Sankalchand Patel University, Visnagar

ANATOMY

Curriculum and Examinations Regulation

1st MBBS

General Information

Name of the course: BACHELOR OF MEDICINE AND BACHELOR OF SURGERY

Short Title: MBBS Course

Duration of Course:

Total Duration: 4½ Years + 1 year internship.

			Subjects	Duration
1	First MBBS		(1) Human Anatomy (2) Human Physiology (3) Biochemistry	1 Year
2	Second MBBS		(1) Pathology (2) Microbiology (3) Pharmacology (4) Forensic Medicine	1½ Years
3	Third MBBS	Part I	(1) Ophthalmology (2) Oto-Rhino-Laryngology (ENT) (3) Community Medicine	1 Year
		Part II	(1) Medicine (2) General Surgery (3) Obstretrics & Gynecology (4) Paediatrics	1 Year
			Total	4½ Years
4	Internship			1 Year

Admission Criteria for MBBS Course:

The Medical Council of India is the apex body for regulations of MBBS studies in India. The Graduate Medical Act 1997, describes details of eligibility, competitive examination and admission rules. It also publishes Amendments thereof from time to time in the Gazette of India. (www.mciindia.org) In accordance with the above MCI act the Government of Gujarat has issued notification NO. GP-11-MCG-1008-931-J & NO. GP-16- MCG-2009-810396-J: for the admission in medical courses in the state of Gujarat.

In exercise of the powers conferred by sub-section (1) of section 20 read with section 4 of the Gujarat Professional Medical Educational Colleges or Institutions (Regulation of Admission and Fixation of Fees) Act, 2007 (Guj.3 of 2008) and in super session of all the rules made in this behalf, the Government of Gujarat hereby makes the following rules to regulate admission to the first year of the Professional Medical Educational Courses and payment of fees through.

The ADMISSION COMMITTEE FOR PROFESSIONAL MEDICAL EDUCATIONAL COURSES,

C/o. DEAN, B.J. MEDICAL COLLEGE

AHMEDABAD – 380 016

Website : www.medadmbjmc.in

ADMISSION, SELECTION, MIGRATION & TRAINING:-

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 (MBBS) Course until:

(1) He/she shall complete the age of 17 years on or before 31st December of the year of admission to the MBBS Course.

(2) 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.

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/pre-medical 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) 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 including practical test in each of these subjects and English.

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.

3. 3% seats of the annual sanctioned intake capacity shall be filled up by candidates with locomotory disability of lower limbs between 50% to 70%.

Provided that in case any seat in this 3% quota remains unfilled on account of unavailability of candidates with locomotory disability of lower limbs between 50% to 70% then any such unfilled seat in this 3% quota shall be filled up by persons with locomotory disability of lower limbs between 40% to 50% - before they are included in the annual sanctioned seats for General Category candidates.

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 30th of September.

Selection to Students:- The selection of students to medical college shall be based solely on merit of the candidate and for determination of merit, the following criteria be adopted uniformly throughout the country:

(1) In states, having only one Medical College and one university / board/examining body conducting the qualifying examination, the marks obtained at such qualifying examination may be taken into consideration.

(2) In states, having more than one university/board/examining body conducting the qualifying examination (or where there is more than one medical college under the administrative control of one authority) acompetitive entrance examination should be held so as to achieve a uniform evaluation as there may be variation of standards at qualifying examinations conducted by different agencies.

(3) Where there are more than one college in a state and only one university/board conducting the qualifying examination, then a joint selection board be constituted for all the colleges.

(4) A competitive entrance examination is absolutely necessary in the cases of Institutions of All India character.

(5) Procedure for selection to MBBS course shall be as follows :-

(i) In case of admission on the basis of qualifying examination under Clause(1) based on merit, candidate for admission to MBBS course must have passed in the subjects of Physics, Chemistry, Biology & English individually and must have obtained a minimum of 50% marks taken together in Physics, Chemistry, and Biology at the qualifying examination as mentioned in Clause(2) of regulation 4. In respect of candidates belonging to Scheduled Castes, Scheduled Tribes or Other Backward Classes, the marks obtained in Physics, Chemistry and Biology taken together in qualifying examination be 40% instead of 50% as above.

(ii) In case of admission on the basis of competitive entrance examination under Clause (2) to (4) of this regulation, a candidate must have passed in the subjects of Physics, Chemistry, Biology and English individually and must have obtained a minimum of 50% marks taken together in Physics, Chemistry & Biology at the qualifying examination as mentioned in Clause (2) of Regulation 4 and in addition must have come in the merit list prepared as a result of such competitive entrance examination by securing not less than 50% marks in Physics, Chemistry and Biology taken together in the

competitive examination. In respect of candidates belonging to Scheduled Castes, Scheduled Tribes or other Backward Classes the marks obtained in Physics, Chemistry and Biology taken together in qualifying examination and competitive entrance examination be 40% instead of 50% as stated above.

Provided that a candidate who has appeared in the qualifying examination the result of which has not been declared, he may be provisionally permitted to take up the competitive entrance examination and in case of selection for admission to the MBBS course, he shall not be admitted to that course until he fulfils the eligibility criteria under Regulation 4.

Migration:-

(1) 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.
(2) Migration of students from one College to another is permissible only if both the colleges are recognized 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.
(3) 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.
(4) 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 it 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) along with 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.
(5) 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."

TRAINING PERIOD AND TIME DISTRIBUTION

(1) Every student shall undergo a period of certified study extending over 4 ½ academic years divided into 9 semesters,(i.e. of 6 months each) from the date of commencement of his study for the subjects comprising the medical curriculum to the date of completion of the examination and followed by one

year compulsory rotating internship. Each semester will consist of approximately 120 teaching days of 8 hours each college working time, including one hour of lunch.

(2) The period of 4 ½ years is divided into three phases as follows :-

(a) **Phase-1** (two semesters) - consisting of Pre-clinical subjects (Human Anatomy, Human Physiology, Bio- chemistry and introduction to Community Medicine including Humanities). Besides 60 hours for introduction to Community Medicine including Humanities, rest of the time shall be somewhat equally divided between Anatomy and Physiology plus Biochemistry combined (Physiology 2/3 & Biochemistry 1/3).

(b) **Phase-II** (3 semesters) - consisting of para-clinical/ clinical subjects.

During this phase teaching of para-clinical and clinical subjects shall be done concurrently.

The para-clinical subjects shall consist of Pathology, Pharmacology, Microbiology, Forensic Medicine including Toxicology and part of Community Medicine.

The clinical subjects shall consist of all those detailed below in Phase III.

Out of the time for Para-clinical teaching approximately equal time be allotted to Pathology, Pharmacology, Microbiology and Forensic Medicine and Community Medicine combined (1/3 Forensic Medicine & 2/3 Community Medicine). See Appendix-C.

(c) **Phase-III** (Continuation of study of clinical subjects for seven semesters after passing Phase-I)

The clinical subjects to be taught during Phase II & III are Medicine and its allied specialties, Surgery and its allied specialties, Obstetrics and Gynaecology and Community Medicine.

Besides clinical posting as per schedule mentioned herewith, rest of the teaching hours be divided for didactic lectures, demonstrations, seminars, group discussions etc. in various subjects. The time distribution shall be as per Appendix-C.

The Medicine and its allied specialties training will include General Medicine, Paediatrics, Tuberculosis and Chest, Skin and Sexually Transmitted Diseases, Psychiatry, Radio-diagnosis, Infectious diseases etc. The Surgery and its allied specialties training will include General Surgery, Orthopaedic Surgery including Physio-therapy and Rehabilitation, Ophthalmology, Otorhinolaryngology, Anaesthesia, Dentistry, Radio-therapy etc. The Obstetrics & Gynaecology training will include family medicine, family welfare planning etc.

(3) The first 2 semester (approximatly 240 teaching days) shall be occupied in the Phase I (Pre-clinical) subjects and introduction to a broader understanding of the perspectives of medical education leading to delivery of health care. No student shall be permitted to join the Phase II (Para-clinical/clinical) group of subjects until he has passed in all the Phase I (Pre-clinical subjects).

(4) After passing pre-clinical subjects, 1 ½ year (3 semesters) shall be devoted to para-clinical subjects. Phase II will be devoted to para-clinical & clinical subjects, along with clinical postings. During clinical phase (Phase III) pre-clinical and para-clinical teaching will be integrated into the teaching of clinical subjects where relevant.

(5) Didactic lectures should not exceed one third of the time schedule; two third schedule should include practicals, clinicals or/and group discussions. Learning process should include living experiences, problem oriented approach, case studies and community health care activities.
(6) Universities shall organize admission timings and admission process in such a way that teaching in first semester starts by 1st of August each year.
(7) Supplementary examination may be conducted within 6 months so that the students who pass can join the main batch and the failed students will have to appear in the subsequent year.

Phase Distribution and Timing of Examinations:

	Semester (Each of 6 months)			Total Duration (Years)	Comment
Ist MBBS	1st	2nd	-	1	Ist professional Examination (during second semester)
IInd MBBS	3rd	4th	5th	1 ½	IInd professional examination (during fifth semester)
IIIrd MBBS Part I	6th	7th	-	2	IIIrd professional Part I (during 7th semester)
IIIrd MBBS Part II	8th	9th	-		IIIrd professional Part II (Final professional)
				4 ½	
Internship				1	-

Note:-

a) Passing in 1st Professional is compulsory before proceeding to Phase II training.

b) A student who fails in the 2nd professional examination will not be allowed to appear 3rd Professional Part I examination unless he passes all subjects of 2nd Professional examination.

c) Passing in IIIrd Professional (Part I) examination is not compulsory before entering for 8th & 9th semester training, however passing of 3rd Professional (Part I) is compulsory for being eligible for 3rd Professional (Part II) examination.

ANATOMY CURRICULUM

(1st MBBS)

Prescribed Teaching Hours and Suggested Model Time Tables:-

Following minimum teaching hours are prescribed in various disciplines:

A. **Pre-Clinical Subjects :** (Phase-1-First and Second Semester)

Anatomy	**650 Hrs.**
Physiology	**480 Hrs.**
Biochemistry	**240 Hrs.**
Community Medicine	**60 Hrs.**

Pre-clinical subjects - Phase I : In the teaching of these subjects stress shall be laid on basic principles of the subjects with more emphasis on their applied aspects.

Subject: (1) HUMAN ANATOMY

(i) Goal

The broad goal of the teaching of undergraduate students in Anatomy aims at providing comprehensive knowledge of the gross and microscopic structure and development of human body to provide a basis for understanding the clinical correlation of organs or structures involved and the anatomical basis for the disease presentations.

(ii) Objectives :

(A) Knowledge :

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

(a) comprehend the normal disposition, clinically relevant interrelationships, functional and cross sectional anatomy of the various structures in the body.

(b) identify the microscopic structure and correlate elementary ultra-structure of various organs and tissues and correlate the structure with the functions as a prerequisite for understanding the altered state in various disease processes.

(c) comprehend the basic structure and connections of the central nervous system to analyse the integrative and regulative functions of the organs and systems. He/She should be able to locate the site of gross lesions according to the deficits encountered.

(d) demonstrate knowledge of the basic principles and sequential development of the organs and systems, recognise the critical stages of development and the effects of common teratogens, genetic mutations and environmental hazards. He/She should be able to explain the developmental basis of the major variations and abnormalities.

(B) Skills :

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

(a) identify and locate all the structures of the body and mark the topography of the living anatomy.
(b) identify the organs and tissues under the microscope.
(c) understand the principles of karyotyping and identify the gross congenital anomalies.
(d) understand principles of newer imaging techniques and interpretation of Computerised Tomography (CT) Scan, Sonogram etc.
(e) understand clinical basis of some common clinical procedures i.e., intramuscular & intravenousinjection, lumbar puncture and kidney biopsy etc.

(C) Integration

From the integrated teaching of other basic sciences, student should be able to comprehend the regulation and integration of the functions of the organs and systems in the body and thus interpret the anatomical basis of disease process.

Teaching Schedule (Anatomy)

METHODOLOGY

(For duration of the entire course**)**

Total working hrs : 650 hrs.
(Including Lectures, Practical, Tutorials, Demonstrations & Seminars)

		Number
1)	Examination	26
2)	Didactic Lectures	180
3)	Batch Lectures	08
4)	Dissection	230
5)	Tutorials	70
6)	Demonstration	18
7)	Histology practical	50
8)	Hospital visit	08
9)	Quiz	02
10)	Symposium	05
11)	Part Ending Test	29
12)	Revision	18
13)	Museum round	06

SYLLABUS (Anatomy)

GENERAL ANATOMY:

Introduction, Definition, Scope of anatomy, Terminology, General Information of tissues of the body i.e. skin, & its appendages, bone, cartilage and joint, muscle, fascia, bursa, and synovial sheath, blood-vessels, anastomosis collateral circulation, lymph nodes and lymphatic, nerve plexuses and ganglia etc. Medico-legal aspects and anatomy Concepts of Anthropology and racial anatomy.

GROSS ANATOMY: The students will dissect entire body region-wise and will attend & participate in lectures, tutorials, group discussions, quiz seminars, symposia etc., During dissection of each region students and teachers will keep following guidelines in mind:

SKIN: land marks, blood supply (major vessels),lymph nodes draining it, dermatomes, cutaneous innervation referred pain, sites of common clinical procedures.

FASCIA: Regional characteristics, name, thickening etc. fascial planes and spaces of clinical importance.

MUSCLES: Gross main bony attachments, exact nerve supply with root value and exact actions of all muscles of extremities, all diaphragms, muscles of eyeball and muscles of branchial origin of head and neck thoracic, abdominal and vertebral muscles should be taught as a 'group' without details of attachment. 'Relations' of very few main muscles should be expected from students. Contour forming muscles to be noted.

BONES: Bones should be taught and asked in skeletal only (rgional or entire skeletal).Structures attached and related to bones should be shown entirely. More attachments of a structure should be more emphasized than many structures attached on one part. Land marks, movements on joints, sites of common fractures, biopsies etc. should be given more emphasis. Visceral vascular and nervous relations should be given more emphasis. Vertebral curvatures, intervertebral foramina, anomalies, injuries, movements and relations of vertebral column to be emphasized.

"TYPICAL' and 'ATYPICAL' characters of ribs and vertebrae should be shown on skeleton grossly. Numbers and side determination will be automatically non-significant . Sagittal section of the skull and interior of the cranium to be shown.

Pelvis for sex determination and age determination from radiograph should be shown for concept. Details of ossification centres are not required.
JOINTS: name, type and variety and type of the movements of all joints should be known. Movements, groups of muscles acting, innervation with root value and dislocation should be given more importance. All details of only very few main joints should be expected.

VESSELS: origin, course, branches, areas supplied by, anastomosis and termination of all main arteries should be known. Detailed relations of very few main arteries to be expected. Pulsations, catheterisation, angiography etc. to be emphasised. In case of veins, commencement, course, tributaries and areas drained by and termination of only main veins must be known. Detailed relations of very few main veins must be known. Portocaval and intercaval anastomosis, vertebral and pelvic venous plexus, i.v. injections, venography, venesections, catheterisation should be given more emphasis.

NERVES-PLEXUSES -GANGLIA: Origin, root value, course- branches, structures supplied by, lesions and its effects of all nerves should be known. However, detailed relations of very few main nerves should be known. Formation, draw and label & branches of Brachial and Lumbosacral plexus of nerves should be done. Autonomic peripheral pathways with ganglia and their lesions should be done.

ORGANS: Gross anatomy, gross development, common important anomalies, gross structure and major relations of all organs should be known. All details of very few main organs.

LYMPH NODES: & lymphatic drainage of entire skin & each organ must be known. Detailed lymphatic drainage of very few main organs/areas to be known.

SPACES_: areas such as triangles, pyramids, lozenges, fossae boxes etc. should be done in detail.
e.g. axilla, femoral triangle etc.

SEROUS MEMBRANES: Salient features of development, reflections, recesses, and applied aspects should be done.

SPECIAL SENSES AND PARANASAL AIR SINUSES: should be done in detail.

NEUROANATOMY Entire external features & blood supply of brain and spinal cord should be done in detail. Transverse sections of following structures should be done with an aim of identification of level and identification of each structure seen in the section.[Spinal cord, Medulla Oblongata, Pons and mid-brain with coronal and horizontal section of brain.] Ventricles, meninges, C.S.F., projection fibres (internal capsule) , main association fibres and main commissures should be known.Connections & location of Red Nucleus, Substantia Nigra, Olivary nucleus, nu. pontis,
Ventral nu., Tectum, Subthalamic and Hypothalamic nu. should be known. Special sensory, general sensory Pyramidal and Visceral pathways should be known. Lesions should be given more emphasis.

SURFACE ANATOMY:

DEAD: Students should be able to draw on mummy(or on black board with life size human drawing) main organs, points, nerves vessels and spaces of applied importance.

LIVING: 'stomies', pulsations, contours, actions of main muscles. Dermatome, landmarks, movements.

RADIOLOGICAL ANATOMY: Plain films, and special procedures. Of all regions should be shown. Clinical details, Preparation of the patient and type of the dye etc. need not be done Only anatomical aspects of the radiograph should be taught, asked and expected.

SECTIONAL ANATOMY & IMAGING TECHNIQUE: Films of the cat- scan and MRI ,ultra sonography of very few main standard levels and similarly few transverse , mid-sagittal and coronal sections of the body should be taught, asked and expected. Identify level and structures in these sections.

HISTOLOGY: Quick review of General histology with human orientation followed by systemic histology.General histology should provide structure and location while systemic study should enable the student to appreciate differential diagnosis & structure- function correlation. General plan and systemic characteristics should be given more importance. Knowledge of main few slides covering all systems and main organs should be expected from the student.

EMBRYOLOGY: Quick review of General embryology sufficient for students to understand systemic embryology. Systemic embryology should cover narration of development of all organs /parts without detailed explanation and should

enable the student to understand clinically important congenital anomalies. Perinatal changes in circulation, Foetal circulation, twinning, in vitro fertilisation, teratogens and placentation should be given emphasis

GENETICS: Quick review of basic principles of genetics. Principles regarding inheritance and chromosomal abarration and genetic basis of common syndromes, anomalies, incompatibilities etc. Karyotypes, genetic councelling and chorionic villi sampling diagnosis of correctable foetal disorders.

FAMILY WELFARE: Topics already covered under different heads such as gross anatomy, general anatomy, histology, embryology, genetics etc.

N.B. Wherever 'very few main' is written against any structure such as arteries, joints etc. it means that faculty of all affiliated medical colleges will prepare notify and follow list of actual structures time to time depending upon significance.

JOURNALS: A student is expected to prepare a journal in addition to existing histology journal. This additional 'Journal of Anatomy' should have minimum of 25 figures covering gross anatomy, sectional anatomy, karyotype, genetics, embryology, neuroanatomy etc. & short description.

EXAMINATIONS REGULATIONS

ESSENTIALITIES FOR QUALIFYING TO APPEAR IN PROFESSIONAL EXAMINATIONS

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

(1) Attendance

75% of attendance in a subject for appearing in the examination is compulsory inclusive of attendance in non lecture teaching. i.e. seminars, group discussions, tutorials, demonstrations, practicals, Hospital (Tertiary, Secondary, Primary) postings and bed side clinics, etc.

(2) Internal Assessment :

(i) It shall be based on day to day assessment (see note), evaluation of student assignment, preparation for seminar, clinical case presentation etc.:
(ii) Regular periodical examinations shall be conducted throughout the course. The questions of number of examinations is left to the institution:
(iii) Day to day records should be given importance during internal assessment :
(iv) Weightage for the internal assessment shall be 20% of the total marks in each subject :
(v) Student must secure at least 35% marks of the total marks fixed for internal assessment in a particular subject in order to be eligible to appear in final university examination of that subject.

Note:-
Internal assessment shall relate to different ways in which students participation in learning participation in learning process during semesters in evaluated.

Some examples are as follows:

(i) Preparation of subject for student's seminar.
(ii) Preparation of a clinical case for discussion.
(iii) Clinical case study/problem solving exercise.
(iv) Participation in Project for health care in the community (planning stage to evaluation).
(v) Proficiency in carrying out a practical or a skill in small research project.
(vi) Multiple choice questions (MCQ) test after completion of a system/teaching.

Each item tested shall be objectively assessed and recorded. Some of the items can be assigned as Home work/Vacation work.

UNIVERSITY EXAMINATIONS:

Theory papers will be prepared by the examiners as prescribed. Nature of questions will be short answer type/objective type and marks for each part indicated separately.

Practicals/clinicals will be conducted in the laboratories or hospital wards. Objective will be assessing proficiency in skills, conduct of experiment, interpretation of data and logical conclusion. Clinical cases should preferably include common diseases not esoteric syndromes or rare disorders. Emphasis should be on candidate's capability in eliciting physical signs and their interpretation.

Viva/oral includes evaluation of management approach and handling of emergencies. Candidate's skill in interpretation of common investigative data, x-rays, identification of specimens, ECG, etc. also is to be evaluated.

The examinations are to be designed with a view to ascertain whether the candidate has acquired the necessary for knowledge, minimum skills alongwith clear concepts of the fundamentals which are necessary for him to carry out his professional day to day work competently. Evaluation will be carried out on an objective basis.

Question papers should preferably be of short structure/objective type.

Clinical cases/practicals shall take into account common diseases which the student is likely to come in contact in practice. Rare cases/obscure syndromes, long cases of neurology shall not be put for final examination.

During evaluation (both Internal and External) it shall be ascertained if the candidate has acquired the skills as detailed in Appendex-B.

There shall be one main examination in a year and a supplementary to be held not later than 6 months after the publication of its results. Universities Examinations shall be held as under:-

First Professional:-

In the second Semester of Phase 1 training, in the subjects of Anatomy, Physiology and Bio- Chemistry.

Second Professional:-

In the Fifth Semester of Phase II training, in the subjects of Pathology, Microbiology, Pharmacy and Forensic Medicine.

Third Professional :-

Part 1- in the Seventh Semester of Phase III, in the subjects of Ophthamology, Oto-rhyno- laryngology and Community Medicine.

Third Professional :-

Part II-(Final Professional) – At the end of Phase III training in the subjects of Medicine, Surgery, Obstetrics & Gynecology and Pediatrics.

Note :-

Results of all university examinations shall be declared before the start of teaching for next semester.

DISTRIBUTION OF MARKS TO VARIOUS DISCIPLINES :

(A) FIRST PROFESSIONAL EXAMINATION:(Pre-clinical Subjects):-

(a) Anatomy:

Theory-Two papers of 50 marks each	
(One applied question of 10 marks in each paper)	100 marks.
Oral (Viva)	20 marks
Practical	40 marks
Internal Assessment	
(Theory-20; Practical-20)	40 marks
Total	200 marks

Pass: In each of the subjects, **a candidate must obtain 50% in aggregate with a minimum of 50% in Theory including orals and minimum of 50% in Practicals.**

APPOINTMENT OF EXAMINERS:

(1) No person shall be appointed as an examiner in any of the subjects of the Professional examination leading to and including the final Professional examinations for the award of the MBBS degree unless he has taken at least five years previously, a doctorate degree of a recognized university or an equivalent qualification in the particular subject as per recommendation of the Council on teachers' eligibility qualifications and has had at least five years of total teaching experience in the subject concerned in a college affiliated to a recognized university at a faculty position.

(2) There shall be at least four examiners for 100 students, 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 co-ordinator of the whole examination programme so that uniformity in the matter of assessment of

candidates is maintained. Where candidates appearing are more than 100, one additional examiner, for every additional 50 or part thereof candidates appearing, be appointed.

(3) Non medical scientists engaged in the teaching of medical students as whole time teachers, may be appointed examiners in their concerned subjects provided they possess requisite doctorate qualifications and five year teaching experience of medical students after obtaining their postgraduate qualifications. Provided further that the 50% of the examiners (Internal & External) are from the medical qualification stream

(4) External examiners shall not be from the same university and preferably be from outside the state.

(5) The internal examiner in a subject shall not accept external examinership for a college from which external examiner is appointed in his subject.

(6) A university having more than one college shall have separate sets of examiners for each college, with internal examiners from the concerned college.

(7) External examiners shall rotate at an interval of 2 years.

(8) There shall be a Chairman of the Board of paper-setters who shall be an internal examiner and shall moderate the questions.

(9) Except Head of the department of subject concerned in a college/institution, all other with the rank of reader or equivalent and above with requisite qualifications and experience shall be appointed internal examiners by rotation in their subjects; provided that where there are no posts of readers, then an Assistant Professor of 5 years standing as Assistant Professor may be considered for appointment as examiner.

(10) The grace marks up to a maximum of five marks may be awarded at the discretion of the University to a student who has failed only in one subject but has passed in all other subjects.

Guidelines for Paper setter

1. There will be 2 papers. Paper I & paper II each contains – section I & section II.
2. Time is 3 hours
3. Paper setter should strict to course content & avoid duplication in different –paper & sections.
4. The question should be set in such a way that in should be completed within time.
5. As far as possible paper setter should write questions legibly in his own handwriting & avoid overwriting.
6. The blue print of curriculum & section wise break of mark allotted is appended.

Subject (1) Anatomy

Examination Schedule

No.	Type	Marks	Month
1	General anatomy Part ending(Theory)	50	August-2019
2	Upper Limb Part ending	100(50+50)	September-2019
3	Lower Limb Part ending	100(50+50)	November-2019
4	Abdomen Part ending	100(50+50)	February-2020
5	Head Neck & Brain Part ending	100(50+50)	April-2020
6	1st Internal Exam Theory & Practical	100(50+50)	January-2020
7	Preliminary Exam	175(100+75)	May-2020
8	Final University Theory Examination-Two papers each of 50 marks	100(50+50)	June-2020
9	Final University Practical examination	60	July-2020
* exam held as per final university exam pattern			

Internal Assessment Marks Calculation (Anatomy)

Total Internal Assessment Marks		
1	Theory	20 marks
2	Practical	20 marks

Internal Assessment Marks Calculation

1. Theory

	Lectures attendance & day to day evaluation*	2.5 marks
	Internal assessment –one	5 marks
	Preliminary assessment –one	7.5 mark
	Part Ending assessment	5 marks
	Total	**20 marks**

2. Practical

	Practical attendance & day to day evaluation**	2.5 marks
	Internal practical assessment	5 marks

	Preliminary exam assessment	7.5 marks
	Journal evaluation	5 marks
	Total	**20 marks**

* Day to day evaluation for theory includes MCQs , Short Notes and objective questions

** Day to day evaluation for practical includes individual performance in practical class and journal completion

Final University Anatomy Examination

MARKS SCHEME FOR FINAL UNIVERSITY EXAM 2019-2020

Theory		
	Marks	
Paper-I	50	3 hrs
Paper-II	50	3 hrs
Oral Viva(Soft part)	20	
Internal Assessment	20	
Total	**140**	
Practical		
	Marks	
Hard parts & embryology models	10	
Surface anatomy (living & dead)	10	
Histology	10	
Radiology (plain & special procedure)	10	
Internal Assessment	20	
Total	**60**	
Division of marks in pairs of the practical examiners		
Pair-I Soft parts	20 marks	All candidates
Pair-II Hard parts, embryology models & surface anatomy	20 marks	All candidates
Pair-III Histology & Radiology	20 marks	All candidates

ANATOMY

UNIVERSITY EXAMINATION

THEORY (Paper Scheme)

PAPER--I **Time-: 3 hrs** **Total 50 marks**

Section—I		**25**
Q-1. Short Notes on Applied Anatomy of :		
Head & Neck , Upper Limb & Neuro Anatomy	2 out of 3	2 X 5 =10
Q-2. Short Notes :		
(a) Neuro Anatomy	2 out of 3	2 X 3 = 6
(b) Systemic Histology of : Head & Neck & Neuro Anatomy	1 out of 2	1 X 3 = 3
Q-3. Short Notes		
(a) General Anatomy	1 out of 2	1 X 3 = 3
(b) General Embryology	1 out of 2	1 X 3 = 3
Section—II		**25**
Q-4. Short Notes : Head & Neck	2 out of 3	2 X 5 =10
Q-5. Short Notes :		
(a) Upper limb	2 out of 3	2 X 3 = 6
(b) Systemic Embryology of : Head & Neck, Neuro Anatomy	1 out of 2	1 X 3 = 3
Q-6. Objective questions :		
Head & Neck, Upper Limb & Neuro Anatomy	6 out of 8	6 X 1 = 6

ANATOMY

PAPER--II **Time-: 3 hrs** **Total 50 marks**

Section-I		**25**
Q-1. Short Notes on Applied Anatomy of :		
Abdomen, Lower Limb & Thorax	2 out of 3	2 X 5 =10
Q-2. Short Notes :		
(a) Thorax	2 out of 3	2 X 3 = 6
(b) Systemic Histology of : Abdomen & Thorax	1 out of 2	1 X 3 = 3
Q-3. Short Notes :		
(a) Genetics	1 out of 2	1 X 3 = 3
(b) Family Welfare	1 out of 2	1 X 3 = 3
Section – II		**25**
Q-4. Short Notes : Abdomen	2 out of 3	2 X 5 =10
Q-5. Short Notes :		
(a) Lower Limb	2 out of 3	2 X 3 = 6
(b) Systemic Embryology of : Abdomen & Thorax	1 out of 2	1 X 3 = 3
Q-6. Objective questions :		
Abdomen, Lower Limb & Thorax	6 out of 8	6 X 1 = 6

Duration of MBBS Course for the Batch 2019-20

			Subjects	Duration	Date:
1	First MBBS		1) Human Anatomy 2) Human Physiology 3) Biochemistry	1 Year	1/08/2019 to 31/07/2020
2	Second MBBS		1) Pathology 2) Microbiology 3) Pharmacology 4) Forensic Medicine	1½ Years	1/08/2020 to 31/01/2022
3	Third MBBS	Part I	1) Ophthalmology 2) Oto-Rhino-Laryngology (ENT) 3) Community Medicine	1 Year	1/02/2022 to 31/01/2023
		Part II	1) Medicine 2) General Surgery 3) Obstretrics & Gynecology 4) Paediatrics	1 Year	1/02/2023 to 31/01/2024
			Total	4½ Years	
4	Internship			1 Year	February -March 2024 to February -March 2025