, the minimum marks shall be at 40th percentile. In respect of candidates with benchmark disabilities specified under the Rights of Persons with Disabilities Act, 2016, in terms of Clause 4(3) above, the minimum marks shall be at 45th percentile. The percentile shall be determined on the basis of highest marks secured in the All-India common merit list for admission in 'National Eligibility-cum-Entrance Test for admission to MBBS course
- v. Provided when sufficient number of candidates in the respective categories fail to secure minimum marks as prescribed in National Eligibility-cum-Entrance Test held for any academic year for admission to MBBS Course, the Central Government in consultation with Medical Council of India may at its discretion lower the minimum marks required for admission to MBBS Course for candidates belonging to respective categories and marks so lowered by the Central Government shall be applicable for the said academic year only
- vi. The reservation of seats in Medical Colleges for respective categories shall be as per applicable laws prevailing in States/Union Territories. An All India merit list as well as State/Union Territory-wise merit list of the eligible candidates shall be prepared on the basis of marks obtained in 'National Eligibility-cum-Entrance Test and candidates shall be admitted to MBBS course from the said lists only
- vii. No candidate who has failed to obtain the minimum eligibility marks as prescribed in Sub-clause 4 above shall be admitted to MBBS course in the said academic year
- viii. No authority/institution shall admit any candidate to the MBBS course in contravention of the criteria/procedure as laid down by these Regulations and / or in violation of the judgments passed by the Hon'ble Supreme Court in respect of admissions. Any candidate admitted in contravention/violation of aforesaid shall be discharged by the Council forthwith. The authority / institution which grants admission to any student in contravention / violation of the Regulations and / or the judgments passed by the Hon'ble Supreme Court, shall also be liable to face such action as may be prescribed by the Council, including surrender of seats equivalent to the extent of such admission made from its sanctioned intake capacity for the succeeding academic year/years.
- ix. All admission to MBBS course within the respective categories shall be based solely on the marks obtained in the 'National Eligibility-Cum- Entrance Test

MIGRATION

- i. Migration of students from one medical college to another medical college may be granted on any genuine ground subject to the availability of vacancy in the college where migration is sought and fulfilling the other requirements laid down in the Regulations. Migration would be restricted to 5% of the sanctioned intake of the college during the year. No migration will be permitted on any ground from one medical college to another located within the same city
- ii. Migration of students from one College to another is permissible only if both the colleges are recognised by the Central Government under section 11(2) of

the Indian Medical Council Act, 1956 and further subject to the condition that it shall not result in increase in the sanctioned intake capacity for the academic year concerned in respect of the receiving medical college

- iii. The applicant candidate shall be eligible to apply for migration only after qualifying in the first professional MBBS examination. Migration during clinical course of study shall not be allowed on any ground
- iv. For the purpose of migration an applicant candidate shall first obtain "No Objection Certificate" from the college where he is studying for the present and the university to which that college is affiliated and also from the college to which the migration is sought and the university to which that college is affiliated. He/She shall submit his application for migration within a period of 1 month of passing (Declaration of result of the 1st Professional MBBS examination) alongwith the above cited four "No Objection Certificates" to: (a) the Director of Medical Education of the State, if migration is sought from one college to another within the same State or (b) the Medical Council of India, if the migration is sought from one college to another located outside the State.
- v. A student who has joined another college on migration shall be eligible to appear in the IInd professional MBBS examination only after attaining the minimum attendance in that college in the subjects, lectures, seminars etc. required for appearing in the examination prescribed under Regulation 12(1)

Note-1: The State Governments/Universities/Institutions may frame appropriate guidelines for grant of No Objection Certificate or migration, as the case may be, to the students subject to provisions of these regulations.

Note-2: Any request for migration not covered under the provisions of these Regulations shall be referred to the Medical Council of India for consideration on individual merits by the Director (Medical Education) of the State or the Head of Central Government Institution concerned. The decision taken by the Council on such requests shall be final.

Note-3: The College/Institutions shall send intimation to the Medical Council of India about the number of students admitted by them on migration within one month of their joining. It shall be open to the Council to undertake verification of the compliance of the provisions of the regulations governing migration by the Colleges at any point of time.

SECTION III

Introduction to CBME curriculum

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

The Curriculum Committee along with Medical Education Units/ Departments of Medical Colleges would help the colleges to implement the new UG curriculum including the AETCOM (Attitude, Ethics & Communication) program.

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

Foundation course: In Phase I: August

The JSS Medical College shall develop the framework for the Foundation Course which will be of 1 month duration after admission and will aim to orient the students to national health scenarios, medical ethics, health economics, learning skills & communication, Basic Life Support, computer learning, sociology & demographics, biohazard safety, environmental issues, local and English language and community orientation depending on the local needs and expertise available. Foundation course may also include 1) Orientation program 2) language and computer skills 3) communication skills and 4) time management skills and 5) Professional development program highlighting ethical and humanities issues. It is emphasized that interactive case scenarios, movies, videos, and small group discussions may be used for each concept along with the principles of reflective learning.

Medical education today is characterized by vast knowledge base, from cutting-edge biomedical science to the professional artistry, and the high level of technical proficiency that students must acquire for practice. Clinical education, recognized as very strenuous training, involves far more than imparting students with scientific knowledge and technical skills.

The clinical work and the other tasks of physicians are social practices and therefore physicians need to be prepared to work in relation with their patients, other professionals and nonprofessionals in varied settings like clinics, hospitals and communities. Care of patients is an interpersonal pursuit, involving interactions between clinicians and patients, which even in a simple situation involves many people, let alone in more complex settings where a number of specialists from different fields are engaged.

The selection of students to medical colleges in India is based on merit of the candidate at competitive entrance examinations. The selection criteria do not take care of non-cognitive abilities of the students. The entry level students are in the age group of 17-19 years. At this stage of the transition from high school to a professional course, these students may also face possible maladjustment to hostel life and food, and medium of instruction in foreign language. Many students who might have pursued rote learning in high school find it difficult to cope with the different learning environment in a medical college.

Therefore, it is necessary to develop and implement students' orientation program at the entry level of MBBS program to acclimatize them to campus environment, familiarize with teaching programs, help adapt to the academic challenges as they move from high school into undergraduate programs. Such structured foundation course would help students coming from a very different learning environment to cope with the vast body of knowledge and skills required in the dynamic and rapidly changing health care system. Besides the development of essential knowledge and skills, the emphasis on training the undergraduate students in techniques of learning will motivate them to develop the habits of self-directed learning. The overall objective of foundation course would be to sensitize the learners with essential knowledge and skills which will lay a sound foundation for their pursuit of learning across the subjects in MBBS course and later on a career in medicine. Foundation course at entry level and the longitudinal program envisaged in GMER 2019 in AETCOM module will help students acquire necessary non-cognitive competencies.

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 (see Table)

9.1.1 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 priorities 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

Table 1: Foundation course contents

Contents	Total Hours
Orientation	30
Skill Modules	35
Field visit to community health center	08
Professional development including ethics	40
Sports & extracurricular activities	22
Language / Computer skills	40
Total (25 days of hours a day, 8-4 PM)	175

Orientation

1. The medical profession and the physician's role in society
2. The MBBS programme
3. Alternate health systems in the country and history of medicine
4. Medical ethics, attitudes and professionalism
5. Health care system and its delivery
6. National health priorities and policies
7. Universal precautions and vaccinations
8. Patient safety and biohazard safety
9. Principles of primary care (general and community based care)
 - i. Medical College & Hospital, JSSAHER
 - ii. MCI documents Pertaining to MBBS Course
 - iii. Rules and regulation
 - iv. Facilities
 - v. Faculty
 - vi. Facility visits – library, hostels , sports ground, common rooms
 - vii. Library visits and facility orientation
 - viii. Hospital visit

Skill

1. First aid
2. Basic life support
3. Safety:
 - Hand washing
 - Needle/Scalpel injuries

- Immunization requirements of health care professionals
- Concept of biosafety
- Handling biowaste/biomaterial management

Field Visit to community health center:

1. Visit to community health center
2. Introduction to health care workers & their role
3. Introduction & interaction with patients

Professionalism & Ethics

1. Concepts of professionalism & ethics
2. Consequences of unprofessional and unethical behavior
3. Value of integrity, honesty and respect during interaction with peers, seniors, faculty, other health care workers and patients
4. Functioning as a part of health care team
5. Introduction to AETCOM

Language & Computer skill

1. Language- Local & English
2. Computer
3. Interpersonal relationships
4. Communication
5. Learning including Self-directed learning
6. Time management
7. Stress management
8. Use of information technology

INTEGRATION

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

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

Alignment implies the teaching of subject material that occurs under a specific

organ system / disease concept from the same phase in the same time frame i.e., temporally. It is recommended that alignment be the major method to be followed, allowing similar topics in different subjects to be learnt separately but during the same time frame.

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

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

In summary:

Horizontal integration can be facilitated by the following methods,

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

Vertical integration can be facilitated by the following methods

- Selecting and discussing relevant clinical case scenarios during teaching and learning sessions
- Organizing guest lectures by clinicians or para clinical faculty on relevant topics
- Hospital visits to see relevant patient settings and presentations, radiological imaging and interventional procedures.

EARLY CLINICAL EXPOSURE

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

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

Intent

Purpose for early clinical exposure to students in the 1st year is to:

- Learn basic clinical skills
- Enhance their motivation and prepare them towards the purpose for which they entered the profession
- Enable students to correlate what they are learning in basic sciences by learning basics clinical skills and observing relevant disease abnormalities
- Encourage students to learn the professional behavior of a doctor by observing and being mentored by a clinical teacher
- Provide the context for application of their learning in practice

Elements

1. 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).
2. 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).
3. Humanities: To introduce learners to a broader understanding of the socio-economic framework and cultural context within which health is delivered through the study of humanities and social sciences.

Planning of activities & its distribution

- a. The total allotted hours in first year as per GMER, 2019 for early clinical exposure is 90 hours which must be equally divided among the three preclinical subjects. Therefore, the time available for each subject is 30 hours, which can be further divided as follows:

- b. Basic sciences correlation - 18 hours - 3-hour session per month for 6 months which can take place with charts, graphics, videos, reports, field visits etc. in classrooms / hospital labs.
- c. Clinical Skills - 12 hours - one 3-hour session per month for four months per department. Students accompanied by preclinical faculty in small groups equipped with observation guides are introduced to specified cases being demonstrated by clinicians. Each 3-hour session of clinical skills will have:
 - i. Introduction & instruction: 30 minutes
 - ii. Patient Settings (Hospital Based or Virtual): 1 hour
 - iii. Summary & conclusion: 30 minutes
 - iv. Reflection: 30 minutes

d. Humanities - will be merged with AETCOM (no additional time)

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

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

SELF-DIRECTED LEARNING

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

ELECTIVES

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

An elective can be defined as a brief course made available to the learner during his/her undergraduate study period, where she/he can choose from the available

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

Objectives

To provide learner with opportunities

- For a wide spectrum of learning experiences
- To carry hospital/ community based research projects which stimulate enquiry, self-directed, experiential learning and lateral thinking

Intent

The purpose of introducing electives in the undergraduate curriculum is to:

- Allow flexibility and choice during study period
- Provide opportunity to explore their areas of interest that can supplement their future studies
- Develop self directed learning skills
- Have direct experience of working in their interest areas
- Develop ability of deeper learning and critical thinking through reflection
- Have a student centric component in curriculum

Method

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

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

Skills training

Skill development and learning (throughout curriculum): The curriculum substantially lays emphasis on skills development and a comprehensive list of mandatory & desirable skills has been planned and recommended for the Indian Medical Graduate. The certification of skills would be necessary before licensure.

Certifiable Procedural Skills

Comprehensive list of skills recommended as desirable for Bachelor of Medicine and Bachelor of Surgery (MBBS) – Indian Medical Graduate.

I-Independently performed on patients,

O-Observed in patients or on simulations,

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

Table 2: List of certifiable Skills

Specialty	Procedure
General Medicine	<ul style="list-style-type: none"> • Venipuncture (I) • Intramuscular injection(I) • Intradermal injection (D) • Subcutaneous injection(I) • IV injection (I) • Setting up IV and calculating drip rate (I) • Blood transfusion (O) • Urinary catheterization (D) • Basic life support (D) • Oxygen therapy (I) • Aerosol therapy / nebulization (I) • Ryle’s tube insertion (D) • Lumbar puncture (O) • Pleural and ascitic aspiration (O) • Cardiac resuscitation (D) • Peripheral blood smear (I) • Bedside urine analysis (D)
General Surgery	<ul style="list-style-type: none"> • Basic suturing (I) • Basic wound care (I) • Basic bandaging (I) • Incision and drainage of superficial abscess (I) • Early management of trauma (I) and trauma life support (D)
Orthopedics	<ul style="list-style-type: none"> • Application of basic splints and slings (I) • Basic fracture and dislocation management (O) • Compression bandage (I)
Gynecology	<ul style="list-style-type: none"> • Per Speculum (PS) and Per Vaginal (PV) examination (I) • Visual Inspection of Cervix with Acetic Acid (VIA) (O) • Pap Smear (I) • Intra- Uterine Contraceptive Device (IUCD) insertion & removal (I)
Obstetrics	<ul style="list-style-type: none"> • Obstetrics examination (I) • Episiotomy (I) • Normal labor and delivery (including partogram) (I)
Pediatrics	<ul style="list-style-type: none"> • Neonatal resuscitation (D) • Pediatric IV line (I) • Intraosseous line (O)

Forensic Medicine	<ul style="list-style-type: none"> • Documentation and certification of trauma (I) • Diagnosis and certification of death (D) • Legal formalities related to emergency cases (D) • Certification of medical-legal cases e.g. Age estimation, sexual assault etc. (D) • Establishing communication in medico-legal cases with police, public health authorities, other concerned departments, etc (D)
Otorhinolaryngology	<ul style="list-style-type: none"> • Anterior nasal packing (D) • Otoscopy (I)
Ophthalmology	<ul style="list-style-type: none"> • Visual acuity testing (I) • Digital tonometry (D) • Indirect ophthalmoscopy (O) • Epilation (O) • Eye irrigation (I) • Instillation of eye medication (I) • Ocular bandaging (I)
Dermatology	<ul style="list-style-type: none"> • Slit skin smear for leprosy (O) • Skin biopsy (O) • Gram's stained smear (I) • Gram's stain smear (D) • KOH examination (D) • Dark ground illumination (O) • Tissue smear (O) • Cautery - Chemical and electrical (O) • Lasers (O) • Chemical (O).

AETCOM(Attitude ethics communication modules)

The overall goal of undergraduate medical education program as envisaged in the revised Graduate Medical Education Regulations - 2019 is to create an "Indian Medical Graduate" (IMG) possessing requisite knowledge, skills, attitudes, values and responsiveness, so that she or he may function appropriately and effectively as a physician of first contact of the community while being globally relevant. In order to fulfill this goal, the IMG must be able to function appropriately, ethically and effectively in her/his roles as clinician, leader and member of the health care team and system, communicator, lifelong learner and as a professional. In order to effectively fulfill the above-mentioned roles, the IMG must obtain a set of competencies at the time of graduation. In order to ensure that training is in alignment with the goals and competencies, Medical Council of India has proposed new teaching learning approaches including a structured longitudinal programme on attitude, ethics and communication

Five AETCOM modules will be taught in first phase and the AETCOM committee constituted at the college will ensure the effective implementation of the AETCOM module as specified by the MCI

Table 3:Phase wise AETCOM modules

Professional year	No of modules	Competency	Hours	Assessment
I	05		34	
	1. What does it mean to be a doctor?	<ul style="list-style-type: none"> Enumerate and describe professional qualities and roles of a physician Describe and discuss the commitment to lifelong learning as an important part of physician growth Describe and discuss the role of a physician in health care system Identify ,discuss physician's role and responsibility to society and the community that she/ he serves 	8(6 hours + 2 hours self directed learning)	Not required
	2. What does it mean to be a patient	<ul style="list-style-type: none"> Enumerate and describe professional qualities and roles of a physician Demonstrate empathy in patient encounters 	8(6 hours + 2 hours self directed learning)	1. Formative: The student may be assessed based on their active participation and presentation (written and oral) 2. Summative: SAQ

	3.The doctor patient relationship	<ul style="list-style-type: none"> Enumerate and describe professional qualities and roles of a physician Demonstrate empathy in patient encounters 	7 hours (5 hours + 2 hours of self directed learning)	<p>1.Formativ: The student may be assessed based on their active participation in the sessions. A written critique of the situations discussed in item 2 may be used for formative assessment</p> <p>2.Summativ: Short questions for example a) rights of patients b) responsibilities of patients c) duties of doctors d) boundaries of the doctor patient relationship</p>
	4.The foundations of communication	Demonstrate ability to communicate to patients in a patient, respectful, non threatening, non- judgemental and empathetic manner	7 hours (5 hours + 2 hours self directed learning)	<p>1.Formativ: The student may be assessed based on their active participation in the sessions. A written critique of the situations discussed in item 3 may be used for formative assessment</p> <p>2.Summativ: may be deferred for later phases</p>
	5.The cadaver as our first teacher	Demonstrate respect and follows the correct procedure when handling cadavers and other biologic tissue	4 (2+2) hours	<p>1.Formativ: The student may be assessed based on their active participation in the sessions. The respect and the manner in which students handle biologic tissue throughout the phase may be part of the overall formative assessment of the student.</p>

II	08	35	Formative: Participation in session 2 and Performance in session 3 may be used as part of formative assessment
1.The foundations of communication	Demonstrate ability to communicate to patients in a patient, respectful, non threatening, non- judgemental and empathetic manner	5 (1 + 2 +2)	
2.The foundations of bioethics	<ul style="list-style-type: none"> Describe and discuss the role of non maleficence as a guiding principle in patient care Describe and discuss the role of autonomy and shared responsibility as a guiding principle in patient care Describe and discuss the role of beneficence of a guiding principle in patient care Describe and discuss the role of a physician in health care system Describe and discuss the role of justice as a guiding principle in patient care 	02	Summative: Short notes on a) Autonomy b) Beneficence c) Non maleficence
3.Health care as a right	Describe and discuss the role of justice as a guiding principle in patient care	02	Summative: Short note on a) barriers to implementation of health care as a universal right
4.Working in a health care team	Demonstrate ability to work in a team of peers and superiors Demonstrate respect in relationship with patients, fellow team members, superiors and other health care workers	6 hours (4 hours tag along + 2 hours discussion)	Formative: Student participation in session 2 with assessment of submitted narrative

	<p>5. Bioethics continued - Case studies on patient autonomy and decision making</p>	<p>Identify discuss and defend medico-legal socio-cultural and ethical issues as it pertains to patient autonomy, patient rights and shared responsibility in health care</p>	<p>06</p>	<p>1. Formative: The student may be assessed based on their active participation in the sessions 2. Summative: Short questions on 1) Define patient autonomy 2) Contrast autonomy and paternalism 3) What are the responsibilities of patients and doctors in shared decision making 4) What is full and reasonable disclosure?</p>
	<p>6. Bioethics continued: Case studies on autonomy and decision making</p>	<p>Identify discuss and defend medico-legal socio-cultural and ethical issues as it pertains to refusal of care including do not resuscitate and withdrawal of life support</p>	<p>05</p>	<p>1. Formative: The student may be assessed based on their active participation in the sessions 2. Summative: Short questions on 1) What determines decision making capacity and competency, 2) Who has the right to make decisions for a patient who cannot determine for himself</p>

	7. Bioethics continued: Case studies on autonomy and decision making	Identify discuss and defend medico-legal socio-cultural and ethical issues as it pertains to consent for surgical procedures	05	1. Formative: The student may be assessed based on their active participation in the sessions 2. Summative: Short questions on 1) What is informed consent? 2) What is informed refusal
	8. What does it mean to be a family member of a sick patient		6 (includes 2 hours of SDL)	1. Formative: The student may be assessed based on their active participation in the sessions and submission of the written narrative 2. Summative: Short questions on the role of doctors in the community and expectations of society from doctors
III		05	25	
	1. The foundations of communication	Demonstrate ability to communicate to patients in a patient, respectful, non-threatening, non-judgemental and empathetic manner	5 (1 + 2 + 2)	1. Formative: Participation in session 2 and Performance in session 3 may be used as part of formative assessment
	2. Case studies in bioethics - Disclosure of medical errors	Demonstrates an understanding of the implications and the appropriate procedure and response to be followed in the event of medical errors	05	1. Formative: The student may be assessed based on their active participation in the sessions including role play on disclosure of errors 2. Summative: Short questions on 1) What is the ethical standard in dealing with medical errors

	3.The foundations of communication	<ul style="list-style-type: none"> • Demonstrate ability to communicate to patients in a patient, respectful, non threatening, non judgemental 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 	5 (1 + 2 +2)	<p>1.Formative: Participation in session 2 and Performance in session 3 may be used as part of formative assessment</p> <p>2.Summative: A skill station in which the student may administer informed consent to a standardized patient</p>
4. Case studies in bioethics - Confidentiality	Identify discuss and defend medico-legal socio-cultural and ethical issues as it pertains to confidentiality in patient care	05	<p>1.Formative: The student may be assessed based on their active participation in the sessions</p> <p>2.Summative: Short questions on 1) What are instances in which confidentiality of patient information may be breached</p>	

	5. Case studies in bioethics - Fiduciary duty	<ul style="list-style-type: none"> Identify, discuss and defend medico-legal socio-cultural professional and ethical issues as it pertains to the doctor patient relationship (including fiduciary duty) Identify, discuss doctor's role and responsibility to society and the community that she/ he serves 	05	<p>1. Formative: The student may be assessed based on their active participation in the sessions</p> <p>2. Summative: Short questions on What is fiduciary duty?</p>
IV		09	45	
	1. The foundations of communication	<ul style="list-style-type: none"> Demonstrate ability to communicate to patients in a patient, respectful, non threatening, non judgemental and empathetic manner Communicate diagnostic and therapeutic options to patient and family in a simulated environment 	7 (1 + 2 + 4)	<p>1. Formative: Participation in session 2 and Performance in session 3 may be used as part of formative assessment</p> <p>2. Summative: A skill station in which the student may communicate a diagnosis management plan and prognosis to a patient</p>
	2. Case studies in medico-legal and ethical situations	Identify discuss and defend medico-legal socioeconomic and ethical issues as it pertains to abortion / medical termination of pregnancy and reproductive rights	05	<p>1. Formative: The student may be assessed based on their active participation in the sessions</p> <p>2. Summative: Short questions on the medical termination of pregnancy act</p>

	3. Case studies in medico-legal and ethical situations	Identify discuss medico-legal socioeconomic and ethical issues as it pertains to organ donation	05	1. Formative: The student may be assessed based on their active participation in the sessions 2. Summative: Short questions on 1) the organ transplantation act
	4. Case studies in ethics empathy and the doctor-patient relationship	<ul style="list-style-type: none"> • Demonstrate empathy in patient encounters • Communicate care options to patient and family with a terminal illness in a simulated environment 	05	1. Formative: The student may be assessed based on their active participation in the sessions 2. Summative: Short questions on 1) Empathy 2) Doctor responsibilities in the doctor patient relationship 3) Doctor's responsibilities in the Care of the terminally ill patient
	5. Case studies in ethics and the doctor - industry relationship	Identify discuss and defend medico-legal socio-cultural professional and ethical issues as it pertains to the doctor - industry relationships	05	1. Formative: The student may be assessed based on their active participation in the sessions 2. Summative: Short questions on 1) Can doctors accept gifts from pharmaceutical industry? Explain your choice

	6. Case studies in ethics and the doctor - industry relationship	Identifies conflicts of interest in patient care and professional relationships and describes the correct response to these conflicts	05	1. Formative: The student may be assessed based on their active participation in the sessions 2. Summative: Short questions on 1) Fee splitting and its implications for patient care 2) conflicts in professional relationships
	7. Case studies in ethics and patient autonomy	Identify discuss and defend medico-legal socio-cultural and ethical issues as it pertains to health care in children	05	1. Formative: The student may be assessed based on their active participation in the sessions 2. Summative: Short questions on 1) Parental consent
	8. Dealing with death		05 Case discussion	1. Formative: Participation in sessions may be used as part of formative assessment. Submitted narrative on the socio cultural aspects of death may be used as assessment. 2. Summative: Short question on 1) Assisted dying
	9. Medical Negligence	<ul style="list-style-type: none"> Identify, discuss and defend medico-legal, socio-cultural professional and ethical issues pertaining to medical negligence Identify, discuss and defend medico-legal, socio-cultural professional and ethical issues pertaining to malpractice 	04	1. Formative: Submitted summary may be used as assessment 2. Summative: Short question on 1) medical negligence

SECTION IV

Phase wise training & Time distribution

Table 4: Course Outline

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

- Every learner shall undergo a period of certified study extending over 4 ½ academic years 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.
- 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.
- 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.
- The period of 4 ½ years is divided as follows:

Table 5: DISTRIBUTION OF SUBJECTS BY PROFESSIONAL PHASE

Phase and Year of MBBS Training	Subjects and new teaching elements	Duration	University examination
First professional MBBS	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • General Medicine ,General Surgery, OBG, Paediatrics, Orthopaedics, Dermatology, Pyschiatry, Otorhinolaryngology, • Ophthalmology, Community Medicine, Forensic Medicine and Toxicology, Respiratory Medicine, Radiodiagnosis & Radiotherapy, Anaesthesiology • Clinical Subjects /postings • AETCOM 	12 months	III Professional-part I
Electives	<ul style="list-style-type: none"> • Electives ,skills and assessment 	2 months	
Third professional MBBS-part II	<ul style="list-style-type: none"> • 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

Teaching Hours**Table 6: First professional year teaching hours**

Subjects	Lecture	Small group teaching	SDL	Total Hours
Anatomy	220	415	40	675
Physiology	160	310	25	495

Biochemis-try (Including Molecular biology)	80	150	20	250
Early clinical exposure	90(30 hrs for each subjects)	---	---	90
Community medicine	20	27	5	52
AETCOM (Longitudinal Program)	---	26	8	34
Sports & extracurricular activities	---	---	---	60
Assessment				80
Total				1736

Table 7: Second professional year teaching hours

Subjects	Lecture	Small group teaching	SDL	Clinical postings	Total Hours
Pathology	80	138	12	---	230
Pharmacology	80	138	12	---	230
Microbiology	70	110	10	---	190
Forensic medicine	15	30	05	---	50
Community medicine	20	30	10	---	60
Clinical subjects	75 (25 hours each for Medicine, Surgery and Gynecology & Obstetrics)	---	---	540	615
AETCOM		29	08		37
Sports & extracurricular activities			28		28
Total					1440

Note:

- At least 3 hours of clinical postings in each week must be allotted to training in

clinical and procedural skill laboratories. Hours may be distributed weekly or as a block in each posting based on institutional logistics.

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

Table 8: Third professional year part I teaching hours

Subjects	Lecture	Small group teaching/ Clinical postings/ Integrated teaching	SDL	Total Hours
Forensic Medicine	25	45	05	75
Community medicine	40	60	05	105
ENT	25	40	05	70
Ophthalmology	30	60	10	100
General medicine	25	35	05	65
Surgery	25	35	05	65
OBG	25	35	05	65
Paediatrics	20	30	05	55
Orthopaedics	15	20	05	40
Dermatology	20	05	05	30
Psychiatry	25	10	05	40
Respiratory medicine	10	08	05	20
Radiology	10	08	02	20
Anesthesiology	08	10	02	20
Clinical postings	---	---	---	756
AETCOM	---	19	06	25
Total	303	401	66	1551

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

Table 9: Third professional year part II teaching hours

Subjects	Lecture	Small group teaching/ tutorials/Integrated teaching	SDL	Total Hours
General medicine	70	125	15	210
Surgery	70	125	15	210
OBG	70	125	15	210
Paediatrics	20	35	10	65
Orthopaedics	20	25	05	50
Clinical subjects	---	---	---	792
AETCOM	28	---	16	43

Electives	---	---	---	200
Total	250	435	60	1780

Note:

- 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 (3 hrs per day from Monday to Saturday).
- Hours from clinical postings can also be used for AETCOM modules.

Table 9: Clinical postings

Subjects	Period of training in weeks			
	II MBBS	III MBBS part I	III MBBS part II	Total weeks
Electives	---	---	08(4 regular post-ings)	08
General medicine (Includes Laboratory Medicine (Para-clinical) & Infectious Diseases (Phase III Part I).	04	04	08+04	20
Surgery	04	04	08+04	20
OBG (Includes maternity training and family welfare including Family Planning)	04	04	08+04	20
Paediatrics	02	04	04	10
Orthopaedics (Including trauma, Physical Medicine and Rehabilitation)	02	04	04	10
Community medicine	04	06	---	10
ENT	04	04	---	08
Ophthalmology	04	04	---	08
Respiratory medicine	02	---	---	02
Psychiatry	02	02	---	04
Radiology (Includes Radiotherapy)	02	---	---	02
Dermatology	02	02	02	06
Dentistry & anesthesia	---	02	---	02
Casualty	---	02	---	02
Total	36	42	48	126

- 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.

- The admission shall be made strictly in accordance with the statutory notified time schedule towards the same.
- 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.
- 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.
- A learner shall not be entitled to graduate later than ten (10) years of her/his joining the first MBBS course.
- 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.
- 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 for third Professional (Part II) examination.
- During para-clinical and clinical phases, including prescribed 2 months of electives, clinical postings of three hours duration daily as specified in Tables 5, 6, 7 and 8 would apply for various departments.

ATTENDANCE

- 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 student must have 75% attendance in theory and 80% in practical in each phase of instruction in that subject.
- 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.
- Learners who do not have at least 75% attendance in the electives will not be eligible for the Third Professional - Part II examination. (vide Medical Council of India Notification on Graduate Medical Education (Amendment) Regulations 2019, published in the Gazette of India Part III, Section 4, Extraordinary issued on 4th November 2019)
- The Principal should notify at the College the attendance details at the end of each term without fail under intimation to this University.
- A candidate lacking in the prescribed attendance and progress in any subject(s) in theory or practical should not be permitted to appear for the examination in that subject(s) duly certified by principal of Medical college.
- Final internal examination should be prelims of pre university examination pattern.

SECTION V

Assessment

Internal Assessment

- 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.
- 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 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
- Questions on ECE and AETCOM in Internal Assessments must be assessed by the faculty of the respective pre-clinical departments (Anatomy/ Physiology/ Biochemistry)
- An average of the marks scored in the three internal assessment examinations will be considered as the final internal assessment marks.
- Internal assessment marks will reflect under separate head in the marks card of the university examination. The internal assessment marks (theory/practical) will not be added to the marks secured (theory/practical) in the university examination for consideration of pass criteria.
- The results of IA should be displayed on the notice board within a 1-2 week of the test.
- The grace marks up to a maximum of five marks may be awarded at the discretion of the University to a learner for clearing the examination as a whole but not for clearing a subject resulting in exemption.
- ECE assessment should be included subject wise
- There should be at least one short question from AETCOM in each subject
- One of the tests in all subjects should be prelim or pre-university examination
- Assessment of electives to be included in IA
- The internal assessment marks for each subject will be out of 100 for theory and out of 100 for practical/clinical (except in General Medicine, General Surgery and Obstetrics & Gynaecology, in which theory and clinical will be of 200 marks each).
- 25% of weightage in theory tests in General Medicine and General Surgery should be given to allied subjects and there should be at least one question from each allied subject.
- After final internal assessment examination one internal exam will be conducted as a remedial measure for candidates who has not secured requisite aggregate marks and for those candidates who has remained absent with genuine reason & duly certified by principal of medical college.
- Final internal examination should be prelim or pre-university examination pattern.

Eligibility to appear for Professional examinations

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

a. Attendance

- 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.
- 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.
- 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:

- Learners must secure not less than 40 % marks in theory and practical separately and not less than 50% marks of the total marks (combined in theory and practical) assigned for internal assessment in a particular subject in order to be eligible for appearing at the final University examination of that subject.
- A candidate who has not secured requisite aggregate in the internal assessment may be subjected to remedial measures by the institution. If he/she successfully completes the remediation measures, he/she is eligible to appear for University Examination. Remedial measures shall be completed before submitting the internal assessment marks online to the university.
- Learners must have completed the required certifiable competencies for that phase of training and completed the logbook appropriate for that phase of training to be eligible for appearing at the final university examination of that subject.

UNIVERSITY EXAMINATION

(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 (September).
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.
3. Supplementary exam will be held within 30 days of declaration of results.

(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 (September)

(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 (October)
 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 & Gynecology and Pediatrics (January). The discipline of Orthopedics, Anesthesiology, 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.
- Examination schedule is in Table 4.
 - Marks distribution

Table 10: Marks distribution

Table Phase of Course	Written-Theory - Total	Practicals/Orals/ Clinicals	Pass Criteria
First Professional			<u>Internal Assessment:</u> 50% combined in theory and practical (not less than 40% in each) for eligibility for appearing 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			
Forensic Medicine & Toxicology - 1 paper	100	100	
Ophthalmology – 1 paper	100	100	<u>University Examination</u> Mandatory 50% marks separately in theory and practical (practical = practical/ clinical + viva)
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	

General guidelines

- University examinations are to be designed with a view to ascertain whether the candidate has acquired the necessary knowledge, minimal level of skills, ethical and professional values with clear concepts of the fundamentals which

are necessary for him/her to function effectively and appropriately as a physician of first contact. Assessment shall be carried out on an objective basis to the extent possible.

- Nature of questions will include different types such as structured essays (Long Answer Questions - LAQ), Short Essays and Short Answers Questions (SAQ). Marks for each part should be indicated separately.
- The learner must secure at least 40% marks in each of the two papers with minimum 50% of marks in aggregate (both papers together) to pass.
- Practical/clinical examinations will be conducted in the laboratories. The objective will be to assess proficiency and skills to conduct experiments, clinical examination, interpret data and form logical conclusion, wherever applicable.
- Viva/oral examination should assess candidate's skill in analysis and interpretation of common investigative data, X-rays, identification of specimens, ECG, etc. [wherever applicable] and attitudinal, ethical and professional values.
- 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.
- 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 phase I university examination.
- A learner shall not be entitled to graduate after 10 years of his/her joining of the first part of the MBBS course.
- Phase 1 university examination
- 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.
- 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.

I. SUBMISSION OF LABORATORY RECORD

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

CRITERIA FOR PASS

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

- The Theory component consists of marks obtained in University Written papers only. For a pass in theory, a candidate must secure at least 40% marks in each of the two papers with minimum 50% of marks in aggregate (both papers together).

- For a pass in practical examination, a candidate shall secure not less than 50% marks in aggregate, i.e., marks obtained in university practical examination and viva voce added together.
- Internal assessment marks will reflect as a separate head of passing at the university examination.
- A candidate not securing 50% marks in aggregate in Theory or Practical examination + viva in a subject shall be declared to have failed in that subject and is required to appear for both Theory and Practical again in the subsequent examination in that subject.
 - The grace marks up to a maximum of five marks may be awarded at the discretion of the University to a learner for clearing the examination as a whole but not for clearing a subject resulting in exemption.

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 (university examination + internal assessment) 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 (university examination + internal assessment) 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 (university examination + internal assessment) prescribed will be declared to have passed the examination in Pass Class.
- d. A candidate passing a university examination in more than one attempt shall be placed in Pass class irrespective of the percentage of marks secured by him/her in the examination.

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

Appointment of Examiners

- a. Person appointed as an examiner in the particular subject must have at least four years of total teaching experience as assistant professor after obtaining postgraduate degree in the subject in a college affiliated to a recognized/ approved/ permitted medical college.
- b. For the Practical/ Clinical examinations, there shall be at least four examiners for 100 learners, out of whom not less than 50% must be external examiners. Of the four examiners, the senior-most internal examiner will act as the Chairman and coordinator of the whole examination programme so that uniformity in the matter of assessment of candidates is maintained. Where candidates appearing are more than 100, two additional examiners (one external & one internal) for every additional 50 or part there of candidates appearing, be appointed.
- c. In case of non-availability of medical teachers, approved teachers without a medical degree (engaged in the teaching of MBBS students as whole-time

teachers in a recognized medical college), may be appointed examiners in their concerned subjects provided they possess requisite doctorate qualifications and four years teaching experience (as assistant professors) of MBBS students. Provided further that the 50% of the examiners (Internal & External) are from the medical qualification stream.

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

SECTION VI

Internship

Internship is a phase of training wherein a graduate will acquire the skills and competencies for practice of medical and health care under supervision so that he/she can be certified for independent medical practice as an Indian Medical Graduate. In order to make trained work force available, it may be considered as a phase of training wherein the graduate is expected to conduct actual practice under the supervision of a trained doctor. The learning methods and modalities have to be done during the MBBS course itself with larger number of hands on session and practice on simulators.

Goal:

The goal of the internship programme is to train medical students to fulfill their roles as doctors of first contact in the community

Objectives:

At the end of the internship period, the medical graduate will possess all competencies required of an Indian Medical Graduate, namely:

- Independently provide preventive, promotive, curative and palliative care with compassion,
- Function as leader and member of the health care team and health system,
- Communicate effectively with patients, families, colleagues and the community,
- Be certified in diagnostic and therapeutic skills in different disciplines of medicine taught in the undergraduate programme,
- Be a lifelong learner committed to continuous improvement of skills and knowledge,
- Be a professional committed to excellence and is ethical, responsive and accountable to patients, community and profession.

Time Distribution

Community Medicine (Residential posting)	2 months
General Medicine including 15 days of Psychiatry	2 months
General Surgery including 15 days Anaesthesia	2 months
Obstetrics & Gynaecology including Family Welfare Planning	2 months
Pediatrics	1 month
Orthopaedics including PM & R	1 month
Otorhinolaryngology	15 days
Ophthalmology	15 days
Casualty	15 days

Elective posting (1x15 days)

15 days Subjects for Elective posting will be as follows:

1. Dermatology, Venereology & Leprosy
2. Respiratory Medicine
3. Radio diagnosis
4. Forensic Medicine & Toxicology
5. Blood Bank
6. Psychiatry

Note: Structured internship with assessment at the end of complete training shall be conducted in the qualifying medical college.

Guidelines for Internship:

- The core rotations of the internship shall be done in primary and secondary/tertiary care institutions in India. In case of any difficulties, the matter may be referred to the Medical Council of India to be considered on individual merit.
- Every candidate will be required after passing the final MBBS examination to undergo compulsory rotational internship to the satisfaction of the College authorities and University concerned for a period of 12 months so as to be eligible for the award of the degree of Bachelor of Medicine and Bachelor of Surgery (MBBS) and full registration.
- The University shall issue a provisional MBBS pass certificate on passing the final examination.
- The State Medical Council will grant provisional registration to the candidate upon production of the provisional MBBS pass certificate. The provisional registration will be for a period of one year. In the event of the shortage or unsatisfactory work, the period of provisional registration and the compulsory rotating internship shall be suitably extended by the appropriate authorities.
- The intern shall be entrusted with clinical responsibilities under direct supervision of a designated supervising physician. They shall not work independently.
- Interns will not issue medical certificate or death certificate or other medico-legal document under their signature.
- Each medical college must ensure that the student gets learning experience in primary/secondary and urban/rural centers in order to provide a diverse learning experience and facilitate the implementation of national health programmes/priorities. These shall include community and outreach activities, collaboration with rural and urban community health centers, participation in government health missions etc.
- One year's approved service in the Armed Forces Medical Services, after passing the final MBBS examination shall be considered as equivalent to the pre-registration training detailed above; such training shall, as far as possible, be at the Base/General Hospital. The training in Community Medicine should fulfill the norms of the MCI as proposed above.
- In recognition of the importance of hands-on experience, full responsibility for patient care and skill acquisition, internship should be increasingly scheduled to utilize clinical facilities available in District Hospital, Taluka Hospital, Community Health Centre and Primary Health Centre, in addition to Teaching Hospital. A critical element of internship will be the acquisition of specific experiences and skill as listed in major areas: provided that where an intern is posted to District/Sub Divisional Hospital for training, there shall be a committee consisting of representatives of the college/University, the State Government and the District administration, who shall regulate the training of such trainee. Provided further that, for such trainee a certificate of satisfactory completion of training shall be obtained from the relevant administrative authorities which shall be countersigned by the Principal/Dean of College.
- A village attachment of at least one week to understand issues of community health along with exposure to village health centres, ASHA Sub Centres should be added.
- All interns should undergo Basic and Advanced Life Support Skills Training Program

Leave Entitlement of Interns:

- The total number of casual leaves (including sick leave etc.) allowed for the year is 12 days (maximum)= ONE leave per month
- For any leave / absence exceeding the above, Interns will be required to repeat posting in that department
- They cannot take more than 4 days leave at a time.
- All leave taken must be entered and signed under seal by Head of the Departments/Units

When to start internship:

- The interns will require to join immediately after passing the MBBS examination, but they will not be allowed to join the same beyond 3 months.
- However, such cases will be considered on its merit by the Dean.

Time Limit For Internship Completion:

- Internship should be completed within the stipulated period of 1 year and not later than 24 MONTHS after passing the final year examination.
- JSSAHER may permit Internship beyond this period under extraordinary circumstances.

Stipulation for repeat posting:

- 1)Unsatisfactory performance.
- 2)Prolonged illness, Medical Certificate must be validated by a Medical Board set up by the Institution, where rotatory internship is being undertaken.
- 3)Number of interruptions should not be more than 2 times in the internship period including the extension postings

Extension of internship:

- Extension duration must be in continuity to the previous anticipated date of completion of internship.
- Planned discontinuity in internship duration will not be allowed.
- Such a discontinuity will be allowed in exceptional circumstance such as illness or bereavement in the immediate family etc.
- Allowing such exceptions will be at the discretion of the Director/ Dean (Academics).

Candidates willing to do Internship outside JSS Medical College:

- Permission from the institutions where the student wishes to do internship
- Certificate from MCI that the hospital/institution is recognized for undergoing internship training Permission from the University of JSSAHER
- Documentary proof of the reason for doing internship from outside JSS MEDICAL COLLEGE constitute a committee to recommend
- Internship in Community Medicine must be completed within the institution
- Externship in multiple institutes will not be permitted

Assessment of Internship:

- The intern shall maintain a record of work in a log book, which is to be verified and certified by the medical officer under whom he/she works. Apart from scrutiny of the record of work, assessment and evaluation of training shall be undertaken by an objective approach using situation tests in knowledge, skills

and attitude during and at the end of the training.

- Objective approach using tests in knowledge, skills and attitude

A Score of less than 3 in any of below items will represent unsatisfactory completion of internship

- a. Proficiency of knowledge required for each case Score0-5
- b. The level of competence attained to manage cases in relation to
 - i. Management of cases independently
 - ii. Assistance in procedures
 - iii. Observation of Procedures Score0-5
- c. Responsibility, punctuality, work up of Case, involvement in Treatment, follow-up reports Score0-5
- d. Capacity to work in a team (Behaviour with Colleagues, nursing staff and relationship with paramedical) Score0-5
- e. Initiative participation in discussion, research aptitude Score0-5

Very poor	poor	Below Average	Average	Good	Very Good and above
0	1	2	3	4	5

- Based on the record of work and objective assessment at the end of each posting, the Dean/Principal shall issue cumulative certificate of satisfactory completion of training at the end of internship, following which the University shall award the MBBS degree or declare him eligible for it.
- Full registration shall only be given by the State Medical Council/Medical Council of India on the award of the MBBS degree by the University or its declaration that the candidate is eligible for it.

