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-: પરિપત્ર :-

તબીબી વિદ્યાશાખા હેઠળની તમામ મેડીકલ કોલેજોના ડીનશ્રીઓને જણાવવાનું કે, National Medical Commission દ્વારા તા.૦૧/૦૮/૨૦૨૩, No.U.14021/8/2023-UGMEB થી પ્રસિધ્ધ કરેલ ગાઈડલાઈન અંતર્ગત (૧) Competency Based Medical Education Curriculum (CBME) Guidelines-(NMC) (2) તા.૦૧/૦૯/૨૦૨૩, No.U.14021/8/2023-UGMEB થી Competency Based Medical Education Curriculum (CBME) Guidelines- (NMC) - CORRIGENDUM, (3) National Medical Commission દ્વારા તા.૧૬/૦૮/૨૦૨૩, No.U.11022/3/2023-UGMEB થી "Guidelines for Under Graduate Courses under Establishment of New Medical Institutions, Starting of New Medical Courses, Increase of Seats for Existing Courses & Assessment and Rating Regulations, 2023" નો તબીબી વિદ્યાશાખાનાં અધરધેન ડીનશ્રીએ તબીબી વિદ્યાશાખા વતી મંજૂર કરી એકેડેમિક કાઉન્સિલને મંજૂર કરવા કરેલ ભલામણ પૈકી (૧) Competency Based Medical Education Curriculum (CBME) Guidelines-(NMC) (2) તા.૦૧/૦૯/૨૦૨૩, No.U.14021/8/2023-UGMEB થી Competency Based Medical Education Curriculum (CBME) Guidelines-(NMC)-CORRIGENDUM, ને મંજૂર કરવા કરેલ ભલામણ એકેડેમિક કાઉન્સિલની તા.૧૮/૦૯/૨૦૨૩ની સભામાં ઠરાવ ક્રમાંકઃ ૩૨ થી મંજૂર કરવામાં આવેલ છે તથા એકેડેમિક કાઉન્સિલની તા.૧૮/૦૯/૨૦૨૩ની સભામાં ઠરાવ ક્રમાંકઃ ૩૨ થી (3) National Medical Commission દ્વારા તા.૧૬/૦૮/૨૦૨૩, No.U.11022/3/2023-UGMEB થી "Guidelines for Under Graduate Courses under Establishment of New Medical Institutions, Starting of New Medical Courses, Increase of Seats for Existing Courses & Assessment and Rating Regulations, 2023" ને મંજૂર કરવા સિન્ડિકેટને કરેલ ભલામણનો સિન્ડિકેટની તા.૦૩/૧૦/૨૦૨૩ની સભાનાં ઠરાવ ક્રમાંકઃ ૮૯ થી યથાવત સ્વીકાર કરેલ છે. જેનો અમલ કરવા આથી જાણ કરવામાં આવે છે.

વધુમાં National Medical Commission દ્વારા તા.૦૩/૧૦/૨૦૨૩, No.U.14021/8/2023-UGMEB થી CBME Guidelines નો Retrospective effect થી અમલ શકય નથી જે અંગેની પબ્લીક નોટીસ પ્રસિધ્ધ કરેલ છે. જે અંગે એકેડેમિક કાઉન્સિલની તા.૦૩/૧૦/૨૦૨૩ની સભાનાં ઠરાવ ક્રમાંકઃ૩૭ થી નોંધ લેવામાં આવેલ છે. જેનો અમલ કરવા આથી જાણ કરવામાં આવે છે.

બિડાણ : ઉપર મુજબ

ક્રમાંક : એસ્./પરિપત્ર/૨૬૦૫૪/૨૦૨૩
તા.૦૯/૧૦/૨૦૨૩

કુલસચિવ

પ્રતિ,

૧) તબીબી વિદ્યાશાખા હેઠળની તમામ મેડીકલ કોલેજોના ડીનશ્રીઓ.
.....આપશ્રીની કોલેજના સંબંધિત શિક્ષકોને જાણ કરી અમલ કરવા સારૂ.

૨) અધરધેન ડીનશ્રી, તબીબી વિદ્યાશાખા

૩) પરીક્ષા નિયામકશ્રી, પરીક્ષા વિભાગ, વીર નર્મદ દ. ગુ. યુનિવર્સિટી, સુરત. ....તરફ જાણ તેમજ અમલ સારૂ.

એકેડેમિક કાઉન્સિલ તા. 18/09 -2023
બાબત ..... 3.2 ..... બિડાણ/પરિશિષ્ટ ..... 1.3 .....

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राष्ट्रीय आयुर्विज्ञान आयोग
National Medical Commission
(Undergraduate Medical Education Board)

No. U.14021/8/2023-UGMEB **Dated, the 01st August, 2023**

Subject: - Competency Based Medical Education Curriculum (CBME) Guidelines- National Medical Commission.

Under Graduate Medical Education Board invited comments on draft Competency Based Medical Education Guidelines vide Public Notice of even no. dated 23/06/2023.

2. After consideration of comments received, in exercise of powers conferred by the National Medical Commission Act, 2019 and particularly by sections 10, 24, 25, and 57 of the said Act, Under Graduate Medical Education Board publishes the Competency Based Medical Education Guidelines.

3. Guidelines shall be effective from the date of its publication i.e.; 01/08/2023.

01/08/2023
(Shambhu Sharan Kumar)
Director, UGMEB

(1)

o/c

CBME CURRICULUM

1. 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 (past and present). It intends to take the learner to provide health care to the evolving needs of the nation and the world.

About 25 years have passed since the existing Regulations on Graduate Medical Education, 1997 were 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, advancements in medical education 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. The strong and forward-looking fundamentals enshrined in the Regulations on Graduate Medical Education, 1997 has made this job easier. A comparison between the 1997 Regulations and proposed Graduate Medical Education Regulations, 2019 will reveal that the 2019 Regulations have evolved from several key principles enshrined in the 1997 Regulations.

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.

The importance of ethical values, responsiveness to the needs of the patient and acquisition of communication skills is underscored by providing dedicated curriculum time in the form of a longitudinal program based on Attitude, Ethics and Communication (AETCOM) competencies. Great emphasis has been placed on collaborative and inter-disciplinary

teamwork, professionalism, altruism and respect in professional relationships with due sensitivity to differences in thought, social and economic position and gender.

2. Objectives of the Indian Graduate Medical Training Programme

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

3. National Goals

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

a. Recognize "health for all" as a national goal and health right of all citizens and by undergoing training for medical profession fulfill his social obligations towards realization of this goal.

b. Learn key aspects of National policies on health and devote himself to its practical implementation.

c. Achieve competence in practice of holistic medicine, encompassing promotive, preventive, curative and rehabilitative aspects of common diseases.

d. Develop scientific temper, acquire educational experience for proficiency in profession and promote healthy living.

e. Become exemplary citizen by observance of medical ethics and fulfilling social and professional obligations, so as to respond to national aspirations.

4. Institutional Goals

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

a. Be competent in diagnosis and management of common health problems of the individual and the community, commensurate with his/her position as a member of the health team at the primary, secondary or tertiary levels, using his/her clinical skills based on history, physical examination and relevant investigations.

b. Be competent to practice preventive, promotive, curative, palliative and rehabilitative medicine in respect to the commonly encountered health problems.

c. Appreciate rationale for different therapeutic modalities; be familiar with the administration of the "essential drugs" and their common side effects.

d. Appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.

e. Possess the attitude for continued self-learning and to seek further expertise or to pursue research in any chosen area of medicine, action research and documentation skills.

f. Be familiar with the basic factors which are essential for the implementation of the National Health Programs including practical aspects of the following:

    i) Family Welfare and Maternal and Child Health (MCH);

    ii) Sanitation and water supply;

    iii) Prevention and control of communicable and non-communicable diseases;

    iv) Immunization;

    v) Health Education and advocacy;

    vi) Indian Public Health Standards (IPHS) at various level of service delivery;

    vii) Bio-medical waste disposal

    viii) Organizational and or institutional arrangements.

g. Acquire basic management skills in the area of human resources, materials and resource management related to health care delivery, general and hospital management, principal inventory skills and counseling.

h. Be able to identify community health problems and learn to work to resolve these by designing, instituting corrective steps and evaluating outcome of such measures with maximum community participation.

i. Be able to work as a leading partner in health care teams and acquire proficiency in communication skills.

j. Be competent to work in a variety of health care settings.

k. Have personal characteristics and attitudes required for professional life including personal integrity, sense of responsibility and dependability and ability to relate to or show concern for other individuals.

5. Goals for the Learner

In order to fulfill these goals, the Indian Medical Graduate must be able to function in the following roles appropriately and effectively:-

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

b. Leader and member of the health care team and system with capabilities to collect, analyze, synthesize and communicate health data appropriately.

c. Communicator with patients, families, colleagues and community.

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

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

f. Critical thinker who demonstrates problem solving skills in professional practice

g. Researcher who generates and interprets evidence

6. Competency Based Training Programme of the Indian Medical Graduate

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

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

- Demonstrate knowledge of normal human structure, function and development from a molecular, cellular, biologic, clinical, behavioral and social perspective.
- Demonstrate knowledge of abnormal human structure, function and development from a molecular, cellular, biological, clinical, behavioral and social perspective.
- Demonstrate knowledge of medico-legal, societal, ethical and humanitarian principles that influence healthcare.
- Demonstrate knowledge of national and regional health care policies including the National Health Mission that incorporates National Rural Health Mission (NRHM) and National Urban Health Mission (NUHM), frameworks, economics and systems that influence health promotion, health care delivery, disease prevention, effectiveness, responsiveness, quality and patient safety.
- Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is complete and relevant to disease identification, disease prevention and health promotion.
- Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is contextual to gender, age, vulnerability, social and economic status, patient preferences, beliefs and values.
- Demonstrate ability to perform a physical examination that is complete and relevant to disease identification, disease prevention and health promotion.
- Demonstrate ability to perform a physical examination that is contextual to gender,

social and economic status, patient preferences and values.

- Demonstrate effective clinical problem solving, judgment and ability to interpret and integrate available data in order to address patient problems, generate differential diagnoses and develop individualized management plans that include preventive, promotive and therapeutic goals.
- Maintain accurate, clear and appropriate record of the patient in conformation with legal and administrative frameworks.
- Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context.
- Demonstrate ability to prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy and interventions based on the principles of rational drug therapy, scientific validity, evidence and cost that conform to established national and regional health programmers and policies for the following:
    - Disease prevention,
    - Health promotion and cure,
    - Pain and distress alleviation, and
    - Rehabilitation and palliation.
- Demonstrate ability to provide a continuum of care at the primary (including home care) and/or secondary level that addresses chronicity, mental and physical disability.
- Demonstrate ability to appropriately identify and refer patients who may require specialized or advanced tertiary care.
- Demonstrate familiarity with basic, clinical and translational research as it applies to the care of the patient.

Leader and member of the health care team and system

- Work effectively and appropriately with colleagues in an inter-professional health care team respecting diversity of roles, responsibilities and competencies of other professionals.
- Recognize and function effectively, responsibly and appropriately as a health care team leader in primary and secondary health care settings.

- Educate and motivate other members of the team and work in a collaborative and collegial fashion that will help maximize the health care delivery potential of the team.
- Access and utilize components of the health care system and health delivery in a manner that is appropriate, cost effective, fair and in compliance with the national health care priorities and policies, as well as be able to collect, analyze and utilize health data.
- Participate appropriately and effectively in measures that will advance quality of health care and patient safety within the health care system.
- Recognize and advocate health promotion, disease prevention and health care quality improvement through prevention and early recognition: in a) life style diseases and b) cancer, in collaboration with other members of the health care team.

Communicator with patients, families, colleagues and community

- Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients in a language that the patient understands and in a manner that will improve patient satisfaction and health care outcomes.
- Demonstrate ability to establish professional relationships with patients and families that are positive, understanding, humane, ethical, empathetic, and trustworthy.
- Demonstrate ability to communicate with patients in a manner respectful of patient's preferences, values, prior experience, beliefs, confidentiality and privacy.
- Demonstrate ability to communicate with patients, colleagues and families in a manner that encourages participation and shared decision- making.

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

- Demonstrate ability to perform an objective self-assessment of knowledge and skills, continue learning, refine existing skills and acquire new skills.
- Demonstrate ability to apply newly gained knowledge or skills to the care of the patient.
- Demonstrate ability to introspect and utilize experiences, to enhance personal and professional growth and learning.

- Demonstrate ability to search (including through electronic means), and critically re-evaluate the medical literature and apply the information in the care of the patient.
- Be able to identify and select an appropriate career pathway that is professionally rewarding and personally fulfilling.

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

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

A. CURRICULUM

➢ **1st Professional Year:**

1. ANATOMY

a. Competencies:

The undergraduate must demonstrate:

- Understanding of the gross and microscopic structure and development of human body,
- Comprehension of the normal regulation and integration of the functions of the organs and systems on basis of the structure and genetic pattern,
- Understanding of the clinical correlation of the organs and structures involved and interpret the anatomical basis of the disease presentations.

b. Broad subject specific objectives

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

- Comprehend the normal disposition, clinically relevant interrelationships, functional and cross -sectional Anatomy of the various organs and structures of the body.
- Identify the microscopic structure and correlate elementary ultra structure of various organs and tissues with the functions as a prerequisite for understanding the altered state in various disease processes.
- Comprehend the basic structure and connections of the central nervous system to analyze the integrative and regulative functions of the organs and systems. He should be able to locate the site of gross lesions according to the deficits encountered
- Demonstrate knowledge of the basic principles and sequential development of the organs and systems; recognize the critical stages of development and the effects of common teratogens, genetic mutations and environmental hazards. He should be able to explain the developmental basis of the major variations and abnormalities.

c. Skills:

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

- Identify and locate all the structures of the body and mark the topography of the Living Anatomy.
- Understand clinical basis of some common clinical procedures i.e. intramuscular and intravenous injection, lumbar puncture and kidney biopsy etc.
- Identify the organs and tissues under the microscope.
- Understand the principles of karyotyping and identify the gross congenital anomalies.
- Understand principles of newer imaging techniques and interpretation of CT scan, sonogram, MRI & Angiography.

d. Integration:

The teaching should be aligned and integrated horizontally and vertically in organ systems with clinical correlation that will provide a context for the learner to

understand the relationship between structure and function and interpret the anatomical basis of various clinical conditions and procedures.

2. PHYSIOLOGY

a. Competencies: The undergraduates must demonstrate:

- Understanding of the normal functioning of the organs and organ systems of the body,
- Comprehension of the normal structure and organization of the organs and systems on basis of the functions,
- Understanding of age-related physiological changes in the organ functions that reflect normal growth and development,
- Understand the physiological basis of diseases.

b. Broad subject specific objectives

Knowledge

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

- Describe the normal functions of all the systems, the regulatory mechanisms and interactions of the various systems for well-coordinated total body functions.
- Understanding the relative contribution of each organ system in the maintenance of the milieu interior (homeostasis)
- Explain the physiological aspects of the normal growth and development.
- Analyze the physiological responses and adaptation to environmental stress. Comprehend the physiological principles underlying pathogenesis and treatment of disease.
- Correlate knowledge of physiology of human reproductive system in relation to National Family welfare program.

c. Skills

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

- Conduct experiments designed for study of physiological phenomenon.
- Interpret experimental /investigative data.
- Distinguish between normal and abnormal data derived as a result of clinical examination and tests, which he has performed and observed in the laboratory.
- Recognize and get familiar with newer computerized and advanced instruments like medspiror, semen quality analyzer, EMG and TMT

d. Integration: The teaching should be aligned and integrated horizontally and vertically in organ systems in order to provide a context in which normal function can be correlated both with structure and with the biological basis, its clinical features, diagnosis and therapy.

3. BIOCHEMISTRY

a. Competencies:

The learner must demonstrate an understanding of:

- Biochemical and molecular processes involved in health and disease,
- Importance of nutrition in health and disease,
- Biochemical basis and rationale of clinical laboratory tests, and demonstrate ability to interpret these in the clinical context.

b. Broad subject specific objectives:

Knowledge:

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

- Enlist and describe the cell organelles with their molecular ad functional organization.
- Delineate structure, function and interrelationships of various biomolecules and consequences of deviation from the normal.
- Understand basic enzymology and emphasize on its clinical applications wherein regulation of enzymatic activity is disturbed.
- Describe digestion and assimilation of nutrients and consequences of malnutrition.
- Describe and integrate metabolic pathways of various biomolecules with their regulatory mechanisms.
- Explain the biochemical basis of inherited disorders with their associated squeal.
- Describe mechanisms involved in maintenance in water, electrolyte and acid base balance and consequences of their imbalances.
- Outline the molecular mechanisms of gene expression and regulation, basic principles of biotechnology and their applications in medicine.

c. Skills

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

- Make use of conventional techniques / instruments to perform biochemical analysis relevant to clinical screening and diagnosis;
- Analysis and interpret investigative data;
- Demonstrate the skills of solving scientific and clinical problems and decision making.

d. Integration:

The teaching/learning programme should be integrated horizontally and vertically, as much as possible, to enable learners to make clinical correlations and to acquire an understanding of the cellular and molecular basis of health and disease.

2nd Professional Year:

4. PATHOLOGY

a. Competencies:

The undergraduate must demonstrate:

- Comprehension of the causes, evolution and mechanisms of diseases,
- Knowledge of alterations in gross and cellular morphology of organs in disease states,
- Ability to correlate the natural history, structural and functional changes with the clinical manifestations of diseases, their diagnosis and therapy,

b. Broad subject specific objectives

Knowledge:

At the end of one and half years, the student shall be able to:-

- Describe the structure and ultra structure of a sick cell, causes and mechanisms of cell Injury, cell death and repair.
- Correlate structural and functional alterations in the sick cell.
- Explain the path physiological processes, which govern the maintenance of homeostasis, mechanisms of their disturbance and the morphological and clinical manifestation associated with it.
- Describe the mechanisms and patterns of tissue response to injury so as to appreciate the path physiology of disease processes and their application to clinical science.
- Correlate the gross and microscopic alterations of different organ systems in common disease to the extent needed for understanding disease processes and their clinical significance.
- Develop an understanding of steps in neoplastic changes in the body and their effects in order to appreciate need for early diagnosis and further management of neoplasia.
- Understand mechanisms of common hematological disorders and develop a logical approach in their diagnosis and management.
- Develop understanding of the blood banking, blood donors & transfusion of blood & blood products, (components).
- Understand pathophysiology of infectious diseases in relation with tissue changes.

- Describe the various immunological reactions in understanding the disease process & tissue transplant.
- Develop an understanding for genetic disorders.
- Understand the vital organ function test of Kidney, liver & thyroid.

c. Skills

At the end of one and half years, the student shall be able to:

- Describe the rationale and principles of routine technical procedures of the diagnostic laboratory tests & perform it.
- Interpret routine diagnostic laboratory tests and correlate with clinical,hematological and morphological changes.
- Perform the simple bed-side tests on blood, urine and other biological fluid samples:
- Draw a rational scheme of investigations aimed at diagnosing and managing the cases of common disorders.
- Able to understand the microscopic and macroscopic features of common diseases.
- Develop different type of skills such as observation skills, communication skill and presentation skill.
- Understand biochemical/physiological disturbances that occur as a result of disease in collaboration with all concerned departments.

d. Integration: The teaching should be aligned and integrated horizontally and vertically in organ systems recognizing deviations from normal structure and function and clinically correlated so as to provide an overall understanding of the etiology, mechanisms, laboratory diagnosis, and management of diseases.

5. MICROBIOLOGY

a. Competencies:

The undergraduate learner demonstrates:

- Understanding of role of microbial agents in health and disease,
- Understanding of the immunological mechanisms in health and disease,
- Ability to correlate the natural history, mechanisms and clinical manifestations of infectious diseases as they relate to the properties of microbial agents,
- Knowledge of the principles and application of infection control measures,
- An understanding of the basis of choice of laboratory diagnostic tests and their interpretation, antimicrobial therapy, control and prevention of infectious diseases.
- Knowledge of outbreak investigation and its control.

b. Broad subject specific objectives

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

- Explain how the different microorganisms can cause human infection.
- Understand commercial, opportunistic and pathogenic organisms and describe host parasite relationship.
- Describe the characteristics (morphology, cultural characteristics, resistance, virulence factors, incubation period, mode of transmission etc.) of different microorganisms.
- Explain the various defense mechanisms of the host against the microorganisms which can cause human infection.
- Describe the laboratory diagnosis of microorganisms causing human infections and disease.
- Describe the prophylaxis for the particular infecting microorganisms

c. Skills

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

- Plan the laboratory investigations for the diagnosis of infectious diseases.
- Perform laboratory procedures to arrive at the etiological diagnosis of infectious diseases caused by bacteria, fungi, viruses and parasites including the drug sensitivity profile.
- Perform and interpret immunological and serological tests.
- Operate routine and sophisticated instruments in the laboratory.
- Develop microteaching skills and Pedagogy
- Successfully implement the chosen research methodology

d. Integration: The teaching should be aligned and integrated horizontally and vertically in organ systems with emphasis on host-microbe-environment interactions and their alterations in disease and clinical correlations so as to provide an overall understanding of the etiological agents, their laboratory diagnosis and prevention.

6. PHARMACOLOGY

a. Competencies: The undergraduate must demonstrate:

- Knowledge about essential and commonly used drugs and an understanding of the pharmacologic basis of therapeutics,
- Ability to select and prescribe medicines based on clinical condition and the pharmacologic properties, efficacy, safety, suitability and cost of medicines for common clinical conditions of national importance,
- Knowledge of pharmacovigilance, essential medicine concept and sources of drug information and industry-doctor relationship,
- Ability to counsel patients regarding appropriate use of prescribed drug and drug delivery systems.

b. Broad subject specific objectives

(A) **Knowledge:**

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

- Describe the Pharmacokinetics and Pharmacodynamics of essential and commonly used drugs.
- Enlist the indications, contraindications, interactions and adverse reactions of commonly used drugs.
- Tailor the use of appropriate drugs in disease with consideration of its cost, efficacy and safety for-
    a. Individual needs and
    b. Mass therapy, under National Health Programs.
- Integrate the list of drugs of addiction and recommend the management of drug addiction.
- Explain pharmacological basis of prescribing drugs in special medical situations such as

  pregnancy, lactation, infancy, old age, renal damage, hepatic damage and immuno-compromised patients.
- Explain the concept of rational drug therapy in clinical pharmacology.
- State the principles underlying the concept of 'Essential Drugs'.
- Evaluate the ethics and modalities involved in the development and introduction of new drugs.

c. Skills

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

- Prescribe drugs for common ailments.
- Identify adverse reactions and drug interactions of commonly used drugs.
- Interpret the data obtained from the experiments designed for the study of effect of drugs in various experimental and clinical studies.
- Analyze the information regarding common pharmaceutical preparations and critically evaluate drug formulations.
- Appraise the Principles of Clinical Pharmacy and Dispense the Medications giving proper instructions.

d. Integration: Practical knowledge of use of drugs in Clinical Practice will be acquired through Integrated Teaching vertically with phase 1 subjects and horizontally with other phase 2 subjects.

3rd Professional year

7. FORENSIC MEDICINE AND TOXICOLOGY

a. Competencies: The learner must demonstrate:

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

b. Broad subject specific objectives:

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

- Identify the basic Medico-legal aspects of hospital and general practice.
- Define the Medico-legal responsibilities of a general physician while rendering community service either in a rural primary health centre or an urban health centre.

- Appreciate the physician's responsibilities in criminal matters and respect for the codes of Medical ethics.
- Diagnose, manage and identify legal aspect of common acute and chronic poisonings.
- Describe the Medico-legal aspects and findings of post-mortem examination in cases of death due to common unnatural conditions and poisonings.
- Detect occupational and environmental poisoning, prevention and epidemiology of common poisoning and their legal aspects particularly pertaining to Workmen's Compensation Act.
- Describe the general principles of analytical toxicology.

c. Skills

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

- Make observations and draw logical inferences in order to initiate enquiries in criminal matters and Medico-legal problems and be able to -
- Carry on proper Medico-legal examination and documentation/Reporting of Injury and Age.
- Conduct examination for sexual offences and intoxication.
- Preserve relevant ancillary materials for medico-legal examination.
- Identify important post-mortem findings in common unnatural deaths.
- Diagnose and treat common emergencies in poisoning and chronic toxicity.
- Make observations and interpret findings at post-mortem examination.
- Observe the principles of medical ethics in the practice of his profession.

d. Integration:

The teaching should be aligned and integrated horizontally and vertically recognizing the importance of medico-legal, ethical and toxicological issues as they relate to the practice of medicine.

8. COMMUNITY MEDICINE

a. Competencies: The undergraduate must demonstrate:

- Understanding of the concept of health and disease,
- Understanding of demography, population dynamics and disease burden in National and global context,
- Comprehension of principles of health economics and hospital management,
- Understanding of interventions to promote health and prevent diseases as envisioned in National and State Health Programmes.
- Understanding of physical, social, psychological, economic and environmental determinants of health and disease,
- Ability to recognize and manage common health problems including physical, emotional and social aspects at individual family and community level in the context of National Health Programmes,
- Ability to Implement and monitor National Health Programmes in the primary care setting,
- General knowledge about Organ and Tissue donation,
- Knowledge of maternal and child wellness as they apply to national health care priorities and programmes,
- Ability to recognize, investigate, report, plan and manage community health problems including malnutrition and emergencies.

b. Broad subject specific objectives:

Knowledge: At the end of the course the student shall be able

- Explain the principles of sociology including demographic population dynamics.
- Identify social factors related to health, disease and disability in the context of urban and rural societies.
- Appreciate the impact of urbanization on health and disease.
- Observe and interpret the dynamic of community behaviors.

- Describe the elements of normal psychology and social psychology.
- Observe the principles of practice of medicine in hospital and community settings.
- Describe the health care delivery systems including rehabilitation of the disabled in the country.
- Describe the National Health Programmes with particular emphasis on maternal and child health programmes, family welfare planning and population control.
- Describe the epidemiological methods and techniques.
- Outline the demographic pattern of the country and appreciate the roles of the individuals, family, community and socio-cultural milieu in health and disease.
- Describe the health information systems.
- Acquire, understand, integrate, apply and manage information in context to health care problems and health care delivery system in various communities, health care settings and hospitals.
- Describe the principles and components of primary health care, National Rural Health Mission and the national health policies to achieve the goal of "Health for all" with regards to identify the environmental, bio-waste and occupational hazards and their control.
- Describe the importance of water and sanitation in human health.
- Describe the principles of health economies, health administration, health education in relation to community.
- Critically analyze the problem (s) and apply his/her knowledge to solve the problem in holistic manner.
- Describe and apply principles of prevention, promotion and maintenance of health.

c. Skills: At the end of the course, the student shall be able to –

- Use the principles and practice of medicine in hospital and community settings and familiarization with elementary practices.
- Use the Art of communication with patients including history taking and medico social work.

- Use epidemiology as a scientific tool to make rational decisions relevant to community and individual patient intervention.
- Organize health care services for vulnerable and disadvantages groups.
- Organize health care services in case of calamities.
- Collect, analyze, interpret and present simple community and hospital base data.
- Diagnose and manage common health problems (including communicable and non-communicable diseases) and emergencies at the individual, family and community levels keeping in mind the existing health care resources and in the context of the prevailing socio-culture beliefs.
- Diagnose and manage common nutritional problems at the individual and community level.
- Plan, implement and evaluate a health education Programme with skill to use simple audio-visual aids.
- Interact with other members of the health care team and participate in the organization of health care services, health advocacy and implementation of national health programmes.
- Perform Administrative functions at health centers
- Observe the principles of medical ethics in the practice of his profession.

d. Integration:

Department shall adopt an integrated approach towards other clinical disciplines, public health services, NGOs, environmental sciences, social sciences, management, hospital administration, research, etc. to impart training to enable the graduate to work at all levels of health care. The teaching should be aligned and integrated horizontally and vertically in order to allow the learner to understand the impact of environment, society and national health priorities as they relate to the promotion of health and prevention and cure of disease.

9. OTO-RHINOLARYNGOLOGY (ENT)

a. Competencies: The learner must demonstrate:

- Knowledge of the common Otorhinolaryngological (ENT) emergencies and problems,
- Ability to recognize, diagnose and manage common ENT emergencies and problems in primary care setting,
- Ability to perform simple ENT procedures as applicable in a primary care setting,
- Ability to recognize hearing impairment and refer to the appropriate hearing impairment rehabilitation programme.

b. Broad subject specific objectives:

- **Knowledge**: At the end of the course, the student shall be able to :
- Describe the basic pathophysiology of common Ear, Nose & Throat (ENT) diseases &emergencies.
- Adopt the rational use of commonly used drugs keeping in mind their adverse reactions.
- Suggest common investigative procedures & their interpretation.

c. Skills: At the end of the course the student shall be able to

- Examination & Diagnose common ENT problems including pre-malignant & Malignant disorders of the Head & Neck.
- Manage ENT problems at first level of care & be able to refer whenever necessary.
- Assist / carry out minor ENT procedures like ear syringing, ear dressing, nasal packing.
- Assist in certain procedures such as tracheotomy, endoscopy & removal of foreign bodies.

d. Integration:

The teaching should be aligned and integrated horizontally and vertically in

order to allow the learner to understand the structural basis of ENT problems, their management and correlation with function, rehabilitation and quality of life. The undergraduate training ENT will provide an integrated approach towards other disciplines especially, neurosciences, ophthalmology & general surgery.

10. OPHTHALMOLOGY

a. Competencies: The student must demonstrate:

- Knowledge of common eye problems in the community
- Recognize, diagnose and manage common eye problems and identify indications for referral,
- Ability to recognize visual impairment and blindness in the community and implement national programmes as applicable in the primary care setting.

b. Broad subject specific objectives

Knowledge: At the end of the course, student shall have the knowledge of

- Common problems affecting the eye.
- Principles of management of major ophthalmic emergencies.
- Main systemic disease affecting the eye.
- Effects of local and systemic diseases on patient's vision and the necessary action required minimizing the sequelae of such diseases.
- Adverse drug reaction with special reference to ophthalmic manifestations.
- Magnitude of blindness in India and its main causes.
- National programme for control of blindness and its implementation at various levels.
- Eye care education for prevention of eye problems.
- Role of primary health center in organization of eye camps.

- Organization of primary health care and the functioning of the ophthalmic assistant.
- Integration of the national programme for control of blindness with the other national health programmes.
- Eye bank organization.

c. Skills

- Elicit a history pertinent to general health and ocular status.
- Assist in diagnostic procedures such as visual acuity testing, examination of eye, Schiotz tonometry, Staining of Corneal pathology, confrontation, perimetry, Subjective refraction including correction of Presbyopia and aphakia, direct ophthalmoscopy and conjunctival smear examination and Cover test.
- Diagnose and treat common problems affecting the eye.
- Interpret ophthalmic signs in relation to common systemic disorders.
- Assist/observe therapeutic procedures such as Subconjunctival injection, corneal conjunctival foreign body removal, carbolic cautery for corneal ulcers, Nasolacrimal duct syringing and tarsorrhaphy
- Provide first aid in major ophthalmic emergencies.
- Assist to organize community surveys for visual check-up.
- Assist to organize primary eye care service through primary health centers.
- Use effective means of communication with the public and individual to motivate for surgery in cataract and for eye donation.
- Establish rapport with his seniors, colleagues and paramedical workers, so as to effectively function as a member of the eye care team.

d. Integration:

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

rehabilitation and quality of life.

3rd PROFESSIONAL YEAR PART - II

Medicine Allied Subjects:

11. GENERAL MEDICINE

a. Competencies: The student must demonstrate ability to do the following in relation to common medical problems of the adult in the community:

- D emonstrate understanding of the pathophysiologic basis, epidemiological profile, signs and symptoms of disease and their investigation and management,
- Competently interview and examine an adult patient and make a clinical diagnosis,
- Appropriately order and interpret laboratory tests,
- Initiate appropriate cost-effective treatment based on an understanding of the rational drug prescriptions, medical interventions required and preventive measures,
- Follow up of patients with medical problems and refer whenever required,
- Communicate effectively, educate and counsel the patient and family,
- Manage common medical emergencies and refer when required,
- Independently perform common medical procedures safely and understand patient safety issues.

b. Broad subject specific objectives:

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

- Diagnose common clinical disorders with special reference to infectious diseases,

nutritional disorders, tropical and environmental diseases;

- Outline various modes of management including drug therapeutics especially dosage, side effects, toxicity, interactions, indications and contra-indications;
- Propose diagnostic and investigative procedures and ability to interpret them;
- Provide first level management of acute emergencies promptly and efficiently and decide the timing and level of referral, if required;
- Recognize geriatric disorders and their management.

c. Skills

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

- Develop clinical skills (history taking. clinical examination and other instruments of examination) to diagnose various common medical disorders and emergencies;
- Refer a patient to secondary and/or tertiary level of health care after having instituted primary care;
- Perform simple routine investigations like hemogram, stool, urine, sputum and biological fluid examinations;
- Assist the common bedside investigative procedure like pleural tap. Lumbar puncture, bone marrow aspiration/biopsy and liver biopsy.

d. Integration: The teaching should be aligned and integrated horizontally and vertically in order to provide sound biologic basis and incorporating the principles of general medicine into a holistic and comprehensive approach to the care of the patient. With other relevant academic inputs which provide scientific basis of clinical medicine e.g. anatomy, physiology, biochemistry, microbiology, pathology and pharmacology.

12. PEDIATRICS

a. Competencies: The student must demonstrate:

- Ability to assess and promote optimal growth, development and nutrition of children and adolescents and identify deviations from normal,
- Ability to recognize and provide emergency and routine ambulatory and First

Level Referral Unit care for neonates, infants, children and adolescents and refer as may be appropriate,

- Ability to perform procedures as indicated for children of all ages in the primary care setting,
- Ability to recognize children with special needs and refer appropriately,
- Ability to promote health and prevent diseases in children,
- Ability to participate in National Programmes related to child health and in conformation with the Integrated Management of Neonatal and Childhood Illnesses (IMNCI) Strategy,
- Ability to communicate appropriately and effectively.

b. Broad subject specific objectives:

Knowledge:-At the end of the course, the students shall be able to:-

- Describe the normal Growth and Development during fetal life, Neonatal period, Childhood and Adolescence and the deviations thereof.
- Describe the common Pediatric disorders and emergencies in terms of Epidemiology, Etiopathogenesis, Clinical manifestations, Diagnosis and also describe the rational therapy and rehabilitation services.
- Workout age related requirements of calories, nutrients, fluids, dosages of drugs etc. in health and disease.
- Describe preventive strategies for common infectious disorders, Malnutrition, Genetic and Metabolic disorders, Poisonings, Accidents and Child abuse.
- Outline national programs related to child health including Immunization programs.

c. Skills

At the end of the course, the students shall be able to:-

- Take detailed Pediatric and Neonatal history and conduct an appropriate physical examination of children and neonates, make clinical diagnosis, conduct common

bedside investigative procedures, interpret common laboratory investigations, plan and institute therapy.

- Take anthropometric measurements, resuscitate newborn, prepare oral rehydration solution, perform tuberculin test, administer vaccines available under current National programs, perform venesection, start intravenous fluids and provide nasogastric feeding.
- Conduct diagnostic procedures such as lumbar puncture, liver and kidney biopsy, bone marrow aspiration, pleural and ascitic tap.
- Distinguish between normal Newborn babies and those requiring special care and institute early care to all newborn babies including care of preterm and low birth weight babies, provide correct guidance and counseling about breastfeeding and Complementary feeding.
- Provide ambulatory care to all not so sick children, identify indications for specialized/ inpatient care and ensure timely referral to those who require hospitalization.

d. Integration:

The teaching should be aligned and integrated horizontally and vertically in order to provide comprehensive care for neonates, infants, children and adolescents based on a sound knowledge of growth, development, disease and their clinical, social, emotional, psychological correlates in the context of national health priorities.

13. DERMATOLOGY

a. Competencies:

The undergraduate student must demonstrate:

- Understanding of the principles of diagnosis of diseases of the skin, hair, nail and mucosa,
- Ability to recognize, diagnose, order appropriate investigations and treat common diseases of the skin including leprosy in the primary care setting and refer as

appropriate,

- A syndromic approach to the recognition, diagnosis, prevention, counseling, testing and management of common sexually transmitted diseases including HIV based on national health priorities,
- Ability to recognize and treat emergencies including drug reactions and refer as appropriate.

b. **Broad subject specific objectives:**

Knowledge:

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

- Demonstrate sound knowledge of common diseases, their clinical manifestations, including emergent situations and of investigative procedures to confirm their diagnosis
- Demonstrate comprehensive knowledge of various modes of therapy used in treatment of cutaneous, sexually transmitted diseases and leprosy
- Describe the mode of action of commonly used drugs, their doses, side effects/toxicity, indications and contra-indications and interactions
- Describe commonly used modes of management including the medical and surgical procedures available for the treatment of various diseases and to offer a comprehensive plan of management for a given disorder

c. **Skills:**

The student shall be able to

- Interview the patient, elicit relevant and correct information and describe the history in a chronological order:
- Conduct clinical examination, elicit and interpret physical findings and diagnose common disorders and emergencies.
- Demonstrate simple, routine investigative and laboratory procedures required for making the bed-side diagnosis, especially the examination of scrapings for fungus,

preparation of slit smears and staining for AFB for leprosy patients and for STD cases and take a skin biopsy for diagnostic purposes.

- Manage common diseases and recognizing the need for referral for specialized care, in case of inappropriateness of therapeutic response.

d. Integration:

The teaching should be aligned and integrated horizontally and vertically in order to emphasize the biologic basis of diseases of the skin, sexually transmitted diseases and leprosy

14. PSYCHIATRY

a. Competencies: The student must demonstrate:

Ability to promote mental health and mental hygiene,

- Knowledge of etiology (bio-psycho-social-environmental interactions), clinical features, diagnosis and management of common psychiatric disorders across all ages,
- Ability to recognize and manage common psychological and psychiatric disorders in a primary care setting, institute preliminary treatment in disorders difficult to manage, and refer appropriately,
- Ability to recognize alcohol/ substance abuse disorders and refer them to appropriate centers,
- Ability to assess risk for suicide and refer appropriately,
- Ability to recognize temperamental difficulties and personality disorders,
- Assess mental disability and rehabilitate appropriately,
- Understanding of National and State programmes that address mental health and welfare of patients and community.

b. Broad subject specific objectives:

Knowledge:

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

- Understand the comprehensive nature & development of different aspects of normal human behavior like learning, memory, motivation, personality & intelligence
- Recognize differences between normal & abnormal behavior
- Classify psychiatric disorders
- Recognize clinical manifestations of the following common syndromes & plan their appropriate management of organic psychosis, functional psychosis, schizophrenia, affective disorders, neurotic disorders, personality disorders, psycho physiological disorders, drug & alcohol dependence, psychiatric disorders of childhood & adolescence
- Describe rational use of different mode of therapy in psychiatric disorders.

c. Skills:

The student shall be able to:

- Interview the patient & understand different methods of communications in patient-doctor relationship
- Elicit detailed psychiatric case history & conduct clinical examination for assessment of mental status
- Define, elicit & interpret psychopathological symptoms & signs
- Diagnose & manage common psychiatric disorders
- Identify & manage common psychological reactions & psychiatric disorders in medical & surgical patients in clinical practice & in community setting

d. Integration:

The teaching should be aligned and integrated horizontally and vertically in order to allow the student to understand bio-psycho-social-environmental interactions that lead to diseases/ disorders for preventive, promotive, curative, rehabilitative services and medico-legal implications in the care of patients both in family and

community.

16. GENERAL SURGERY

a. Competencies:

The student must demonstrate:

- Understanding of the structural and functional basis, principles of diagnosis and management of common surgical problems in adults and children
- Ability to choose, calculate and administer appropriately intravenous fluids, electrolytes, blood and blood products based on the clinical condition
- Ability to apply the principles of asepsis, sterilization, disinfection, rational use of prophylaxis, therapeutic utilities of antibiotics and universal precautions in surgical practice
- Knowledge of common malignancies in India and their prevention, early detection and therapy
- Ability to perform common diagnostic and surgical procedures at the primary care level
- Ability to recognize, resuscitate, stabilize and provide Basic & Advanced Life Support to patients following trauma
- General knowledge about organ retrieval from deceased donor and living donor
- Ability to administer informed consent and counsel patient prior to surgical procedures,
- Commitment to advancement of quality and patient safety in surgical practice.

b. Broad subject specific objectives.

Knowledge:

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

- Describe aetiology, pathophysiology, principles of diagnosis and management of common surgical problems including emergencies in adult and children.
- Define indications and methods for fluid and electrolytes replacement therapy including blood transfusion.
- Define asepsis, disinfection and sterilization and recommend judicious use of antibiotics.
- Describe common malignancies in the country and their management including prevention.
- Enumerate different types of anaesthetic agents, their indications, contraindications, mode of administration, and side effects.

c. Skills

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

- Diagnose common surgical conditions both acute and chronic, in adults and children.
- Plan various laboratory tests for surgical conditions and interpret the results.
- Identify and manage patients of hemorrhagic, septicaemia and other types of shock.
- Be able to maintain patent air-way and resuscitate.
- Monitor patient of head, chest, spinal and abdominal injuries, both in adults and children.
- Provide primary care for a patient of burns.
- Acquire principles of operative surgery including preoperative, operative and post operative care and monitoring.
- Treat open wound including preventive measures against tetanus and gas gangrene.

- Diagnose neonatal and pediatric surgical emergencies and provide sound primary care before referring the patient to secondary/tertiary centres.
- Identify congenital anomalies and refer them for appropriate management.

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

- Apply knowledge of basic medical sciences and other relevant subjects to support understanding of various pathologies, facilitate examination of and intervention for the patients.
- To apply the principles of quality of health care, legal and ethical principles and regulations as recommended by Medical Council of India and WHO.

17. OBSTETRICS AND GYNAECOLOGY

a. Competencies:

The student must demonstrate ability to:

- Provide peri-conceptional counseling and antenatal care,
- Identify high-risk pregnancies and refer appropriately,
- Conduct normal deliveries, using safe delivery practices in the primary and secondary care settings,
- Prescribe drugs safely and appropriately in pregnancy and lactation,
- Diagnose complications of labor, institute primary care and refer in a timely manner,
- Perform early neonatal resuscitation,
- Provide postnatal care, including education in breast-feeding,
- Counsel and support couples in the correct choice of

contraception,

- Interpret test results of laboratory and radiological investigations as they apply to the care of the obstetric patient,
- Apply medico-legal principles as they apply to tubectomy, Medical Termination of Pregnancy (MTP), Pre-conception and Prenatal Diagnostic Techniques (PC PNDT Act) and other related Acts.
- Elicit a gynecologic history, perform appropriate physical and pelvic examinations and PAP smear in the primary care setting,
- Recognize, diagnose and manage common reproductive tract infections in the primary care setting,
- Recognize and diagnose common genital cancers and refer them appropriately.

b. Broad subject specific objectives

Knowledge

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

- Outline the anatomy, physiology and pathophysiology of the reproductive system and the common conditions affecting it.
- Diagnose normal pregnancy, labour, puerperium and manage the problems he is likely to encounter therein.
- List of leading causes of maternal and perinatal morbidity and mortality.
- Understand the principles of contraception and various techniques employed, methods of medical termination of pregnancy, sterilization and their complications.
- Identify the use, abuse and side effects of drugs in pregnancy, peri- menopausal and post menopausal periods.
- Describe the national programme of maternal and child health and family welfare and their implementation at various levels.

- Identify common gynecological diseases and describe principles of their management.
- State the indications, techniques and complications of surgeries like Caesarian section, laparotomy, abdominal and vaginal hysterectomy, Fothergill's operation and vacuum
- Aspiration for Medical Termination of pregnancy (MTP) and minor surgeries like EB, D and C, Cervical Biopsy and Cervical encirclage.

c. Skills

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

- Take proper history and writing a good case sheet
- Writing a good discharge summary, proper referral letter
- Examination of patient and arrival at a diagnosis
- Planning for investigation and treatment
- Community orientation, participation in community health promoting and preventing programmes
- Examine a pregnant woman, recognize high- risk pregnancies and make appropriate referrals.
- Conduct a normal delivery, plot and interprete partogram
- recognize complications and decision of referral, provide postnatal care,
- Resuscitate the newborn and recognize the congenital anomalies.
- Advise a couple on the use of various available contraceptive devices (student should see at least 5 Cu-T insertions and 5 cases of female sterilization operations.)
- Perform pelvic examination, diagnose and manage common. gynecological problems including early detection of genital malignancies.
- Make a vaginal cytological smear, perform a post coital test and wet vaginal smear examination for Trichomonas vaginalis, Moniliasis and gram stain for gonorrhea, catheterization of urinary bladder
- Interpretation of data of investigations like biochemical, histopathological, radiological ultrasound etc.

d. Integration:

The teaching should be aligned and integrated horizontally and vertically in order

to provide comprehensive care for women in their reproductive years and beyond, based on a sound knowledge of structure, functions and disease and their clinical, social, emotional, psychological correlates in the context of national health priorities. The student shall be able to integrate clinical skills with other disciplines and bring about coordination of family welfare programme for the national goal of population control.

18. ORTHOPAEDICS (INCLUDING TRAUMA)

a. Competencies:

- The student must demonstrate:
- Ability to recognize and assess bone injuries, dislocation and poly-trauma and provide first contact care prior to appropriate referral,
- Knowledge of the medico-legal aspects of trauma,
- Ability to recognize and manage common infections of bone and joints in the primary care setting,
- Recognize common congenital, metabolic, neoplastic, degenerative and inflammatory bone diseases and refer appropriately,
- Ability to perform simple orthopedic techniques as applicable to a primary care setting,
- Ability to recommend rehabilitative services for common orthopaedic problems across all ages.

b. Broad subject specific objectives

Knowledge:

The student shall be able to understand:

- The principles, diagnosis and primary management and be able to give appropriate referral for further definitive management of bones and joint injuries.

- Osteogenesis, manifestation and diagnosis, primary management and give their referral for appropriate correction or rehabilitation of common musculoskeletal disorders including infections of bones and joints; congenital skeletal anomalies, metabolic bone diseases and neoplasm affecting bones.

c. Skills

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

- Detect soft tissue injuries such as sprains and strains.
- Detect common fractures of extremities.
- Deliver first aid measures for common fractures and sprains.
- Deliver emergency measures to poly trauma patients.
- Manage uncomplicated fractures of clavicle, forearm, phalanges etc.
- Use techniques of splinting such as application of Thomas splint, plaster slab and casts, immobilization by skin tractions etc.
- Learn indications for closed reductions, open reductions, internal fixation and external fixations of fracture.
- Manage common bone infection; learn indications for sequestration, amputation and corrective measures for bone deformities.
- Advice and counsel patient for rehabilitation for post traumatic, poliomyelitis, cerebral palsy and amputation.
- Be able to perform certain orthopedic skills, provide sound advice of skeletal and related conditions at primary or secondary health care level.

d. Integration:

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

19. ANAESTHESIOLOGY

a. Competencies:

The student must demonstrate ability to:

- Describe and discuss the pre-operative evaluation, assessing fitness for surgery and the modifications in medications in relation to anesthesia /surgery,
- Describe and discuss the roles of Anesthesiologist as a peri-operative physician including pre-medication, endotracheal intubation, general anesthesia and recovery (including variations in recovery from anesthesia and anaesthetic complications),
- Describe and discuss the management of acute and chronic pain, including labour analgesia,
- Demonstrate awareness about the maintenance of airway in children and adults in various situations,
- Demonstrate the awareness about the indications, selection of cases and execution of cardio- pulmonary
- Resuscitation in emergencies and in the intensive care and high dependency units,
- Choose cases for local / regional anesthesia and demonstrate the ability to administer the same,
- Discuss the implications and obtain informed consent for various procedures and to maintain the documents.

b. Broad subject specific objectives:

Knowledge:

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

- Know of simple nerve block and pain relief
- Awareness of the principles of administration of general, regional and local anesthesia.

- Know importance of hypoglycemia/hyperglycemia, hypotension/hypertension, IHD, Myocardial infarction.
- Know ventilators.

c. Skills

At the end of the training, the students should be able to:

- Perform cardio-pulmonary resuscitation with the available resources and transfer the patients to a bigger hospital for advanced life support.
- Set up intravenous infusion and manage fluid therapy
- Clear and maintain airway in unconscious patient.
- Administer oxygen correctly
- General knowledge about diagnosis of brain death and relevance in deceased donor organ transplantation

d. Integration: The teaching should be aligned and integrated horizontally and vertically in order to provide comprehensive care for patients undergoing various surgeries, in patients with pain, in intensive care and in cardio respiratory emergencies. Integration with the departments of Anatomy, Pharmacology and horizontal integration with any/all surgical specialties is proposed.

20. RADIODIAGNOSIS

a. Competencies: The student must demonstrate:

- Understanding of indications for various radiological investigations in common clinical practice,
- Awareness of the ill effects of radiation and various radiation protective measures to be employed,

- Ability to identify abnormalities in common radiological investigations.

b. Broad subject specific objectives:

Knowledge:

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

- Enlist and describe the various diagnostic modalities
- Delineate normal and abnormal radiological findings
- Understand basic radiology and emphasize on its clinical applications
- Describe radiographic, ultra sonographic, CT, MRI features of common pathologies.
- Describe and integrate radiological findings in CNS, GIT, RS, CVS, MSK, GUT

d. Skills

- At the end of the course, the student shall be able to:
- Make use of Imaging findings to reach to a diagnosis;
- Analysis and interpret radiological data;
- Demonstrate the skills of solving clinical problems by illustrative evidences and decision making.

e. Integration: Horizontal and vertical integration to understand the fundamental principles of radiologic imaging, anatomic correlation and their application in diagnosis and therapy.

B. PHASE WISE TRAINING AND TIME DISTRIBUTION FOR PROFESSIONAL DEVELOPMENT

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

In order to ensure that training is in alignment with the goals and competencies required for a medical graduate, there shall be a **Foundation Course** to orient medical learners to MBBS programme, and provide them with requisite knowledge, communication (including electronic), technical and language skills.

I. Training period and time distribution:

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 from academic year 2024-25. There shall be no admission of students in respect of any academic session beyond 30th August from academic year 2024-25. The Universities shall not register any student admitted beyond the said date.

The National Medical Commission may direct, that any student identified as having Obtained admission after the last date for closure of admission be discharged from the Course of study, or any medical qualification granted to such a student shall not be a recognized qualification by National Medical Commission.

The institution which grants admission to any student after the last date specified from the same shall also be liable to face such action as may be prescribed by National Medical Commission.

Every learner shall undergo a period of certified study extending over 4 ½ academic years, divided into four professional 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 39 teaching weeks with a minimum of eight hours of working on each day including one hour as lunch break.

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.

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

At the end of each professional year university examination will be conducted. If any student fails to clear university examination, he will appear in supplementary examination.

Supplementary examinations and declaration of results shall be processed within 3-6 weeks from the date of declaration of the results of the main examination for every professional year, so that the candidates, who pass, can join the main batch for progression.

If the candidate fails in the supplementary examination of first MBBS, he shall join the batch of next academic /subsequent year. There shall be no supplementary batches. Partial attendance of examination in any subject shall be counted as an attempt.

- **A candidate, who fails in the First Professional examination, shall not be allowed to join the Second Professional.**
- **A candidate, who fails in the second Professional examination, shall be allowed to join the third Professional Part I training, however he shall not be allowed to appear for the examination unless he has passed second professional examination.**
- **A candidate who fails in the third Professional (Part I) examination shall be**

allowed to join third Professional part II training, however he shall not be allowed to appear for the examination unless he has passed second professional examination.

II. The period of 4½ years is divided as follows:

Phase I –Total 12 months

i) First Professional phase of 12 months including Foundation Course of one week and university exams. It shall consist of – Anatomy, Physiology, Biochemistry, Introduction to Community Medicine, Humanities, Professional development including Attitude, Ethics & Communication (AETCOM) module, family adoption programme through village outreach where-in each student shall adopt minimum of three (03) families and preferably at least five (05) families, Pandemic module and early clinical exposure, ensuring alignment & all types of integration and simulation- based learning.

Phase II- Second Professional (12 months) including university exams. It will consist of Pathology, Pharmacology, Microbiology, family visit under Community Medicine, General Surgery, General Medicine & Obstetrics & Gynecology Professional development including AETCOM module, simulation-based learning and introduction to clinical subjects ensuring both alignment & all types of integration.

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

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

iii) Phase III - 30 months

a. Third Professional Part I (12 months, including University exams)

Forensic Medicine and Toxicology, Community Medicine, Medicine & allied, Surgery & allied, Pediatrics and Obstetric & Gynecology including AETCOM, Pandemic module, Clinical teaching in General Medicine, General Surgery, Obstetrics & Gynecology, Pediatrics, Orthopedics, Dermatology, Community Medicine, Psychiatry, Respiratory Medicine, Radio-diagnosis (& Radiotherapy) and Anesthesiology & Professional development.

b. Electives (1 month) shall be included here. These will be in 2 blocks of 15 days each in Final first; 1st block after annual exam of III MBBS part 1 and 2nd block after the end of 1st elective.

c. Third Professional Part II (18 months, including University exam)-

Subjects include:

- M edicine and allied specialties (General Medicine, Psychiatry, Dermatology, Venereology and Leprosy (DVL), Respiratory Medicine including Tuberculosis)
- S urgery and allied specialties (General Surgery, Otorhinolaryngology, Ophthalmology, Orthopedics, Dentistry, Physical Medicine and rehabilitation, Anesthesiology and Radiodiagnosis)
- O bstetrics and Gynecology (including Family Welfare)
- P ediatrics
- A ETCOM module

III. Distribution of teaching hours phase wise

a. First, second and third Professional part-I, teaching hours:

Time allotted: 12 months (approx. 52weeks)

Time available: Approx. **39 weeks** (excluding13 weeks) (39 hours/ week)

Prelim / University Exam & Results: 9 weeks

Vacation: 2 weeks

Public Holidays: 2 weeks

Time distribution in weeks: 39 weeks x 39 hours = 1521 hours for Teaching- Learning

b. Final MBBS part-2, teaching hours:

Time allotted: 18 months (approx. 78 weeks)

Time available: Approx. **62 weeks** (excluding 16 weeks) (39 hours/ week)

Prelim / University Exam & Results: 10 weeks

Vacation: 3 weeks

Public Holidays: 3 weeks

Time distribution in weeks: 62 x 39 hrs = 2418 hrs available for Teaching- Learning

(Clinical Postings: 15 hours/ week II MBBS onwards included in academic schedule)

These are attached in sperate annexure with all relevant tables.

Academic calender shall be as per the Table 1.

Distribution of subjects for Professional Phase – wise training is given in Table 2.

Minimum teaching hours prescribed in various disciplines are given in Tables 3-7.

Distribution and duration of clinical postings is given in Table 8.

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

Second professional clinical postings shall commence before / after declaration of results of the first professional phase examinations, as decided by the institution/ University.

Third Professional parts I and part II clinical postings shall start no later than two weeks after the completion of the previous professional examination.

A total of 25% of allotted time of third Professional shall be utilized for integrated learning with phase I and II subjects. This will be included in the assessment of clinical subjects.

Note

- The period of training is minimum suggested. Adjustments where required depending on availability of time may be made by the concerned college/ institution. This period of training does not include university examination period.
- An exposure to skills lab for at least two (02) weeks prior to clinical postings shall be made available to all student.

C) New teaching /learning elements

1) Foundation Course

Goal: The goal of the Foundation Course is to prepare a learner to study medicine effectively.

Objectives:

(a) Orient the learner to:

- The medical profession and the physician's role in society
- The MBBS programme
- Alternate health systems i.e. AYUSH in India and history of Medicine
- Medical ethics, attitudes and professionalism
- Health care system and its delivery
- National health programmes and policies
- Universal precautions and vaccinations
- Patient safety and biohazard safety
- Principles of primary care(general and community based care)
- The academic ambience

(b) Enable the learner to acquire enhanced skills in:

- Language
- Interpersonal relationships

- Communication
- Learning including self-directed learning
- Time management
- Stress management
- Use of information technology, and artificial intelligence

(c) **Train the learner to provide:**

- First-aid
- Basic life support
- In addition to the above, learners maybe enrolled in one of the following programmes which will be run concurrently:
- Local language programme
- English language programme
- Computer skills
- These may be done in the last two hours of the day. These sessions must be as interactive as possible.

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

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

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

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

The Foundation Course shall have a minimum of 75% attendance of all students mandatorily. This will be certified by the Dean of the college.

The Foundation Course shall be organized by the Coordinator appointed by the Dean

of the college and shall be under supervision of the Heads of MBBS phase 1 departments.

Every college shall arrange for a meeting with parents/ wards of all students and records of the same shall be made available to UGMEB of NMC.

2) Early Clinical Exposure

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

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

Elements

- Basic science correlation: i.e. apply and correlate principles of basic sciences as they relate to patient care (this shall be part of integrated modules).
- Clinical skills: to include basic skills in interviewing patients, doctor-patient communication, ethics and professionalism, critical thinking and analysis and self-learning (this training shall be imparted in the time allotted for early clinical exposure).
- 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.

3) Electives

Objectives: To provide the learner with opportunities:

- For diverse learning experiences,
- It is mandatory for learners to do an elective. The elective time shall not be used to make up for missed clinical postings, shortage of attendance or other purposes.
- Institutions will pre-determine the number and nature of electives, names of the supervisors, and the number of learners in each elective based on the local conditions, available resources and faculty.

- Electives on topics in areas such as Research methodology, Use of Artificial intelligence and computers in Health and Medical Education, Health Management, Health economics, Indian system of medicine, Medical photography /clinical photography, Global health, Evidence based medicine, Art and music in medicine, Literary activities, etc. may be provided by the college/ institution.
- It shall be preferable that elective choices are made available to the learners in the beginning of the academic year.
- The learner must submit a learning log book based on both blocks of the electives.
- 75% attendance in the electives and submission of log book maintained during electives is required for eligibility to appear in the final MBBS examination/ NEXT.
- Institutions may use part of this time for strengthening basic skill certification.

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

Objectives of the programme: At the end of the programme, the learner must demonstrate ability to:

- Understand and apply principles of bioethics and law as they apply to medical practice and research, understand and apply the principles of clinical reasoning as they apply to the care of the patients,
- Understand and apply the principles of system-based care as they relate to the care of the patient,
- Understand and apply empathy and other human values to the care of the patient,
- Communicate effectively with patients, families, colleagues and other health care professionals,
- Understand the strengths and limitations of alternative systems of medicine,
- Respond to events and issues in a professional, considerate and humane fashion,
- Translate learning from the humanities in order to further his professional and personal growth.

Learning experiences:

- This will be a longitudinal programme spread across the continuum of the MBBS programme including internship,
- Learning experiences shall include small group discussions, patient care scenarios, workshops, seminars, role plays, lectures etc.
- Attitude, Ethics & Communication Module (AETCOM module) developed by the erstwhile Medical Council of India should be used longitudinally for purposes of instruction.
- 75% attendance in Professional Development Programme (AETCOM Module) shall be mandatory for eligibility to appear for final examination in each professional year.

Internal Assessment shall include:

- Written tests comprising of short notes and creative writing experiences,

OSCE based clinical scenarios /viva voce.

- At least one question in each paper of each clinical specialty in the University examination shall test knowledge competencies acquired during the professional development programme.
- Skill competencies acquired during the Professional Development Programme must be tested during the clinical, practical and viva voce.

5) Learner-doctor method of clinical training (Clinical Clerkship)

a. Goal: To provide learners with experience in:

- Longitudinal patient care,
- Being part of the health care team,
- Hands-on care of patients in outpatient and in-patient setting.

b. Structure:

- The first clinical posting in second professional shall orient learners to the patient, their roles and the specialty.
- The learner-doctor programme shall progress as outlined in Table 9.
- The learner shall function as a part of the health care team with the following responsibilities:
  - Be a part of the units' out-patient services on admission days,
  - Remain with the admission unit until at least 6 PM except during designated class hours,
  - Be assigned patients admitted during each admission day for whom he will undertake responsibility, under the supervision of a senior resident or faculty member,

- Participate in the unit rounds on its admission day and will present the assigned patients to the supervising physician,
- Follow the patient's progress throughout the hospital stay until discharge,
- Participate, under supervision, in procedures, surgeries, deliveries etc. of assigned patients,
- Participate in unit rounds on at least one other day of the week excluding the admission day,
- Discuss ethical and other humanitarian issues during unit rounds,
- Attend all scheduled classes and educational activities,
- Document his observations in a prescribed log book /case record.

No learner will be given independent charge of the patient in the capacity of primary physician of the concerned patient.

The supervising physician shall be responsible for all patient care decisions and guide the learner from time to time as required.

6) Assessment:

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

D) Assessment

I. Eligibility to appear for Professional examinations

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

(a) Attendance

- There shall be a minimum of 75% attendance 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. There shall be minimum of 80% attendance in family visits under Family adoption programme. Each student shall adopt minimum 3 families and preferably five families. The details shall be as per Family Adoption Program guidelines.
- If an examination comprises more than one subject (for e.g., General Surgery and allied branches), the candidate must have a minimum of 75% attendance in each subject including its allied branches, 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/ NEXT.

(b) **Internal Assessment**: Internal assessment shall be based on day-to-day assessment. It shall relate to different ways in which learners participate in learning process including assignments, preparation for seminar, clinical case presentation, preparation of clinical case for discussion, clinical case study/ problem solving exercise, participation in project for health care in the community. Internal assessment shall not be added to summative assessment. However, internal assessment should be displayed under a separate column in detailed marks card.

(c) Learners must have completed the required certifiable competencies for that phase of training and completed the log book

appropriate for that phase of training to be eligible for appearing at the final university examination of that subject.

(d) Regular periodic examinations shall be conducted throughout the course. There shall be no less than three internal assessment examinations in each subject of first and second professional year, and no less than two examinations in each subject of final 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.
- The final internal assessment in a broad clinical specialty (e.g., Surgery and allied specialties etc.) shall comprise of marks from all the constituent specialties. The proportion of the marks for each constituent specialty shall be determined by the time of instruction allotted to each.
- Learners must secure at least 50% marks of the total marks (combined in theory and practical / clinical; not less than 40% marks in theory and practical separately) for internal assessment in a particular subject in order to be eligible for appearing at the final University examination of that subject. Internal assessment marks will reflect as separate head of passing at the summative examination.
- The results of internal assessment should be displayed on the notice board within one week of the test.
- Universities shall guide the colleges regarding formulating policies for remedial measures for students who are either not able to score qualifying marks or have missed on some assessments due to any reason.

II. University Examinations:

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 shall include different types such as structured assays (Long-Answer Questions -LAQ), Short-Answer Questions (SAQ) and objective type questions (e.g. Multiple Choice Questions - MCQ). Marks for each part shall be indicated separately. MCQs shall be accorded a weightage of not more than 20% of the total theory marks. Practical /clinical examinations shall be conducted in the laboratories and /or hospital wards. The objective will be to assess proficiency and skills to conduct experiments, interpret data and form logical conclusion. Clinical cases kept in the examination must be common conditions that the learner may encounter as a physician of first contact in the community. Selection of rare syndromes and disorders as examination cases is to be discouraged. Emphasis should be on candidate's capability to elicit history, demonstrate physical signs, write a case record, analyze the case and develop a management plan.
- Viva/oral examination should assess approach to patient management, emergencies, and attitudinal, ethical and professional values. Candidate's skill in interpretation of common investigative data, X-rays, identification of specimens, ECG, etc. is to be also assessed.

University Examinations shall be held as under:

(a) First Professional

The first Professional examination shall be held at the end of first Professional training (in the 12th month of that training), in the subjects of Anatomy, Physiology and Biochemistry.

(b) Second Professional

The second Professional examination shall be held at the end of second

professional training (12th month of that training), in the subjects of Pathology, Microbiology, and Pharmacology.

(c) Third Professional

- Third Professional Part I examination shall be held at end of third Professional part 1 of training (12th month of that training) in the subjects of Community Medicine, and Forensic Medicine including Toxicology
- Third Professional Part II / National Exit Test (NExT) as per NExT regulations- (Final Professional) examination shall be at the end of 17th / 18th month of that training, in the subjects of General Medicine, General Surgery, Ophthalmology, Otorhinolaryngology, Obstetrics & Gynecology, and Pediatrics, and allied subjects as per NExT REGULATIONS.

Note:

- At least one question in each paper of each PHASE shall test the knowledge, and competencies acquired during the professional development programme (AETCOM module).
- Skills competencies acquired during the Professional Development Programme (AETCOM module) shall be tested during clinical, practical and viva.

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

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

Appointment of Examiners

- **Person appointed as an examiner in the particular subject must have at least four years of total teaching experience as Assistant Professor after obtaining postgraduate degree following MBBS,** in the subject in a

college affiliated to a recognized medical college (by UGMEB of NMC).

- For Practical /Clinical examinations, there shall be at least four examiners for every learner, out of whom not less than 50% must be external examiners. Of the four examiners, the senior-most internal examiner shall act as the Chairman and coordinator of the whole examination programme so that uniformity in the matter of assessment of candidates is maintained.
- A University having more than one college shall have separate sets of examiners for each college, with internal examiners from the concerned college. External examiner may be from outside the college/ university/ state/ union territory.
- There shall be a Chairman of the Board of paper-setters who shall be an internal examiner and shall moderate the questions.
- All eligible examiners with requisite qualifications and experience can be appointed internal examiners by rotation in their subjects.
- All theory paper assessment should be done as central assessment program (CAP) of concerned university.
- Internal examiners shall be appointed from the same institution for unitary examination in the same institution. For pooled examinations at one centre, the approved internal examiners from same university may be appointed.
- The Examiners for General Surgery and allied subjects as well as for General Medicine and allied subjects, shall be from General Surgery and General Medicine respectively.
- There shall be no grace marks to be considered for passing in an examination.

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(2)

ANNEXURES:

1. COMPETENCIES
2. TABLES RELATED TO CBME/ CURRICULUM, ASSESSMENTS
3. FAMILY ADOPTION PROGRAMME
4. GUIDELINES FOR MANPOWER REQUIREMENT FOR RESEARCH FACILITIES
5. DISABILITY CRITERIA FOR ADMISSION TO MBBS

AETCOM COMPETENCIES

AETCOM Competencies for First MBBS

Subject	Competency Number	Competency
Anatomy	Module 1.5	The cadaver as our first teacher Demonstrate respect and follow the correct procedure when handling cadavers and other biologic tissue
	Module 1.1	Identify, discuss Physician's role and responsibility to society and the community that she/he serves
Physiology	Module 1.2, Module 1.3	Demonstrate empathy in patient encounters
	Module 1.4	Demonstrate ability to communicate to patients in a patient, respectful, non- threatening, non-judgmental and empathetic manner
Biochemistry	Module 1.1,	Enumerate and Describe the role of a physician in health care system
	Module 1.1	Describe and discuss the commitment to lifelong learning as an important part of physician growth

AETCOM Competencies for Second MBBS

Subject	Competency Number	Competency
Pathology	2.6	Identify, discuss and defend medico-legal, socio-cultural and ethical issues as they pertain to refusal of care including do not resuscitate and withdrawal of life support.
	2.4 A	Demonstrate ability to work in a team of peers and superiors.
	2.4 B	Demonstrate respect in relationship with patients, fellow team members, superiors and other health care workers.
	2.7	Identify, discuss and defend, medico-legal, socio-cultural and ethical issues as they pertain to consent for surgical procedures.
Microbiology	Module 2.2 A	Describe and discuss the role of non-malfeasance as a guiding principle in patient care
	Module 2.2 B	Describe and discuss the role of autonomy and shared responsibility as a guiding principle in patient care
	Module 2.2 C	Describe and discuss the role of beneficence of a guiding principle inpatient care
	Module 2.2 D	Describe and discuss the role of a physician in health care system
	Module 2.2 E	Describe and discuss the role of justice as a guiding principle in patient Care
	Module 2.3	Describe and discuss the role of justice as a guiding principle in patient care
	Module 2.5	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
Pharmacology	Module 2.1	Demonstrate ability to communicate to patients in a patient, respectful, non-threatening, non-judgmental and empathetic manner.
	Module 2.8	Demonstrate empathy in patient encounters.

AETCOM Competencies for Third Year (Part I)

Subject	Competency Number	Competency
Ophthalmology	**3.1**	**Demonstrate ability to communicate to patients in a patient, respectful, nonthreatening, non-judgmental and empathetic manner**
	3.2	**Demonstrate an understanding of the implications and the appropriate procedure and response to be followed in the event of medical error**
ENT	**3.3 A**	**Demonstrate ability to communicate to patients in a patient, respectful, nonthreatening, non-judgmental and empathetic manner**
	3.3 B	**Identify, discuss and defend, medico-legal, socio-cultural and ethical issues as they pertain to consent for surgical procedures**
Forensic Medicine & Toxicology	**3.3 C**	**Administer informed consent and appropriately address patient queries to a patient undergoing a surgical procedure in a simulated environment**
	3.4	**Identify, discuss and defend medico-legal, socio-cultural and ethical issues as it pertains to confidentiality in patient care**
Community Medicine	**3.5 A**	**Identify, discuss and defend medico-legal, socio-cultural, professional and ethical issues as it pertains to the physician - patient relationship (including fiduciary duty)**
	3.5 B	**Identify and discuss physician's role and responsibility to society and the community that she/ he serves**

AETCOM Competencies for Third Year (Part II)

Subject	Competency Number	Competency
Medicine and Allied Subjects	**4.1 A**	**The student should be able to: Demonstrate ability to communicate to patients in a patient, respectful, nonthreatening, non-judgmental and empathetic manner**
	4.1 B	**The student should be able to: Communicate diagnostic and therapeutic options to patient and family in a simulated environment**
	4.3	**The student should be able to: Identify and discuss medico-legal, socio-economic and ethical issues as it pertains to organ donation**
Surgery and Allied Subjects	**4.4 A**	**The student should be able to: Demonstrate empathy in patient encounters**
	4.4 B	**The student should be able to: Communicate care options to patient and family with a terminal illness in a simulated environment**
	4.5	**The student should be able to: Identify and discuss and defend medico-legal, socio-cultural, professional and ethical issues in physician - industry relationships**
	4.6	**The student should be able to: Identify conflicts of interest in patient care and professional relationships and describe the correct response to these conflicts**
Obstetrics and Gynecology	**4.2**	**The student should be able to: Identify, discuss and defend medico-legal, socioeconomic and ethical issues as it pertains to abortion / Medical Termination of Pregnancy and reproductive rights**
	4.7	**The student should be able to: Identify conflicts of interest in patient care and professional relationships and describe the correct response to these conflicts**
	4.8 A	**The student should be able to: Identify conflicts of interest in patient care and professional relationships and describe the correct response to these conflicts.**

	4.8 B	**The student should be able to: Demonstrate empathy to patient and family with a terminal illness in a simulated environment.**
Pediatrics	**4.9 A**	**The student should be able to: Identify, discuss and defend medico-legal, socio-cultural, professional and ethical issues pertaining to medical negligence**
	4.9 B	**The student should be able to: Identify, discuss and defend medico-legal, socio-cultural, professional and ethical issues pertaining to malpractice**

Table1: Time distribution of MBBS Programme & Examination Schedule

Proposed Academic Calender for CBME 2023-24 Batch 2023

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2023									1	2	3	4
2024	5	6	7	8	9	10	11	12-Ist Prof, exam, result	13- 2nd MBBS	14	15	16
2025	17	18	19	20	21	22	23	24- 2nd Prof exam, result	25- Final 1st	26	27	28
2026	29	30	31	32	33	34	35	36- Final 1st exam, result	37- Final 2nd	38	39	40
2027	41	42	43	44	45	46	47	48	49	50	51	52
2028	53	54 NEXT-1	1- CRMI	2	3	4	5- 2nd proposed NEXT	6	7	8	9	10
2029	11	12-NEXT-Step 2										

Legends:

AETCOM: Attitude, Ethics and Communication skills

FAP: Family Adoption Programme (village outreach)

SDL: Self Directed Learning

SGL: Small Group Learning (tutorials/ Seminars/ Integrated Learning)

PCT (mentioned in Assessments): Part Completion Test

Table2: Distribution of subjects in each Professional Phase

Phase & year of MBBS training	Subjects & Teaching Elements	Duration (months)	University Exam-ination
First Professional MBBS	(i) Foundation course -1 week, remaining spread over 6 months at the discretion of college (ii) Anatomy, Physiology & Biochemistry, Introduction to Community Medicine, including Family adoption programme (FAP) through village outreach (iii) Early Clinical Exposure (iv) Attitude, Ethics, and communication Module (AETCOM) including Humanities	12 months	1st professional
Second Professional MBBS	(i) Pathology, Microbiology, Pharmacology (ii) Introduction to clinical subjects (iii) Clinical postings, Family visits for FAP (iv) AETCOM	12 months	2nd professional
Third Professional part 1, MBBS, including Electives 1 month	(i) Community Medicine, Forensic Medicine and Toxicology, Medicine & allied, Surgery & allied, Pediatrics, Obstetrics & Gynecology (ii) Family visits for FAP (iii) Clinical postings (iv) AETCOM (v) Electives- 1 month, 2 blocks, 15 days each	12 months	Final professional - Part 1
Third Professional part 2, MBBS	(i) General Medicine, Dermatology, Psychiatry, Respiratory medicine, Pediatrics, General Surgery, Orthopedics, Oto-rhinolaryngology, Ophthalmology, Radiodiagnosis, Anesthesiology, Obstetrics & Gynecology (ii) Clinical postings (iii) AETCOM	18 months	Final Profession-al - Part II

Table 3: Foundation Course

(one week + spread over 6 months at the discretion of college)

Subjects/Contents	**Teaching hours**
Orientation	30
Skills Module	34
Field visit to Community Health Center	08
Introduction to Professional Development & AETCOM module	40
Sports, Yoga and extra-curricular activities	16
Enhancement of language/computer skills	32
Total	**160**

Table no. 4 Distribution of Subject Wise Teaching Hours for 1st MBBS

Subject	Lectures	SGL	SDL	Total
Foundation Course				39
Anatomy	210	400	10	620
Physiology	130	300	10	440
Biochemistry *	78	144	10	232
Early Clinical Exposure**	27	-	0	27
Community Medicine	20	20		40
FAP			27	27
(AETCOM)***	-	26	-	26
Sports and extra-curricular activities	-	-	-	10
Formative Assessment and Term examinations	-	-	-	60
Total	**464**	**918**	**30**	**1521 #**

* Including Molecular Biology

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

***AETCOM module shall be a longitudinal programme.

Includes hours for Foundation course also

Table no. 5- Distribution of Subject Wise Teaching Hours for II MBBS

Subjects	Lectures	SGL	Clinical Postings*	SDL	Total
Pathology	80	165	-	10	255
Pharmacology	80	165	-	10	255
Microbiology	70	135	-	10	215
Community Medicine	15	0	0	10	25
FAP	0	0	30		30
Forensic Medicine and Toxicology	12	22	-	08	42
Clinical Subjects	59		540	-	599
AETCOM	-	29	-	8	37
Sports, Yoga and extra-curricular activities	-	-	-	20	35
Pandemic module				28	28
Final total	316	516	585	104	1521

Pl. note: Clinical postings shall be for 3 hours per day, Monday to Friday.

There will be 15 hours per week for all clinical postings.

Table no. 6 - Distribution of Subject Wise Teaching Hours for Final MBBS part 1.

Subject	Lectures	SGL	SDL	Total
Electives	0	156	0	156
Gen. Med.	30	50	10	90
Gen Surgery	30	50	10	90
Obs. & Gyn	30	50	10	90
Pediatrics	25	30	10	65
Orthopedics	15	20	10	45
For. Med.& Tox.	40	70	20	130
Community Med	55	70	20	145
FAP (Visits +log book submission)	-	21	10	31
Otorhinolaryngology (ENT)	15	20	10	45
Ophthalmology	15	20	10	45
Clinical posting			540	540
AETCOM	0	19	12	31
Pandemic module	18	0	0	18
Total	**273**	**546**	**672**	**1521**

Table 7: Distribution of Subject wise Teaching Hours for

Third professional part-2/ Final MBBS

Subjects	Lectures	SGL	SDL	Total
General Medicine	95	155	55	**260**
General Surgery	80	140	40	**260**
Obstetrics and Gynecology	80	140	40	**260**
Pediatrics	30	60	30	**120**
Orthopedics	25	35	25	**85**
AETCOM	30	0	22	**52**
Dermatology	15	10	15	**40**
Psychiatry	15	15	15	**45**
Otorhinolaryngology (ENT)	15	25	15	**55**
Ophthalmology	15	25	15	**55**
Radiodiagnosis	8	15	15	**38**
Anesthesiology	8	15	15	**38**
Pandemic module	28	-	-	**28**
TOTAL	**444**	**610**	**302**	**1356**

Extra hours may be used for preparation of NExT or SDL.

Table no. 8: Clinical Posting Schedules in weeks

Subjects	Period of training in weeks			Total Weeks
	II MBBS	III MBBS Part I	III MBBS Part II	
Electives	0	4	0	4
General Medicine	9	4	14	27
General Surgery	7	4	10	21
Obstetrics & Gynaecology	7	4	10	21
Pediatrics	4	4	5	13
Community Medicine	4	4	0	8
Orthopaedics	2	2	4	8
Otorhinolaryngology	0	3	4	7
Ophthalmology	0	3	4	7
Psychiatry	0	2	4	6
Radio-diagnosis	0	0	2	2
Dermatology	2	2	2	6
Dentistry	1	0	0	1
Anaesthesiology	0	0	3	3
Total	**36**	**36**	**62**	**134**

Table 9: Learner- Doctor programme (Clinical Clerkship)

Year of Curriculum	Focus of Learner-Doctor programme
Year 1	Introduction to hospital environment, early clinical exposure, understanding perspectives of illness, family adoption program
Year 2	History taking, physical examination, assessment of change in clinical status, communication and patient education, family adoption program
Year 3	All of the above and choice of investigations, basic procedures and continuity of care
Year 4	All of the above (except Family adoption programme) and decision making, management and outcomes

Table 10 : Marks distribution for various subjects for University Annual Examinations

Phase of Course	Theory	Practicals	Passing criteria
1st MBBS			
Anatomy- 2 papers	Paper 1- 100	100	Mandatory to get 40% marks separately in theory and in practicals; and totally 50% for theory plus practicals.
	Paper 2 -100		
Physiology- 2 papers	Paper 1- 100	100	
	Paper 2 -100		
Biochemistry- 2 papers	Paper 1- 100	100	
	Paper 2- 100		
2nd MBBS			
Pathology - 2 papers	Paper 1- 100	100	
	Paper 2 -100		
Microbiology- 2 papers	Paper 1- 100	100	
	Paper 2- 100		
Pharmacology- 2 papers	Paper 1 -100	100	
	Paper 2- 100		
Final MBBS part 1			
Forensic Med. Tox.- 1 paper	Paper 1 - 100	50	
Community Med- 2 papers	Paper 1 -100	100	
	Paper 2- 100		

For NEXT, as per NEXT regulations.

Name of Institute:

DEPARTMENT OF Anatomy/Physiology/Biochemistry

Faculty : MBBS	Year/Phase- I		Date : dd/mm/yyyy

		Formative Assessment Theory			Continuous Internal assessment Theory						
Roll No.	**Name of Student**	**1st PCT Theory**	**2nd PCT Theory**	**Prelims Theory (Paper I & II)**	Home Assignment	Continuous Class Test (LMS)	Seminar	Museum study	Library assignments	Attendance Theory	**Total**
							Self Directed Learning				
		100	**100**	**200**	**15**	**30**	**15**	**15**	**15**	**10**	**500**

Professor & Head
Department of _____
Name of Institute

Name of Institute :												
Department of Anatomy/Physiology/Biochemistry												
Faculty : MBBS	Year/Phase- I										Date : dd/mm/yyyy	
			Formative Assessment			Continuous Internal Assessment (Practical)						
S.No.	Roll No.	Name of Student	1st PCT Practical/First Ward Leaving Examination	2nd PCT Practical /Second Ward Leaving Examination	Prelims Practical	Log book (150)				Journal *(Record book/ Portfolio)*	Attendance (Practical)	Total
						Certifiable skill based competencies (Through OSPE/OSCE/Spots/Exercise/Other)	AETCOM competencies	SVL Lab activity	Research			
			100	100	100	60	30	40	20	40	10	500

Professor & Head
Department of _____
Name of Institute

Name of Institute :

DEPARTMENT OF Pathology/Pharmacology/Microbiology

Faculty : MBBS | **Year/Phase- II**

			Formative Assessment Theory			Continuous Internal assessment Theory						
S.No.	**Roll No.**	**Name of Student**	**1st PCT Theory**	**2nd PCT Theory**	**Prelims Theory (Paper I & II)**	Home Assignment	Continuous Class Test (LMS)	Seminar	Museum study	Library assignments	Attendance Theory	**Total**
								Self Directed Learning				
			100	**100**	**200**	**15**	**30**	**15**	**15**	**15**	**10**	**500**

Professor & Head
Department of _____
Name of Institute

Name of Institute :

Department of Pathology/Pharmacology/Microbiology

Faculty : MBBS | **Year/Phase- II** | **Date : dd/mm/yyyy**

			Formative Assessment			Continuous Internal Assessment (Practical)						
S.No.	**Roll No.**	**Name of Student**	**1st PCT Practical/First Ward Leaving Examination**	**2nd PCT Practical /Second Ward Leaving Examination**	**Prelims Practical**	**Log book (150)**				***Journal** (Record book/ Portfolio)*	**Attendance (Practical)**	**Total**
						Certifiable skill based competencies (Through OSPE/OSCE/Spots/Exercise/ Other)	**AETCOM competencies**	**SVL Lab activity**	**Research**			
			100	**100**	**100**	**60**	**30**	**40**	**20**	**40**	**10**	**500**

Professor & Head
Department of _____
Name of Institute

DEPARTMENT OF Community Medicine

Faculty : MBBS **Year/Phase 3, part 1**

			Formative Assessment_Theory			Continuous Internal assessment_Theory									Cumulative percent of Theory & Practical
S.No.	Roll No.	Name of Student	1st PCT Theory	2nd PCT Theory	Prelims Theory (Paper I & II)	Home Assignment	Seminar	Continuous Class Test (LMS)	Museum study	Library assignments	Attendance Theory	Total	Percentage Theory *(Minimum cut off 40%)*		Theory+ Practical = 500+500= 1000 *(Minimum cut off 50%)*
									Self Directed Learning						*Note: Minimum 40% separately for theory and practical and 50% cumulative in IA for eligibility in Summative examination*
			100	100	200	15	15	30	15	15	10	500	%		
1															
2															
3															

DEPARTMENT OF FMT

Faculty: MBBS,
Year/ Phase 3, part
1

			Formative Assessment_Theory			Continuous Internal assessment_Theory						Total	Percentage Theory *(Minimum cut off 40%)*		Cumulative percent of Theory & Practical
S.No.	Roll No.	Name of Student	1st PCT Theory	2nd PCT Theory	Prelims Theory (Paper I &	Home Assignment	Seminar	Continuous Class Test (LMS)	Museum study	Library assignments	Attendance Theory				Theory+ Practical = 375+500= 875 *(Minimum cut off 50%)*
									Self Directed Learning						
			100	100	100	10	10	25	10	10	10	375	%		
1															
2															
3															

S/d
Professor & Head
Department of _____
*** Medical College**
University
State/
U.T.

Department of Community Medicine

Faculty : MBBS Year/Phase 3, part 1 Date : dd/mm/yyyy

			Formative Assessment			Continuous Internal Assessment (Practical)						
			1st PCT Practical/First Ward Leaving Examination	2nd PCT Practical /Second Ward Leaving Examination	Prelims Practical	Log book (150)			Journal (Record book/ Portfolio)	Attendance (Practical)	Total	Percentage Practical (Minimum cut off 40%)
S.No.	Roll No.	Name of Student				Certifiable skill based competencies (Through OSPE/OSCE/Spots/Exercise/Other)	Family Adoption Programme competencies in Comm. Med	AETCOM competencies				
			100	100	100	60	30	30	40	10	500	%
1												
2												
3												

S/d
Professor & Head
Department of _____
* Medical College
University
State/ U.T.

Department of FMT MBBS Phase 3, Part 1

Faculty : MBBS Year/Phase- Date : dd/mm/yyyy

			Formative Assessment			Continuous Internal Assessment (Practical)						
			1st PCT Practical/First Ward Leaving Examination	2nd PCT Practical /Second Ward Leaving Examination	Prelims Practical	Log book (150)			Journal (Record book/ Portfolio)	Attendance (Practical)	Total	Percentage Practical (Minimum cut off 40%)
S.No.	Roll No.	Name of Student				Certifiable skill based competencies (Through OSPE/OSCE/Spots/Exercise/Other)	AETCOM competencies	SVL Lab activity				
			100	100	100	70	40	40	40	10	500	%
1												
2												
3												

S/d
Professor & Head
Department of _____
* Medical College
University
State/ U.T.

Name of Institute :

Faculty : Final MBBS	Year/Phase- Part - II	Date : dd/mm/yyyy

DEPARTMENT OF Paediatrics/ENT/Ophthalmology

S.No.	Roll No.	Name of Student	Formative Assessment_Theory			Continuous Internal assessment_Theory						Total
			1st PCT Theory	2nd PCT Theory	Prelims Theory (Paper I & II)	Home Assignment	Continuous Class Test (LMS)	Seminar	Museum study	Library assignments	Attendance Theory	
								Self Directed Learning				
			100	100	100	10	25	10	10	10	10	375

Name of Institute :												
Department of Paediatrics/ENT/Ophthalmology												
Faculty : Final MBBS			Year/Phase- Part -II									Date : dd/mm/yyyy
			Formative Assessment			Continuous Internal Assessment (Practical)						
S.No.	Roll No.	Name of Student	1st PCT Practical/First Ward Leaving Examination	2nd PCT Practical /Second Ward Leaving Examination	Prelims Practical	Log book (150)				Journal *(Record book/Portfolio)*	Attendance (Practical)	Total
						Certifiable skill based competencies (Through OSPE/OSCE/Spots/Exercise/Other)	AETCOM competencies	SVL Lab activity	Research			
			100	100	100	60	30	50	20	40	10	500

DEPARTMENT OF Medicine, Surgery, OBGY

Final MBBS Year-3, Part II

S.No.	Roll No.	Name of Student	Formative Assessment_Theory			Continuous Internal assessment_Theory						Total
			1st PCT Theory	2nd PCT Theory	Prelims Theory (Paper I & II)	Home Assignment	Continuous Class Test (LMS)	Seminar	Museum study	Library assignments	Attendance Theory	
								Self Directed Learning				
			100	100	200	15	30	15	15	15	10	500

Professor & Head
Department of _____
Name of Institute

DEPARTMENT OF Medicine, Surgery, OBGY													
Faculty : Final MBBS			Year/Phase- Part - II										Date : dd/mm/yyyy
			Formative Assessment			Continuous Internal Assessment (Practical)							
S.No.	Roll No.	Name of Student	1st PCT Practical/First Ward Leaving Examination	2nd PCT Practical /Second Ward Leaving Examination	Prelims Practical	Log book (200)				Journal *(Record book/Portfolio)*	Attendance (Practical)	Total
						Certifiable skill based competencies (Through OSPE/OSCE/Spots/Exercise/Other)	AETCOM competencies	SVL Lab activity	Research			
			100	100	200	100	40	40	20	40	10	650

Professor & Head
Department of _____
Name of Institute

National Medical Commission (Undergraduate Medical Education) Guidelines, 2023

CURRICULUM FOR FAMILY ADOPTION PROGRAMME

FAMILY ADOPTION PROGRAM:

This is being introduced with the aim of village outreach program for MBBS students. Every student shall ideally adopt 5(five) families. However, minimum 3(three) families are mandatorily to be adopted by every MBBS students. Every college may arrange one diagnostic medical camp in the village wherein identification of:

a) anaemia, malnutrition in children, hypertension, diabetes mellitus, ischemic heart diseases, kidney diseases, any other local problems may be addressed.
b) If required, patients shall be admitted in the hospital for acute illness under care of student, charges may be waived off or provide concession or govt. schemes.
c) For chronic illness, students shall be involved.
d) Subsidized treatment charges may be provided under govt. schemes or welfare schemes.
e) Medical student may be allocated about 5 families and introduced in the first visit.
f) Camps may be arranged by Dean and Community Medicine/ P.S.M. department with active involvement of Associate/ Asst. Professors, social worker and supporting staff. Local population may be involved with village leaders.
g) Visit by students be made to the visit as mentioned in table below. Annual follow up diagnostic camp can be continued by the PSM department.

TARGETS TO BE ACHIEVED BY STUDENTS:

First Professional Year:

a) Learning communication skills and inspire confidence amongst families
b) Understand the dynamics of rural set-up of that region
c) Screening programs and education about ongoing government sponsored health related programs
d) Learn to analyse the data collected from their families
e) Identify diseases/ ill-health/ malnutrition of allotted families and try to improve the standards

Second Professional Year

a) Inspire active participation of community through families allotted
b) Continue active involvement to become the first doctor /reference point of the family by continued active interaction
c) Start compiling the outcome targets achieved

Third Professional Year

Analysis of their involvement and impact on existing socio-politico-economic dynamics in addition to improvement in health conditions

-Final visit to have last round of active interaction with families

-prepare a report to be submitted to department addressing:

1) Improvement in general health
2) Immunization
3) Sanitation,
4) De-addiction
5) Whether healthy lifestyles like reading good books, sports/ yoga activities have been inculcated in the house-holds.
6) Improvement in anaemia, tuberculosis control
7) Sanitation awareness
8) Any other issues
9) Role of the student in supporting family during illness/ medical emergency
10) Social responsibility in the form of environment protection programme in form of plantation drive (medicinal plants/trees), cleanliness and sanitation drives with the initiative of the medical student

Curriculum for Family Adoption Programme

Professional Year	Competency The student should be able to	Objectives	Suggested Teaching Learning methods	Suggested Assessment methods	Teaching Hours
1st Professional	• Collect demographic profile of allotted families, take history and conduct clinical examination of all family members	By the end of this visit, students should be able to compile the basic demographic profile of allocated family members	Family survey, Community clinics	Community case presentation, OSPE, logbook, journal of visit	6 hrs
	• Organize health check-up and coordinate treatment of adopted family under overall guidance of mentor	By the end of this visit, students should be able to report the basic health profile and treatment history of allocated family members	Community clinics, Multispecialty camps	Community case presentation, OSPE, logbook, journal of visit	9 hrs
	• Maintain communication & follow up of remedial measures	By the end of this visit, students should be able to provide details of communication maintained with family members for follow-up of treatment and	Reporting of follow up visits, PRA techniques (transact walk, group discussion) Community	Community case presentation, OSPE, logbook based certification of competency, journal of visit	6 hrs

		suggested remedial measures	clinics.		
	• Take part in environment protection and sustenance activities.	By the end of this visit, students should be able to report the activities undertaken for environment protection and sustenance like study of environment of families, tree plantation/ herbal plantation activities conducted in the village	Participation in and Process documentation of activities (NSS activities) along with reporting of photographic evidences	logbook based certification of competency, journal of visit	6hrs (Total27 hrs, 9 visits)
2nd Professional	• Take history and conduct clinical examination of all family members	By the end of this visit, students should be able to compile the updated medical history of family members and report their vitals and anthropometry	Family survey, Community clinics	Community case presentation, OSPE, logbook, journal of visit	6 hrs
	• Organize health check-up and coordinate treatment of adopted family under overall guidance of mentor	By the end of this visit, students should be able to report the details of clinical examination like Hb %, blood group, urine routine and blood sugar along with treatment history of allocated family members	Community clinics, Multispecialty camps	Community case presentation, OSPE, logbook, journal of visit	9 hrs

	• Maintain communication & follow up of remedial measures	By the end of this visit, students should be able to provide details of communication maintained with family members for follow-up of treatment, and suggested remedial measures along with details of vaccination drive	Reporting of follow up visits, PRA techniques (transact walk, group discussion) Community clinics,	Community case presentation, OSPE, logbook based certification of competency, journal of visit	9 hrs
	• Take part in environment protection and sustenance activities.	By the end of this visit, students should be able to report the activities undertaken for environment protection and sustenance like study of environment of families, tree plantation/ herbal plantation activities conducted in the village	Participation in and Process documentation of activities (NSS activities) along with reporting of photographic evidences	logbook based certification of competency, journal of visit	6 hrs (Total 30 hrs, 10 visits)
3rd Professional	• Take history and conduct clinical examination of all family members	By the end of this visit, students should be able to update the medical history of family members and their vitals and anthropometry	Family survey, Community clinics	Community case presentation, OSPE, logbook, journal of visit	3hrs
	• Organize health check-up and coordinate treatment of adopted family under overall guidance of mentor	By the end of this visit, students should be able to report the details of clinical examination like Hb %, blood group, urine	Community clinics, Multispecialty camps	Community case presentation, OSPE, logbook, journal of visit	3hrs

		routine and blood sugar along with treatment history of allocated family members			
	• Maintain communication & follow up of remedial measures	By the end of this visit, students should be able to provide details of communication maintained with family members for follow-up of treatment, and suggested remedial measures along with details of vaccination drive	Reporting of follow up visits, PRA techniques (transact walk, group discussion) Community clinics,	Community case presentation, OSPE, logbook based certification of competency, journal of visit	3hrs
	• Take part in environment protection and sustenance activities. • Council the family members of allotted families and analyze the health trajectory of adopted family under overall guidance of mentor	By the end of this visit, students should be able to report the activities undertaken for environment protection and sustenance like study of environment of families, tree plantation herbal plantation activities conducted in the village. By the end of this visit, students should be able to analyze and report the health trajectory of adopted family along with remedial measures adopted at individual, family and community level	Participation in and Process documentation of activities (NSS activities) along with reporting of photographic evidences, Small group discussion (report of the health trajectory of adopted family)	logbook based certification of competency, journal of visit	3hrs (total 21 hrs, 7 visits)

LOG BOOK FOR FAMILY ADOPTION

COLLEGE NAME :

UNIVERSITY :

ADDRESS DETAILS :

NAME OF THE STUDENT :

ROLL NO. :

VILLAGE NAME :

TEHSIL/ DISTRICT :

STATE/ UNION TERITORY :

NAME OF THE MENTOR :

MENTOR STATUS :
Asst. Prof/ S.R. And Details
(If changed, details of subsequent mentors)

NAME OF ASHA WORKER :

ADDRESS OF ASHA WORKER :

EXPERIENCE :
(SINCE HOW MANY YEARS IS HE/ SHE EMPLOYED)
(SEPARATE PAGE FOR EACH FAMILY BE MAINTAINED)

- Family name and address
- Approximate size of living space of house-hold
- Malaria/ flu/ etc pertinent to the region

1) If there is any illness or medical emergency required by the house-hold, the student should take initiative in being the primary contact for the family.
2) The student in turn should consult his/her mentor for further management of the patient.
3) The hospital to which the college is attached must provide treatment facilities to the patient.
4) Government schemes may be utilized for optimal management.
5) Follow-up records must be maintained by the student. These must be periodically evaluated by mentors with the help of senior residents.
6) The entire data sheet may be prepared by every student and submitted by the end of 6th semester for evaluation.
7) Progress notes must include every demographic point and history recorded.

GUIDELINES FOR MANPOWER REQUIREMENT FOR RESEARCH FACILITIES IN A MEDICAL COLLEGE

Research labs can be under following categories:

1. Molecular lab
2. Stem cell research lab
3. Cytogenetics
4. HLA and tissue typing research lab

Applied Clinical research for organ perfusion, cancer research, in vitro fertilization, etc. can be under any of the above research facilities.

MAN POWER

(1) Lab Director post-1

Minimum Qualifications required	:	MD Path/MD Microbiology/MD Transfusion Medicine/MD Biochemistry. Faculty with PhD (Medical subject will be preferred)
Lab work	:	10 years experience
Lab research related publications	:	Minimum 10 in last 10 years

(2) Lab Supervisor post-1 (per research facility)

Minimum Qualifications required	:	MD Path/ MD Microbiology/ MD Transfusion Medicine/ MD Biochemistry Faculty with PhD (Medical subject) will be preferred or MSc in life sciences with Ph.D. from Medical college
Lab work	:	7 years experience
Lab research related publications	:	Minimum 5 in last 5 years

(3) Senior Scientific Research Officer posts- 1 or more (per research facility)

Minimum Qualifications required	:	PhD with MD Path/ MD Microbiology/ MD Transfusion Medicine/ MD Biochemistry/PhD in medical college or MSc in life sciences with PhD from medical college
Lab work	:	4years experience
Lab research related publications	:	Minimum 3 in last 3 years

(4) Junior Research Officer-posts- 1 or more (per research facility)

Minimum Qualifications required	:	MD Path/ MD Microbiology/ MD Transfusion Medicine/ MD Biochemistry or Diploma in Clinical Pathology/ MSc in life sciences, PhD scholar/ Postdoc fellow Diploma holder in any branch may pursue PhD if experience / research inclinations proved for minimum of 1 year. They can be enrolled for integrated Master's PhD course.
Lab work	:	1 year experience
Lab research related publications	:	Preferably 1 in last 2 years

(5) Laboratory Technicians- Posts- 2 (minimum)

Minimum Qualifications required	:	B.Sc/ M.Sc, in life sciences including Biotechnology, DMLT

(6) Data entry operator/ Clerk – (As per requirement)

(7) Store keeper – post 1 (minimum)

(8) **Biostatistician- post 1**(minimum)

(9) Lab attendant (As per requirement)

(10) Peon/ Multi-task worker (As per requirement)

(11) **Clinical Monitors (As per requirement)**

Minimum Qualifications required	:	A medical professional having MBBS degree or above with research inclination

(12) Social worker/ MSW with applied research inclinations (As per requirement)

Guidelines regarding admission of students with "Specified Disabilities" under the Rights of Persons with Disabilities Act, 2016 with respect to admission in MBBS Course.

Note : 1. The "Certificate of Disability" shall be issued in accordance with the Rights of Persons with Disabilities Rules, 2017 notified in the Gazette of India by the Ministry of Social Justice and Empowerment [Departmentof Empowerment of Persons with Disabilities (*Divyangjan*)] on 15th June 2017.

2. The extent of "specified disability" in a person shall be assessed in accordance with the "Guidelines forthe purpose of assessing the extent of specified disability in a person included under the Rights of Persons with Disabilities Act, 2016 (49 of 2016)" notified in the Gazette of India by the Ministry of Social Justice and Empowerment [Department of Empowerment of Persons with Disabilities (*Divyangjan*)] on 4th January 2018.

3. The minimum degree of disability should be 40% (Benchmark Disability) in order to be eligible for availing reservation for persons with specified disability.

4. **The term 'Persons with Disabilities' (PwD) is to be used instead of the term 'Physically Handicapped' (PH).**

<table>
<tr><th rowspan="2">S. No.</th><th rowspan="2">Disability Type</th><th rowspan="2">Type of Disabilities</th><th rowspan="2">Specified Disability</th><th colspan="3">Disability Range</th></tr>
<tr><th>Eligible for Medical Course, Not Eligible for PwD Quota</th><th>Eligible for Medical Course, Eligible for PwD Quota</th><th>Not Eligible forMedical Course</th></tr>
<tr><td rowspan="8">1.</td><td rowspan="8">Physical Disability</td><td rowspan="7">A. LocomotorDisability, including Specified Disabilities(a to f).</td><td>a. Leprosy cured person*</td><td rowspan="7">Less than 40% disability</td><td rowspan="7">40-80% disability
Persons with more than 80% disability may also be allowed on case to case basis and their functional competency will be determined with the aid of assistive devices, if it is being used, to see if it is brought below 80% and whether they possess sufficient motor ability as required to pursue and complete the course satisfactorily.</td><td rowspan="7">More than 80%</td></tr>
<tr><td>b. Cerebral Palsy**</td></tr>
<tr><td>c. Dwarfism</td></tr>
<tr><td>d. Muscular Dystrophy</td></tr>
<tr><td>e. Acid attack victims</td></tr>
<tr><td>f. Others*** such as Amputation, Poliomyelitis, etc.</td></tr>
<tr><td colspan="4">* Attention should be paid to loss of sensations in fingers and hands, amputation, as well as involvement of eyes and corresponding recommendations be looked at.
** Attention should be paid to impairment of vision, hearing, cognitive function etc. and corresponding recommendations be looked at.
*** (i) Both hands intact, with intact sensations, sufficient strength and range of motion are essential tobe considered eligible for medical course.
(ii) Movement of the upper limb with respect to all the joints (shoulder, elbow, forearm, wrist and all fingers) to be considered – full power, intact, in the dominant upper limb is necessary.
(iii) For non-dominant upper limb, power of 4/5 or above is recommended.</td></tr>
<tr><td>B. Visual Impairment (*)</td><td>a. Blindness
b. Low vision</td><td>Less than 40% disability</td><td>-</td><td>Equal to or More than 40% Disability</td></tr>
<tr><td>C. Hearing impairment@</td><td>a. Deaf
b. Hard of hearing</td><td>Less than 40% Disability</td><td>-</td><td>Equal to or more than 40% Disability</td></tr>
<tr><td colspan="4">(*) Persons with Visual impairment / visual disability of equal to or more than 40% may be made eligible to pursue MBBS Course and may be given reservation, subject to the condition that the visual disability is brought to a level of less than the benchmark of 40% with advanced low vision aids such as telescopes / magnifier etc.
@Person with hearing disability of more than 40% may be made eligible to pursue MBBS Course and may be given reservation subject to condition that the hearing disability is brought to a level of less than the bench mark of 40% with the aid of assistive devices/cochlear implants (CI).
In addition to this, the individual should have speech discrimination score of more than 60%</td></tr>
</table>

		Type of Disabilities	Disability Range			
			Specified Disability	**Eligible for Medical Course, Not Eligible for PwD Quota**	**Eligible for Medical Course,Eligible for PwD Quota**	**Not Eligible for Medical Course**
		D. Speech & language disability$	Organic/ neurologi calcauses	Less than 40% Disability	-	Equal to or more than 40% Disability
		$ Persons with Speech Intelligibility Affected (SIA) shall be eligible to pursue MBBS Courses, provided Speech Intelligibility Affected (SIA) score shall not exceed 3 (three), which is 40% or below. Persons with Aphasia shall be eligible to pursue MBBS Courses, provided Aphasia Quotient (AQ) is 40% or below.				
2.	Intellectual disability	a. Specific learning disabilities (Perceptual disabilities, Dyslexia, Dyscalculia, Dyspraxia & Developmental aphasia)#	# currently there is no Quantification scale available to assess the severity of SpLD, therefore the cut-off of 40% is arbitrary and more evidence is needed.	Less than 40% Disability	Equal to or more than 40% disability and equal to or less than 80%. But selection will be based on the learning competency evaluated with the help of the remediation/assisted technology/aids/infrastructural changes by the Expert Panel. According to the Notification dated 09.12.2020 by the Department of empowerment of Persons with Disabilities (Divyanganj), Ministry of Social Justice, diagnosis of SLD using NIMHANS SLD Battery should be equated to more than 40% disability. Any person with SLD and more than 40% disability should be allowed to complete at par with other PwDs under the reservation quota for PwDs.	More than 80% or severe nature or significant cognitive/ intellectual disability.
		b. Autism spectrum disorders		Absence or Mild Disability, Asperger syndrome (disability of upto 60% as per ISAA) where the individual is fit for MBBS course by an expert panel.	Currently not recommended due to lack of objective method to establish presence and extent of mental illness. However, the benefit of reservation/quota may be considered in future after developing better methods of disability assessment.	More than 60% disability or presence of cognitive/intellectual disability and/or if the person is unfit for pursuing MBBS course by an expert panel.
3.	Mental Behavior	*** Mental Illness	Mental Illness will be no bar for taking admission in MBBS Course provided the candidate is able to qualify the NEET UG. *However, the benefit of reservation quota may be considered in future after developing better methods of disability assessment.*			
4.	Disability caused due to	a. Chronic Neurological Conditions	i. Multiple Sclerosis ii. Parkinsonism	Less than 40% Disability	40-80% disability	More than 80%
		b. Blood Disorders	i. Hemophilia ii. Thalassemia iii. Sickle cell disease	Less than 40% Disability	40-80% disability	More than 80%

S. No.	Disability Type	Type of Disabilities	Specified Disability	Disability Range		
				Eligible for Medical Course, Not Eligible for PwD Quota	Eligible for Medical Course, Eligible for PwD Quota	Not Eligible for Medical Course
5.	Multiple disabilities including deaf		More than one of the above specified disabilities	Must consider all above while deciding in individual cases recommendations with respect to presence any of the above, namely, Visual, Hearing, Speech & Language disability, Intellectual Disability, and Mental Illness as a component of Multiple Disability. Combining Formula as notified by the related Gazette Notificationissued by the Govt. of India $a + \frac{b(90-a)}{90}$ (where a= higher value of disability % and b=lower value of disability % as calculated for different disabilities) is recommended for computing the disability arising when more than one disabling condition is present in a given individual. This formula may be used in cases with multiple disabilities, and recommendations regarding admission and/or reservation made as per the specific disabilities present in a given individual		

*** That by virtue of the order dated 18.05.2023 passed by the Hon'ble Supreme Court of India in WP (C) No. 1093 of 2023 titled Vishal Gupta Vs UOI & Ors., the Under Graduate Medical Education Board, an autonomous board under National Medical Commission, constituted an expert committee. Accordingly on 14th July, 2023, the expert meeting was held and the issues related to the review of guidelines specifically with respect to Specific learning disabilities (SLD), Autism spectrum disorders (ASD) and Mental Illness, were discussed in detail. Thereafter recommendations based on the discussions held in the meeting were received in the commission and such recommendations were considered by the UGMEB.

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राष्ट्रीय आयुर्विज्ञान आयोग

National Medical Commission
(Undergraduate Medical Education Board)

F. No. U/14021/8/2023-UGMEB **Dated the 1st September, 2023**

CORRIGENDUM

Subject :Competency Based Medical Education Curriculum (CBME) Guidelines- National Medical Commission.

Kindly refer to the communication of even no. dated 01st August, 2023 on the above mentioned subject and to inform that provisions at page 58 of CBME is amended as under :

Page 58 of CBME Guidelines	Amended page 58 of CBME Guidelines
In subjects that have two papers, the learner must secure minimum 50% of marks in aggregate (both papers together) to pass in the said subject.	**In subjects that have two papers, the learner must secure** minimum ***40%*** of marks in aggregate (both papers together) to pass in the said subject.
Criteria for passing in a subject : A candidate shall obtain 50% marks in University conducted examination separately in Theory and in Practical (practical includes; practical/clinical and viva voce) in order to be declared as passed in that subject.	**Criteria for passing in a subject :** A candidate shall obtain 50% marks in aggregate and 60:40 (minimum) or 40:60 (minimum) in University conducted examination separately in Theory and in Practical (practical includes; practical/clinical and viva voce) in order to be declared as passed in that subject.

01/9/2023

(Shambhu Sharan Kumar)
Director, UGMEB

रजिस्ट्री सं. डी.एल.- 33004/99 REGD. No. D. L.-33004/99

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(स्नातक चिकित्सा शिक्षा बोर्ड)

अधिसूचना

नई दिल्ली, 16 अगस्त, 2023

सं. यू. 11022/3/2023-यूजीएमईबी.—राष्ट्रीय आयुर्विज्ञान आयोग अधिनियम, 2019 (2019 का अधिनियम 30) की धारा 26, 28 और 29 के साथ पठित धारा 24 की उपधारा(ए), (डी) और (ई) के माध्यम से प्रदत्त शक्तियों का प्रयोग करते हुए, "स्नातक चिकित्सा शिक्षा बोर्ड नए चिकित्सा संस्थानों की स्थापना, नए चिकित्सा पाठ्यक्रमों की शुरूआत, मौजूदा पाठ्यक्रमों के लिए सीटों की वृद्धि और मूल्यांकन और रेटिंग विनियम, 2023 संक्षेप में (यूजी-एमएसआर 2023)" के नियम 10 के तहत और स्नातक चिकित्सा शिक्षा विनियम 2023 के नियम 19 के तहत निम्नलिखित दिशा-निर्देश जारी करता है।

(i) इन दिशा-निर्देशों को - "नए चिकित्सा संस्थानों की स्थापना के तहत दिशानिर्देश, नए चिकित्सा पाठ्यक्रमों की शुरूआत, मौजूदा पाठ्यक्रमों के लिए सीटों की वृद्धि और मूल्यांकन और रेटिंग विनियमन 2023" कहा जा सकता है।

(ii) ये दिशा-निर्देश आधिकारिक राजपत्र में उनके प्रकाशन की तिथि से लागू होंगे।

अध्याय-1

उद्देश्य:

इन विनियमों का उद्देश्य हर साल एमबीबीएस छात्रों के प्रवेश के लिए अनुमोदित मेडिकल कॉलेज और मेडिकल संस्थान के लिए कॉलेज और उसके संबंधित शिक्षण अस्पतालों में आवास, कॉलेज के विभागों और अस्पतालों में कर्मचारियों

(शिक्षण और तकनीकी) और उपकरणों की न्यूनतम आवश्यकताओं को निर्धारित करना है।

ये नियम शैक्षणिक सत्र 2024-25 से स्थापित होने वाले मेडिकल कॉलेजों पर लागू होंगे। नए स्नातक चिकित्सा शिक्षा कॉलेजों की स्थापना के लिए आवेदनों को केवल 50/100/150 सीटों के लिए ही अनुमति दी जाएगी।

- शैक्षणिक वर्ष 2024-2025 से केवल ऐसे कॉलेज ही एमबीबीएस छात्रों की अनुमत/मान्यता प्राप्त संख्या में छात्रों का प्रवेश जारी रखने के लिए पात्र होंगे जो इन आवश्यकताओं को पूरा करेंगे;
- सीटों की संख्या में वृद्धि चाहने वाले कॉलेज वर्ष 2024-25 मे एमबीबीएस छात्रों की कुल संख्या 150 से अधिक नहीं कर सकते हैं;
- प्रवेश के लिए सीटों में वृद्धि चाहने वाले कॉलेजों को पिछले शैक्षणिक वर्ष के लिए स्वीकृत सीटों की संख्या के सभी मानदंडों को पूरा करने वाले बैच को प्रवेश देना होगा और सीटों की संख्या में वृद्धि के लिए सभी आवश्यकताओं को भी पूरा करना होगा;
- प्रवेश के लिए सीटों का कोई भी अतिरिक्त अनुमत कोटा उस कॉलेज में प्रवेश के लिए मंजूर की गई सीटों की संख्या के भीतर होगा;
- इस अपवाद के साथ कि जिन कॉलेजों ने शैक्षणिक वर्ष 2023-24 के लिए सीटों में वृद्धि के लिए आवेदन किया है लेकिन उसे प्राप्त करने में विफल रहे हैं, वे केवल वर्ष 2024-25 में एक बार के लिए उसी संख्या (कुल 200 या 250) की मांग कर सकते हैं जो उनके पिछले आवेदन में थी;
- शैक्षणिक वर्ष 2023-24 के बाद, नए मेडिकल कॉलेज शुरू करने के लिए अनुमति पत्र (एलओपी) केवल 50/100/150 सीटों की वार्षिक प्रवेश क्षमता के लिए जारी किया जाएगा;

बशर्ते कि मेडिकल कॉलेज उस राज्य / संघ राज्य क्षेत्र में 10 लाख आबादी के लिए एमबीबीएस की 100 सीटों के अनुपात का पालन करेगा।

विभाग : प्रति वर्ष स्नातक छात्रों के प्रवेश के लिए अनुमोदित प्रत्येक मेडिकल कॉलेज/संस्थान में निम्नलिखित विभाग होंगे, अर्थात :

i. एनाटॉमी
ii. फिजियोलॉजी
iii. बायोकैमिस्ट्री
iv. विकृति विज्ञान
v. माइक्रोबाइलॉजी
vi. फार्माकोलॉजी
vii. फोरेंसिक मेडिसिन और टॉक्सिकोलॉजी
viii. सामुदायिक चिकित्सा
ix. सामान्य चिकित्सा
x. बाल रोग
xi. मनोरोग चिकित्सा
xii. डरमेटोलॉजी
xiii. सामान्य सर्जरी
xiv. हड्डी रोग
xv. विकिरण निदान
xvi. ओटो-रहिनोलरिंगोलॉजी

xvii. नेत्र विज्ञान

xviii. प्रसूति एवं स्त्री रोग

xix. एनेस्थिसियोलॉजी

xx. दंत चिकित्सा

xxi. एकीकृत चिकित्सा अनुसंधान

अनुसूची I

मेडिकल कॉलेज और उसके संबद्ध शिक्षण अस्पतालों में आवास

क. कॉलेज

क. 1. सामान्य

1.1 परिसर

इस संशोधित विनियमन के प्रकाशन के बाद मेडिकल कॉलेज शुरू करने की अनुमति चाहने वाले प्रत्येक अस्पताल में मेडिकल कॉलेज, संबद्ध शिक्षण अस्पताल और छात्रों और प्रशिक्षुओं के लिए छात्रावास, कॉलेज/अस्पताल के संकाय और अन्य स्टाफ के लिए आवासीय क्षेत्र के साथ या उसके बिना समाविष्ट होंगे। मेडिकल कॉलेज, छात्रों/प्रशिक्षुओं के लिए छात्रावास और शिक्षण अस्पताल/संस्थान या तो मात्र एक परिसर में होंगे या अधिकतम दो परिसरों में होंगे।

भवन के प्रचलित मानदंडों के अनुसार, प्रत्येक एकल परिसर में कॉलेज प्रबंधन की भूमि या यदि पट्टे पर है, तो कम से कम 30 साल की अवधि के लिए पट्टे पर ली गई भूमि पर पर्याप्त निर्मित क्षेत्र होना चाहिए। यदि 2 भूखंड/परिसर हैं, तो कॉलेज एक ही भूखंड में होगा। कॉलेज और अस्पताल के भूखंडों के बीच की दूरी के लिए यात्रा का समय अधिकतम 30 मिनट होगा।

अस्पताल में कम से कम दो सौ बीस (220) बिस्तर होंगे।

मेडिकल कॉलेज इस अनुसूची के विभिन्न खंडों में निर्दिष्ट विभिन्न शिक्षण क्षेत्रों (कॉलेज और शिक्षण अस्पताल दोनों), पुस्तकालय, प्रशासनिक क्षेत्रों, शिक्षण और शिक्षणेतर कर्मचारियों के लिए कमरों, छात्र सुविधाओं आदि को समायोजित करने के लिए पर्याप्त निर्मित स्थान प्रदान करेगा।

मेडिकल कॉलेज और अस्पताल के भवन प्रचलित भवन संहिताओं और स्थानीय भवन उपनियमों / मानदंडों के अनुरूप होंगे। अस्पतालों में स्थानीय उपनियमों और विनियमों के अनुसार रोगियों को निकालने की योजनाओं सहित अग्नि सुरक्षा के उपाय होने चाहिए। उन्हें विकलांगों के लिए पहुंच और सुविधाएं प्रदान करने की आवश्यकताओं का भी पालन करना होगा। कॉलेज और अस्पताल के भवन प्रवेश देने के लिए छात्रों की निर्धारित संख्या संबंधी आवश्यकताओं को पूरा करेंगे।

1.2 प्रशासनिक क्षेत्र

प्रिंसिपल/डीन, कॉलेज परिषद, शैक्षणिक और परीक्षा अनुभाग, लेखा और अन्य प्रशासनिक कार्यालयों (आवश्यकता के अनुसार), चिकित्सा शिक्षा इकाई और कंप्यूटर नेटवर्क के लिए सर्वर रूम के लिए पर्याप्त आवास होना चाहिए।

1.3 कॉलेज परिषद

प्रत्येक मेडिकल कॉलेज/मेडिकल संस्थान में एक कॉलेज परिषद होगी जिसमें विभागाध्यक्ष सदस्य और प्रिंसिपल/डीन अध्यक्ष होंगे। परिषद पाठ्यचर्या और प्रशिक्षण कार्यक्रम, अनुशासन लागू करने और अन्य शैक्षणिक मामलों का विवरण तैयार करने के लिए वर्ष में कम से कम चार बार बैठक करेगी। परिषद संस्थान में अनुसंधान की आवधिक समीक्षा सहित ग्रैंड राउंड, सांख्यिकीय बैठक और क्लिनिक-पैथोलॉजिकल बैठक जैसी नियमित अंतरविभागीय बैठकें भी आयोजित करेगी।

1.4. केंद्रीय पुस्तकालय

1. एक केंद्रीय पुस्तकालय (अधिमानतः वातानुकूलित) होगा जिसमें अच्छी रोशनी और पुस्तकों और पत्रिकाओं को रखने के लिए पर्याप्त जगह होगी। निम्नलिखित के लिए प्रावधान होगा :

(क) लाइब्रेरियन और अन्य स्टाफ के लिए कमरे।

(ख) पुस्तकालयाध्यक्ष और अन्य स्टाफ के लिए कमरे

यूजी छात्रों की वार्षिक संख्या से दोगुनी संख्या के लिए बैठने की पर्याप्त सुविधा वाले वाचनालय जो 2 क्षेत्रों में विभाजित होंगे

(ग) शिक्षकों के लिए वाचनालय

(घ) पुरानी पुस्तकों, पत्रिकाओं आदि को रखने के लिए कमरा

(ङ) वार्षिक आधार पर दाखिल किए जाने वाले कुल छात्रों में से कम से कम 10 प्रतिशत के लिए इंटरनेट की सुविधा के साथ कंप्यूटर नोड्स वाला एक कंप्यूटर कक्ष

2. पुस्तकें : एमबीबीएस पाठ्यक्रम में विभिन्न विषयों के लिए प्रत्येक 50 छात्रों के लिए प्रत्येक पाठ्यपुस्तक की कम से कम दो (2) प्रतियों के साथ सभी विषयों को शामिल करते हुए छात्रों के प्रति वार्षिक प्रवेश कम से कम तीस (30) पुस्तकें होंगी।

3. पत्रिकाएं : एमबीबीएस छात्रों के विभिन्न वार्षिक प्रवेश के लिए पत्रिकाओं की न्यूनतम संख्या निर्धारित न्यूनतम पुस्तकों का कम से कम एक (1) प्रतिशत होगी। जर्नल या तो प्रिंट या इलेक्ट्रॉनिक रूप में होंगे, परंतु यह कि एमबीबीएस प्रशिक्षण के लिए प्रत्येक प्रमुख स्पेशियलिटी विभाग - एनाटॉमी, फिजियोलॉजी, बायोकैमिस्ट्री, पैथोलॉजी, फार्माकोलॉजी, माइक्रोबायोलॉजी, फोरेंसिक मेडिसिन और टॉक्सिकोलॉजी, सामुदायिक चिकित्सा, मेडिसिन, पीडियाट्रिक्स, डर्मेटोलॉजी, साइकियाट्री, सर्जरी, ऑर्थोपेडिक्स, ओटोरहिनोलरिंगोलॉजी, नेत्र विज्ञान, प्रसूति एवं स्त्री रोग, एनेस्थीसिया, रेडियो डायग्नोसिस और दंत चिकित्सा का कम से कम एक (1) प्रिंट जर्नल होगा।

परंतु यह कि केवल उन्हीं जर्नल पर विचार किया जाएगा जो निम्नलिखित डेटाबेस यानी पबमेड सेंट्रल (पीएमसी), मेडलाइन, साइंस साइटेशन इंडेक्स (एससीआई), साइंस साइटेशन इंडेक्स एक्सपेंडेड (एससीआईई), एम्बेस, स्कोपस और इंडमेड/मेडइंड में अनुक्रमित हैं। इन सभी पत्रिकाओं के लिए पूर्ण वार्षिक सदस्यता का प्रमाण होना चाहिए। प्रत्येक 50 छात्रों के लिए न्यूनतम 15 पत्रिकाएँ और 1500 पुस्तकें होंगी। कुल मिलाकर 60 प्रतिशत तक किताबें हार्ड कॉपी के रूप में उपलब्ध कराई जा सकती हैं और शेष 40 प्रतिशत किताबें इलेक्ट्रॉनिक प्रारूप में उपलब्ध कराई जा सकती हैं। छात्रों के वार्षिक प्रवेश पर ध्यान दिए बिना पत्रिकाओं की विविधता समान होगी।

1.5. व्याख्यान थिएटर

1. संस्थान में गैलरी टाइप के कम से कम चार लेक्चर थिएटर, अधिमानतः वातानुकूलित, होंगे तथा उनमें से प्रत्येक में छात्रों के वार्षिक प्रवेश से 20 प्रतिशत अधिक छात्रों के बैठने की क्षमता होगी (प्रत्येक छात्र के लिए उपलब्ध क्षेत्रफल कम से कम 1.40 वर्गमीटर के मीटर होगा)।

2. यदि अस्पताल उसी एकल परिसर में नहीं है, तो शिक्षण अस्पताल में एक अतिरिक्त लेक्चर थियेटर होगा जिसमें बैठने की क्षमता उतनी होगी जो मेडिकल कॉलेज के लिए निर्धारित है।

3. लेक्चर थिएटर में ऑडियो-विजुअल और इंटरनेट की सुविधाओं का प्रावधान होगा और पर्याप्त बैंड विड्थ के साथ ई-लर्निंग के लिए सक्षम होगा। लेक्चर थिएटर को छोटे समूह में शिक्षण के लिए निर्दिष्ट सभी शिक्षण क्षेत्रों से डिजिटल रूप से जोड़ा जाएगा।

4. लेक्चर थिएटर को सभी विभागों द्वारा क्रमादेशित तरीके से साझा किया जाएगा।

1.6 लघु समूह की शिक्षण सुविधाएँ

छोटे समूह में शिक्षण के लिए प्रत्येक बैच में लगभग 15 छात्र शामिल होंगे। शिक्षण कक्षों, छात्र प्रयोगात्मक प्रयोगशालाओं, संग्रहालयों और लेक्चर थिएटरों और किसी भी अन्य उपलब्ध क्षेत्र का सामान्य संसाधन पूल, जिसका उपयोग इन विनियमों में निर्धारित शिक्षण के लिए किया जा सकता है, सभी का उपयोग छोटे समूह के शिक्षण के लिए किया जाएगा और शिक्षण विभागों द्वारा साझा किया जाएगा। उपर्युक्त सभी शिक्षण क्षेत्रों में ऑडियो-विजुअल और इंटरनेट की सुविधाएं होंगी और ये एक-दूसरे से डिजिटल रूप से जुड़े होंगे।

(क) शिक्षण कक्ष : सभी विभागों द्वारा वार्षिक आधार पर साझा किए जाने वाले एमबीबीएस छात्रों के विभिन्न प्रवेश के लिए प्री- और पैरा-क्लिनिकल विभागों के लिए मेडिकल कॉलेज में शिक्षण कक्षों की न्यूनतम संख्या वही होगी जो नीचे दी

गई तालिका में दर्शाई गई है (प्रत्येक शिक्षण कक्ष में प्रत्यके छात्र के लिए उपलब्ध क्षेत्रफल कम से कम 1.2 वर्ग मीटर होगा)। छोटे समूहों में पर्याप्त शिक्षण प्रदान करने के लिए, शिक्षण की प्रत्येक स्पेशियलिटी और स्थान में उपयुक्त क्षेत्र उपलब्ध कराया जाएगा। ऐसे प्रत्येक क्षेत्र में बड़े व्याख्यान हॉल और इंटरनेट की सुविधाओं से जुड़ने की भी सुविधा होगी।

(ख) छात्र प्रयोगात्मक प्रयोगशालाएँ : **हिस्टोलॉजी, क्लिनिकल फिजियोलॉजी, बायोकैमिस्ट्री, हिस्टोपैथोलॉजी और साइटोपैथोलॉजी, क्लिनिकल पैथोलॉजी और हेमेटोलॉजी, माइक्रोबायोलॉजी, क्लिनिकल फार्माकोलॉजी के लिए एक-एक प्रयोगात्मक प्रयोगशालाएं और फार्माकोलॉजी में कंप्यूटर असिस्टेड लर्निंग (सीएएल) लैब होंगे।** स्थान के इष्टतम उपयोग के लिए, प्रयोगशालाओं को आपसी सहमति से विभागों द्वारा साझा किया जा सकता है। छात्रों का प्रशिक्षण सुनिश्चित करने के लिए पर्याप्त वर्क स्टेशन (या तो पूरे बैच के लिए या उसके कुछ हिस्सों के लिए) उपलब्ध कराए जाएंगे। उपर्युक्त सभी प्रयोगशालाओं में ऑडियो-विजुअल और इंटरनेट की सुविधाएं होंगी और ये अन्य सभी शिक्षण क्षेत्रों और संग्रहालयों से डिजिटल रूप से जुड़ी होंगी। तकनीकी कर्मचारियों के लिए सुविधाएं सुनिश्चित की जाएंगी।

प्रयोगशालाओं को इस तरह से डिजाइन किया जा सकता है कि प्रत्येक विभाग के लिए उचित रूप से आवश्यक सुविधाएं प्रदान की जा सकें।

हेमटोलॉजी, बायोकैमिस्ट्री और माइक्रोबायोलॉजी सहित पैथोलॉजी के विभागों में अस्पताल के लिए सेवा प्रयोगशालाओं को उचित अतिरिक्त अंतराल के साथ मेडिकल कॉलेज में सह-स्थित किया जा सकता है।

फार्माकोलॉजी विभाग के कंप्यूटर असिस्टेड लर्निंग (सीएएल) लैब में कंप्यूटर सहायता प्राप्त अयापन-अध्ययन और मूल्यांकन की गतिविधियों के लिए ब्रॉडबैंड इंटरनेट वाले कंप्यूटर और एवी एड्स होंगे।

(ग) संग्रहालय : एनाटॉमी, पैथोलॉजी, फोरेंसिक मेडिसिन, फार्माकोलॉजी, माइक्रोबायोलॉजी और सामुदायिक चिकित्सा के शिक्षण के लिए कॉलेज में संग्रहालय होगा/होंगे। उपरोक्त प्रत्येक विषय का प्रशिक्षण देने के लिए संग्रहालय में पर्याप्त नमूने/चार्ट/कंकाल आदि होंगे। प्रदर्शन क्षेत्र के अलावा, संग्रहालय में कम से कम 50 छात्रों (प्रति छात्र कम से कम 1.2 वर्गमीटर के) के बैठने के लिए पर्याप्त जगह भी होगी और इसमें ऑडियो-विजुअल और इंटरनेट की सुविधाएं होगी और यह लेक्चर थिएटर, शिक्षण कक्ष और प्रायोगात्मक प्रयोगशाला से डिजिटल रूप से जुड़ा होना चाहिए। संग्रहालय में गीले और सूखे नमूनों (जहां लागू हो) और मॉडलों के भंडारण और उचित प्रदर्शन के लिए पर्याप्त रैक और शेल्फ होने चाहिए। रेडियोलॉजिकल और डिजिटल छवियों को प्रदर्शित करने और देखने के लिए भी पर्याप्त सुविधाएं होंगी। कॉलेज प्राधिकारियों द्वारा संग्रहालय में शिक्षण समय को साझा करने को इष्टतम तरीके से क्रमादेशित किया जाएगा।

1.7. कौशल प्रयोगशाला

प्रत्येक चिकित्सा संस्थान में एक कौशल प्रयोगशाला होगी जहां छात्र पाठ्यक्रम में पूर्व-निर्दिष्ट कौशल का अभ्यास और सुधार कर सकते हैं। कौशल प्रयोगशाला का उद्देश्य छात्रों को सीखने, अभ्यास करने और कृत्रिम वातावरण में कौशलों का प्रदर्शन करते हुए देखे जाने के लिए सुरक्षित और गैर-डरावना वातावरण प्रदान करना है, जिससे पर्याप्त तैयारी और पर्यवेक्षण के बिना सीधे रोगी के संपर्क में होने के जोखिमों को कम किया जा सके। कौशल प्रयोगशाला जटिलता और निष्ठा के विभिन्न स्तरों के साथ नैदानिक वातावरण और कार्यों का फिर से निर्माण करने का प्रयास करती है जिन्हें भावी स्वास्थ्य देखभाल कर्मियों को करना होता है। *कौशल प्रयोगशाला का एकमात्र उद्देश्य छात्र को क्लिनिकल एक्सपोज़र के लिए तैयार करना है। इसे किसी व्यावहारिक नैदानिक प्रशिक्षण की क्षतिपूर्ति या परीक्षा आयोजित करने के लिए प्रतिस्थापित या प्रयुक्त नहीं किया जाएगा।* छात्रों को नैदानिक प्रशिक्षण के लिए वार्डों में तैनात करने से पहले मूल्यांकन सहित छह (6) सप्ताह के कौशल प्रयोगशाला प्रशिक्षण को प्राथमिकता दी जाएगी।

कौशल प्रयोगशाला में एमबीबीएस के सालाना अधिकतम 150 छात्रों के प्रवेश के लिए कम से कम 600 वर्ग मीटर और एमबीबीएस के सालाना 200 से 250 छात्रों के प्रवेश के लिए 800 वर्ग मीटर का कुल क्षेत्रफल होना चाहिए, और इसमें -

(क) मरीजों या मानकीकृत/अनुरूपित मरीजों की जांच के लिए न्यूनतम 04 कमरे होने चाहिए,

(ख) छोटे समूहों में कौशल के प्रदर्शन के लिए एक कमरा होना चाहिए,

(ग) समीक्षा के लिए क्षेत्र या डीब्रीफिंग क्षेत्र होना चाहिए,

(घ) संकाय समन्वयक और सहायक कर्मचारियों के लिए कमरे होने चाहिए,

(ङ) पुतलों और/या अन्य उपकरणों के भंडारण के लिए पर्याप्त स्थान होना चाहिए,

(च) संचार कौशल सिखाने के लिए वीडियो रिकॉर्डिंग और बातचीत की समीक्षा की सुविधा, व्यक्तिगत रूप से

या

(छ) समूहों में कौशलों का अभ्यास करने के लिए स्टेशन होने चाहिए,

(ज) स्नातकों के लिए दक्षता आधारित चिकित्सा शिक्षा पाठ्यक्रम में उल्लिखित कौशल प्राप्त करने के लिए आवश्यक प्रशिक्षक या पुतले होने चाहिए,

(झ) एक समर्पित तकनीकी अधिकारी और पर्याप्त सहायक कर्मचारी होने चाहिए,

(ञ) कौशल प्रयोगशाला के शिक्षण क्षेत्रों में ऑडियो-विज़ुअल और इंटरनेट की सुविधाओं का प्रावधान होगा और इसे ई-लर्निंग के लिए सक्षम किया जाएगा।

1.8. विभाग के कार्यालय, कर्मचारियों के लिए कमरे और अन्य आवश्यकताएँ

प्रत्येक शिक्षण विभाग के पास :

(क) विभागीय कार्यालय, कार्यालय स्टाफ और अभिलेखों के भंडारण के लिए स्थान के साथ विभागाध्यक्ष के लिए कक्ष होगा,

(ख) शिक्षण संकाय और ट्यूटर्स / डिमॉन्स्ट्रेटर / रेजिडेंट (जूनियर और सीनियर दोनों) के लिए पर्याप्त जगह वाले कमरे होंगे,

(ग) संकाय के लिए कमरे होंगे, जिसमें संचार, कंप्यूटर और इंटरनेट की सुविधाएं होंगी,

(घ) शिक्षणेतर कर्मचारियों के लिए कमरे होंगे।

1.9. चिकित्सा शिक्षा इकाई

संकाय विकास और शिक्षण या अध्ययन की संसाधन सामग्री प्रदान करने के लिए एक चिकित्सा शिक्षा इकाई होगी। इस इकाई में ऑडियो-विज़ुअल और इंटरनेट की सुविधाओं का प्रावधान होगा। इस इकाई की आवश्यकताएं वही होंगी जो राष्ट्रीय आयुर्विज्ञान आयोग के स्नातक चिकित्सा शिक्षा बोर्ड द्वारा समय-समय पर निर्धारित की जाएंगी (इसका क्षेत्रफल कम से कम 150-160 वर्ग मीटर होगा)।

2. अनुसंधान सुविधा

सभी विभागों द्वारा उपयोग के लिए एक अच्छी तरह से सुसज्जित अनुसंधान सुविधा उपलब्ध होगी। विवरण अनुबंध 1 के अंतर्गत शामिल हैं।

2.1. संचार की सुविधाएं

बेहतर सेवा, समन्वय और रोगी देखभाल के लिए कॉलेज और अस्पतालों के विभिन्न अनुभागों के बीच पर्याप्त संचार नेटवर्क (लैंड लाइन या हार्डवेयर नेटवर्क या वाई-फाई) प्रदान किया जाएगा।

2.2. छात्र सुविधाएं

लड़कों और लड़कियों के लिए कॉमन रूम (अलग-अलग), कैफेटेरिया, सांस्कृतिक गतिविधियों, योग प्रशिक्षण, व्यायामशाला, आउटडोर और इनडोर गेम्स सहित छात्र सुविधाएं प्रदान की जाएंगी।

2.3 बाल देखभाल केंद्र

मेडिकल कॉलेज और/या शिक्षण अस्पताल के कर्मचारियों के शिशुओं और बच्चों की देखभाल के लिए पर्याप्त सुविधाओं के साथ मेडिकल कॉलेज में एक बाल देखभाल केंद्र स्थापित किया जाएगा।

3. मेडिकल कॉलेजों/संस्थानों और अस्पतालों की आधार सक्षम बायोमेट्रिक उपस्थिति प्रणाली (एईबीएएस) और क्लोज सर्किट टीवी निगरानी :

मेडिकल कॉलेज/संस्थान समय-समय पर निर्धारित एईबीएएस, क्लोज सर्किट कैमरा और एचएमआईएस और अन्य सूचना प्रौद्योगिकी की स्थापना और रखरखाव के लिए जिम्मेदार होगा।

3.1 एईबीएएस :

(i) सभी मेडिकल कॉलेज/संस्थान एईबीएएस स्थापित करेंगे जिन्हें एनएमसी के कमांड-एंड-कंट्रोल सेंटर से जोड़ा जाएगा।

(ii) आवश्यक कर्मचारियों (शिक्षक, रेजिडेंट और सहायक कर्मचारियों) के चेहरे से जुड़ी पहचान के साथ दैनिक एईबीएएस को दैनिक उपस्थिति डैशबोर्ड के रूप में एनएमसी के साथ-साथ मेडिकल कॉलेज की वेबसाइट पर उपलब्ध कराया जाएगा।

3.2 उपस्थिति की न्यूनतम आवश्यकता :

सभी फैकल्टी और रेजिडेंट डॉक्टरों के लिए कुल कार्य दिवसों (छुट्टियों को छोड़कर) में से कम से कम 75 प्रतिशत उपस्थिति अनिवार्य होगी। बीमारी के लिए छुट्टी या आपातकालीन स्थितियों के कारण ली गई छुट्टियों को छोड़कर, ऑन ड्यूटी फैकल्टी अवकाश की अवधि के दौरान किसी भी छुट्टी का लाभ नहीं उठाएगी। आपातकालीन छुट्टियाँ विभागाध्यक्ष या संस्था प्रमुख द्वारा प्रमाणित की जाएंगी।

प्रत्येक व्याख्यान/शिक्षण कक्ष/सेमिनार में भाग लेने वाले सभी छात्रों के चेहरे की पहचान के साथ एईबीएएस को रिकॉर्ड किया जाएगा और एनएमसी से जोड़ा जाएगा।

3.3 क्लोज सर्किट कैमरा :

प्रत्येक मेडिकल कॉलेज में क्लोज सर्किट टेलीविजन (सीसीटीवी) सिस्टम के साथ निर्धारित संख्या में और स्थान पर कैमरे होने चाहिए और वे कक्षा में शिक्षण, शिक्षण अस्पताल में रोगी देखभाल और समय-समय पर निर्दिष्ट किसी भी अन्य क्षेत्र की लाइव स्ट्रीमिंग प्रदान करेंगे (अनुलग्नक II), ताकि आयोग प्रदान की जा रही चिकित्सा शिक्षा/प्रशिक्षण के मानक पर निरंतर निगरानी बनाए रखने में सक्षम बन सके।

कक्षा में शिक्षण और अस्पताल दोनों की लाइव स्ट्रीमिंग को राष्ट्रीय आयुर्विज्ञान आयोग की उपयुक्त वर्चुअल निगरानी/शिक्षण प्रणाली के साथ एकीकृत किया जाएगा।

3.3 (क) : कॉलेज की वेबसाइट :

1) प्रत्येक कॉलेज/संस्थान की अपनी वेबसाइट होगी जिसमें उल्लिखित विवरण शामिल होंगे (अनुलग्नक III) और यदि कोई परिवर्तन किया जाता है, तो प्रत्येक माह के पहले सप्ताह में या उससे पहले अद्यतन किया जाना चाहिए।

2) अस्पताल के लिए एक अलग गतिशील डैशबोर्ड होगा जिसमें अस्पताल (ओपीडी और आईपीडी) में नैदानिक सामग्री का विवरण शामिल होगा (अनुलग्नक IV)।

3) इन डेटा के अनुरक्षण के लिए कॉलेज द्वारा पर्याप्त मात्रा में योग्य सूचना प्रौद्योगिकी (आईटी) जनशक्ति, अधिमानतः न्यूनतम बीई/बीटेक योग्यता वाले दो (02) व्यक्तियों को नियुक्त किया जाएगा।

4. बायोमेडिकल अपशिष्ट प्रबंधन

चिकित्सा संस्थान को जैव-चिकित्सा अपशिष्ट (प्रबंधन और निपटान) नियमावली, 2019 और समय-समय पर अधिसूचित नियमों के अनुसार अनुपालन सुनिश्चित करना होगा। उनके पास मानव मूल के बायोमेडिकल अपशिष्ट प्रबंधन पर मजबूत संस्थागत नीति होगी, जिसमें बायोमेडिकल कचरे को अलग करने और फेंकने के लिए अच्छी तरह से परिभाषित व्यवस्था होगी। बायोमेडिकल अपशिष्ट प्रबंधन के लिए सुविधाएं केंद्रीय/राज्य विधानों के अनुरूप होंगी।

पंजीकरण प्रमाण पत्र के साथ राज्य स्तर पर पंजीकरण किया जाएगा और भुगतान किए गए शुल्क की रसीद उपलब्ध होनी चाहिए। अग्नि सुरक्षा और पीडब्ल्यूडी अनुकूल व्यवस्था का प्रावधान किया जाना चाहिए। सुविधाओं के मूल्यांकन के लिए आवश्यकता पड़ने पर राशि के उपयोग के साक्ष्य के साथ शक्ति प्रबंधन उपलब्ध होना चाहिए। यह माइक्रोबायोलॉजी विभाग के निकट समन्वय में संस्थान के अधीक्षक/प्रमुख की सीधी निगरानी में होगा।

5. छात्रों, प्रशिक्षुओं और रेजिडेंट डॉक्टरों के लिए छात्रावास

कॉलेज/संस्थान सभी छात्रों, प्रशिक्षुओं और रेजिडेंट डॉक्टरों के लिए सुसज्जित आवास प्रदान करेगा। यह वांछनीय है कि छात्रावास के कमरों में डबल बेड की सुविधाएं हों। छात्रावासों में पर्याप्त मनोरंजन, भोजन और चौबीसों घंटे सुरक्षा की सुविधाएं प्रदान की जाएंगी। हालाँकि, जो लोग छात्रावास की सुविधाओं का लाभ नहीं लेना चाहते हैं, उनको कॉलेज द्वारा 'छात्रावास शुल्क' लिए बिना अपनी स्वयं की आवासीय सुविधाएं चुनने की अनुमति दी जाएगी।

6. विभाग विशिष्ट आवश्यकताएँ

प्रत्येक विभाग के लिए उपकरण मौजूदा मानदंडों के अनुसार हो सकते हैं ताकि छात्रों को पर्याप्त रूप से प्रशिक्षित किया जा सके।

प्रशिक्षण के लिए अन्य सुविधाएँ :

6.1. शरीर रचना विभाग

विच्छेदन हॉल - वार्षिक आधार पर छात्रों प्रवेश के अनुसार 50 प्रतिशत छात्रों को समायोजित करने के लिए एक विच्छेदन हॉल (क्षेत्रफल प्रति छात्र कम से कम 4.20 वर्ग मीटर) प्रदान किया जाएगा जहां लॉकर, वॉश बेसिन के साथ छात्रों के लिए प्रवेश कक्ष, शव लेप कक्ष, भंडारण टैंक के लिए जगह और पर्याप्त जगह के साथ कोल्ड स्टोरेज रूम या कूलिंग कैबिनेट होंगे। प्रत्येक शैक्षणिक वर्ष में प्रत्येक 10 छात्रों के लिए कम से कम एक शव उपलब्ध कराया जाएगा। विच्छेदन हॉल में अच्छी रोशनी होनी चाहिए और यह निकास पंखों के साथ अच्छी तरह हवादार होना चाहिए। हॉल में पर्याप्त मात्रा में शिक्षण सहायक सामग्री होनी चाहिए। कॉलेज द्वारा प्रत्येक शव के विवरण के बारे में वार्षिक घोषणा प्रदान की जाएगी।

6.2 फोरेंसिक मेडिसिन और टॉक्सिकोलॉजी विभाग :

शव परीक्षण ब्लॉक - एक शव परीक्षण कक्ष (क्षेत्रफल लगभग 400 वर्ग मीटर) होगा जिसमें शवों के लिए कोल्ड स्टोरेज, प्रवेश कक्ष, कपड़े धोने की सुविधाएं, 10-15 छात्रों के रुकने की क्षमता वाला प्रतीक्षालय और कार्यालय की सुविधाएं होंगी। मुर्दाघर और शव परीक्षण ब्लॉक का स्थान या तो अस्पताल में होना चाहिए या फिर अस्पताल के निकट किसी अलग भवन में होना चाहिए और इसे पैथोलॉजी विभाग और फोरेंसिक मेडिसिन विभाग द्वारा साझा किया जा सकता है। स्नातक छात्रों के प्रशिक्षण को सुगम बनाने के लिए प्रत्येक कॉलेज को शव परीक्षण/पोस्टमार्टम करने के लिए राज्य सरकार / संघ राज्य क्षेत्र प्रशासन से उचित अनुमति या उचित समझौता ज्ञापन प्राप्त करना होगा।

6.3. माइक्रोबायोलॉजी विभाग में (क) अवायवीय बैक्टीरिया सहित जीवाणु विज्ञान; (ख) सीरोलॉजी; (ग) वायरोलॉजी; (घ) पैरासिटोलॉजी; (ङ) माइकोलॉजी; (च) क्षय रोग; और (छ) इम्यूनोलॉजी में से प्रत्येक के लिए अलग सेवा प्रयोगशाला होगी।

वायरोलॉजी सेवा प्रयोगशाला बीएसएल-2 स्तर की प्रयोगशाला होगी (3 जून 2020 को अधिसूचित ई-गजट संख्या एमसीआई-34(41)/2020- चिकित्सा/103234 के अनुसार)।

6.4. औषध विज्ञान विभाग

पशुओं को रखने का क्षेत्र स्नातक पाठ्यक्रम में फार्माकोलॉजी पढ़ाने के लिए, कंप्यूटर सहायता प्राप्त मॉड्यूल का उपयोग करके आवश्यक ज्ञान और कौशल प्रदान किया जाना चाहिए। हालाँकि, यदि अनुसंधान और स्नातकोत्तर प्रशिक्षण की परिकल्पना की गई है, तो ही सीपीसीएसईए के दिशानिर्देशों के अनुसार पशुओं को रखने के क्षेत्र की आवश्यकता होती है।

6.5. सामुदायिक चिकित्सा विभाग : एनएचएम की जनसंख्या (आरएचटीसी - 30000 जनसंख्या और यूएचटीसी - 50000 जनसंख्या) को ध्यान में रखते हुए आरएचटीसी और यूएचटीसी के लिए कर्मचारियों की आवश्यकताएं। इसके अलावा, ग्रामीण और शहरी आबादी के लिए गुणवत्तापूर्ण देखभाल प्रदान करने के लिए एमडी की योग्यता वाले चिकित्सा अधिकारी यानी सहायक प्रोफेसर को यूजी सीबीएमई, सीआरएमआई और पीजी को अधिक गुणवत्ता वाली शिक्षा प्रदान करने में सक्षम बनाया जा सकता है। यदि प्रशिक्षित पीएचएन उपलब्ध नहीं है, तो यूएचटीसी और आरएचटीसी के लिए सामुदायिक क्षेत्र के अनुभव वाली प्रशिक्षित स्टाफ नर्स उपलब्ध कराई जाएगी।

(क) ग्रामीण/शहरी स्वास्थ्य प्रशिक्षण केंद्र :

मेडिकल कॉलेज शुरू करने की अनुमति चाहने वाले प्रत्येक अस्पताल के लिए, कॉलेज की भौगोलिक स्थिति के अनुसार, मेडिकल कॉलेज से संबद्ध ग्रामीण स्वास्थ्य प्रशिक्षण केंद्र/सामुदायिक स्वास्थ्य केंद्र/शहरी स्वास्थ्य केंद्र होने चाहिए, जिसका उपयोग इंटर्नशिप प्रशिक्षण के लिए किया जाएगा। कॉलेज द्वारा अपनाए गए इन केंद्रों की संख्या इतनी होनी चाहिए कि सीआरएमआई विनियम 2021 में आवश्यकता के अनुसार प्रति केंद्र 15 प्रशिक्षुओं की तैनाती की आवश्यकता पूरी हो जाए।

इन केंद्रों का स्वामित्व कॉलेज के पास होगा या यह सरकारी स्वामित्व वाले स्वास्थ्य केंद्र से संबद्ध होना चाहिए। यदि यह सरकारी स्वामित्व वाले स्वास्थ्य केंद्र से संबद्ध है, तो इससे संबद्ध ग्रामीण समुदाय के लिए समुदाय उन्मुख प्राथमिक स्वास्थ्य देखभाल और ग्रामीण आधारित स्वास्थ्य शिक्षा में प्रशिक्षुओं के प्रशिक्षण के लिए शैक्षणिक नियंत्रण कॉलेज के डीन/प्रिंसिपल के पास होगा। यह स्वास्थ्य केंद्र एक्स श्रेणी (टियर-1) के शहरों की संशोधित सूची में शामिल शहरों को छोड़कर जहां यह 50 किलोमीटर के भीतर होगा, 30 किलोमीटर की दूरी के भीतर होगा। प्रशिक्षु लड़कों और लड़कियों के लिए मेस की सुविधाओं के साथ अलग-अलग आवास की व्यवस्था भी प्रदान की जाएगी। सामुदायिक चिकित्सा

विभाग द्वारा क्षेत्र कार्य और शिक्षण और प्रशिक्षण की गतिविधियों को पूरा करने के लिए पर्याप्त परिवहन (कर्मचारियों और छात्रों दोनों के लिए) प्रदान किया जाएगा।

जनशक्ति	30,000 की आबादी के लिए आरएचटीसी और 50,000 की आबादी के लिए यूएचटीसी				
छात्र	50	100	150	200	250
प्रभारी सहायक प्रोफेसर (बारी-बारी से) और एमओ (एक पुरुष, एक महिला) (कम से कम एक महिला चिकित्सा अधिकारी होनी चाहिए)	2	2	2	2	2
पीएचएन / सामुदायिक क्षेत्र के अनुभव के साथ प्रशिक्षित स्टाफ नर्स	1	2	2	2	2
एएनएम	2	2	4	5	5
चिकित्सा सामाजिक कार्यकर्ता	1	2	3	4	5
तकनीशियन / तकनीकी सहायक	1	1	1	1	1
फार्मासिस्ट	1	1	1	1	1
स्वच्छता निरीक्षक/स्वास्थ्य निरीक्षक	1	1	2	2	2
स्वास्थ्य शिक्षक	1	1	1	1	1
स्टोर कीपर/रिकॉर्ड क्लर्क	1	1	1	1	1

- आरएचटीसी और यूएचटीसी की रोगी रिकॉर्ड प्रणाली का पूर्ण कम्प्यूटरीकरण होना चाहिए।
- मेगासिटी या मेट्रो शहरों के मामले में, जहां अभ्यास के लिए सन्निकट ग्रामीण क्षेत्र संभव नहीं हो सकता है, मेडिकल कॉलेज से आरएचटीसी की दूरी में कुछ लचीलेपन की आवश्यकता हो सकती है।
- मेगासिटी या मेट्रो शहरों के मामले में, शहरी मलिन बस्तियों सहित विभिन्न क्षेत्रों में परिवारों को गोद लेने में लचीलेपन की आवश्यकता है।
- मेगासिटी या मेट्रो शहरों के मामले में, शिक्षण अस्पताल के विभिन्न ओपीडी जैसे कि टीबी क्लिनिक, टीकाकरण क्लिनिक, एंटी-रेबीज क्लिनिक में इंटर्न के वितरण में लचीलेपन की आवश्यकता है, जो सीआरएमआई की वर्तमान तैनातियों के अलावा इंटर्न के लिए सीखने के महत्वपूर्ण स्रोत भी हैं।
- चूंकि कॉलेज की शुरुआत के समय और एक बार में सभी बुनियादी ढांचागत आवश्यकताओं को आसानी से पूरा किया जा सकता है, इसलिए सामुदायिक चिकित्सा के लिए एक अलग संग्रहालय की आवश्यकता है। इसके अलावा, अपना संग्रहालय विकसित करने से विभाग में स्वामित्व की भावना भी आएगी और साझा संग्रहालय में यह संभव नहीं हो सकता है।
- प्रत्येक मेडिकल कॉलेज में एक ग्रामीण स्वास्थ्य प्रशिक्षण केंद्र और शहरी स्वास्थ्य प्रशिक्षण केंद्र होगा जो पहले निरीक्षण/मूल्यांकन या पहले एलओपी से पहले शिक्षण अस्पताल की तरह चल रहा होगा।

ख. शिक्षण अस्पताल

ख.1 सामान्य टिप्पणी

1. अस्पताल भवन मौजूदा राष्ट्रीय भवन मानदंडों और अस्पतालों के लिए विभिन्न स्थानीय वैधानिक नियमों के अनुरूप होगा, जिसमें सेवा प्रदाता के रूप में अस्पताल की आवश्यकताओं को ध्यान में रखा जाएगा जिसमें प्रशासन, पंजीकरण, रिकॉर्ड भंडारण, बहिरंग रोगी और अंतरंग रोगी क्षेत्र, ऑपरेशन थिएटर, सीएसएसडी, आईसीयू, रेडियोलॉजी और प्रयोगशाला सेवा, आपातकालीन क्षेत्र आदि शामिल हैं। शिक्षण अस्पताल इन विनियमों में निर्धारित न्यूनतम आवश्यकताएं प्रदान करेगा।

2. <u>नैदानिक शिक्षण विभागों, शिक्षण संकाय और रेजिडेंट के लिए स्थान</u>

(i) जब शिक्षण अस्पताल और मेडिकल कॉलेज एक ही परिसर में होते हैं, तो नैदानिक विभागों और उसके शिक्षण संकाय के लिए कमरे या तो मेडिकल कॉलेज में या फिर शिक्षण अस्पताल में उपलब्ध कराए जा सकते हैं।

(ii) जब शिक्षण अस्पताल और मेडिकल कॉलेज अलग-अलग भूखंडों पर हों, तो अस्पताल के लिए वैधानिक आवश्यकताओं के अलावा, शिक्षण अस्पताल में नैदानिक विभागों के कार्यालयों और शिक्षण संकाय के कमरों के लिए भी पर्याप्त जगह होनी चाहिए।

(iii) शिक्षण कक्ष : शिक्षण अस्पताल में नैदानिक मामलों पर चर्चा/प्रदर्शन के लिए प्रत्येक विभाग के लिए कम से कम 1 (एक) शिक्षण क्षेत्र होना चाहिए जहां कम से कम 30 छात्रों को समायोजित किया जा सके। ऐसे प्रत्येक कमरे में ऑडियो-विजुअल की सुविधाएं होंगी। नैदानिक विभागों में छोटे समूह में शिक्षण में वास्तव में बहिरंग रोगी क्लिनिक और बेड साइड शिक्षण आवश्यक होता है। हालाँकि, किसी भी नैदानिक शिक्षण विभाग के लिए आवश्यकता के अनुसार अतिरिक्त शिक्षण कक्ष उपलब्ध कराए जाएंगे। अस्पताल के सभी शिक्षण क्षेत्रों में इंटरनेट की सुविधाएं और कनेक्टिविटी वांछनीय होगी।

ख.1.1. बहिरंग रोगी क्षेत्र

1. स्नातक पाठ्यक्रम के स्पेशियलिटी/विषयों में प्रति छात्र प्रति वर्ष न्यूनतम 8 रोगियों (पुराने और नए) की दैनिक ओपीडी उपस्थिति होगी।

2. बहिरंग रोगी क्षेत्रों में नैदानिक स्पेशियलिटी विभाग के अनुरूप पर्याप्त स्वागत कक्ष और रोगी प्रतीक्षा कक्ष, परामर्श कक्ष, जांच कक्ष और अन्य सहायक सुविधाएं होनी चाहिए।

ख.1.2. इनडोर बेड का अधिभोग : इनडोर बेड का औसत अधिभोग न्यूनतम 80 प्रतिशत प्रति वर्ष होना चाहिए। बेड की संख्या निम्नानुसार होगी :

एमबीबीएस की सीटों के अनुसार बेड	**50**	**100**	**150**	**200**	**250**
सामान्य चिकित्सा	50	100	150	220	225
बाल रोग	25	50	75	100	125
त्वचा विज्ञान	5	10	10	10	10
मनश्चिकित्सा	5	10	15	20	25
सामान्य सर्जरी*	50	100	150	150	200
आर्थोपेडिक्स	20	40	60	80	100
ओटोरहिनोलरिंगोलॉजी (ईएनटी)	10	20	20	30	30
नेत्र विज्ञान	10	20	20	30	30
प्रसूति एवं स्त्री रोग	25	50	75	100	125
आईसीयू	20	20	30	30	30
कुल	**220**	**420**	**605**	**770**	**900**
ओपीडी/दिन	**400**	**800**	**1200**	**1600**	**2000**
बड़ा ओटी	**4**	**7**	**9**	**10**	**11**
लघु ओटी - अच्छी तरह से सुसज्जित (एनेस्थीसिया की सुविधा के साथ)	**प्रत्येक सर्जिकल स्पेशियलिटी के लिए 1**				

**सामान्य सर्जरी के लिए समर्पित 100 या अधिक बेड वाले अस्पतालों के लिए, कम से कम 10 प्रतिशत बेड बाल चिकित्सा सर्जरी के लिए समर्पित होने चाहिए।*

1. शिक्षण अस्पतालों में बेड की संख्या उपरोक्त तालिका में उल्लिखित संख्या के अनुसार होगी। सहायक कर्मचारी आवश्यकता के अनुसार पर्याप्त संख्या में होंगे।

2. अच्छी तरह से सुसज्जित और अद्यतन गहन देखभाल इकाई (आईसीयू), गहन कोरोनरी देखभाल इकाई (आईसीसीयू), गहन श्वसन देखभाल इकाई, बाल गहन देखभाल (पीआईसीयू) और नवजात गहन देखभाल इकाई (एनआईसीयू), क्रिटिकल केयर बर्न्स यूनिट, पोस्ट-ऑप सर्जिकल क्रिटिकल केयर यूनिट, प्रसूति एचडीयू/आईसीयू होंगे।

3. मेडिकल के स्नातक छात्रों के शिक्षण और प्रशिक्षण के लिए उपलब्ध सभी बेड को ऊपर बताए अनुसार शिक्षण बेड में गिना जाएगा।

4. जहां भी संभव हो, इन स्पेशियलिटी में प्रशिक्षण के लिए अन्य अस्पताल सेवाओं में उपलब्ध सुविधाओं का उपयोग किया जा सकता है।

ख. 2. अस्पताल संक्रमण नियंत्रण समिति (एचआईसीसी) : स्वास्थ्य देखभाल सुविधाओं के लिए राष्ट्रीय सिफारिशों के अनुसार एक एचआईसीसी होगी जिसमें संस्थान के प्रमुख/चिकित्सा अधीक्षक अध्यक्ष होंगे और वरिष्ठ माइक्रोबायोलॉजिस्ट (एसोसिएट प्रोफेसर/प्रोफेसर) समिति के सदस्य सचिव होंगे। इस समिति में, अस्पताल में बेड की संख्या के अनुसार उचित संख्या में संक्रमण नियंत्रण नर्सों और लैब के वरिष्ठ तकनीशियनों को शामिल किया जाएगा। यह समिति संक्रमण नियंत्रण, रोगाणुरोधी प्रतिरोध और एंटीबायोटिक नीति पर गौर करेगी और समय-समय पर इसकी समीक्षा करेगी।

ख. 3. विभाग की आंतरिक आवश्यकताएँ :

प्रत्येक वार्ड के पास निम्नलिखित उपलब्ध होगा, अर्थात :

1. सामान्य वार्ड में सभी सुविधाओं के साथ दो बेड के बीच की दूरी 1.5 मीटर से कम नहीं होगी।
2. वार्ड का निर्माण इस तरह से किया जाना चाहिए कि नर्स अपने नर्सिंग स्टेशन से वार्डों में सभी मरीजों का अवलोकन करने में सक्षम हो सके।
3. जांच एवं उपचार कक्ष
4. पैन्ट्री
5. लिनन और अन्य उपकरणों के लिए भंडार कक्ष
6. रेजिडेंट डॉक्टर और छात्र ड्यूटी रूम
7. नैदानिक प्रदर्शन क्षेत्र
8. उच्च निर्भरता इकाई (एचडीयू)

ख. 4. ऑपरेशन थियेटर मौजूदा मानदंडों के अनुरूप होंगे। अलग-अलग संख्या में छात्रों के वार्षिक प्रवेश के लिए एलओपी से मान्यता तक बड़े और छोटे ऑपरेशन थिएटरों की न्यूनतम संख्या वही होगी जो प्रत्येक विभाग के लिए बेड की संख्या का उल्लेख करने वाली तालिका में दर्शाई गई है।

ख. 5. हताहत सेवा/आपातकालीन चिकित्सा विभाग का प्रबंधन संबंधित विभागों द्वारा चौबीसों घंटे बारी-बारी से किया जाएगा। प्रत्येक अस्पताल की अपनी ट्राइएजिंग (आपातकाल में कार्यवाही की प्राथमिकता का निर्धारण) नीति होगी। ऑक्सीजन आपूर्ति, वेंटिलेटर, डिफाइब्रिलेटर और पूरी तरह सुसज्जित आपदा ट्रॉली (आपातकालीन ट्रॉली), आपातकालीन एक्सरे, जांच सुविधाओं सहित पुनर्जीवन सेवाओं के लिए स्थान प्रदान किया जाएगा।

संबंधित ब्लॉकों में मरीजों, उनके परिचारकों और विभाग के क्रर्मचारियों के लिए पर्याप्त स्वच्छता व्यवस्था (शौचालय और स्नानघर) और पीने के पानी की सुविधाएं प्रदान की जाएंगी।

हताहत/आपातकालीन चिकित्सा विभाग से आईसीयू/सर्जरी में मरीजों को इस तरह से शिफ्ट किया जाना चाहिए कि मरीज को शिफ्ट करने में कम से कम समय बर्बाद हो।

ख. 6. केंद्रीय जीवाणुनाशन सेवाएँ, लॉंड्री : मौजूदा मानदंडों की पुष्टि होनी चाहिए।

ख. 7. रेडियो डायग्नोसिस विभाग :

आवश्यकताएँ मौजूदा मानदंडों के अनुसार होंगी। रेडियो डायग्नोसिस विभाग के कर्मचारियों को बार्क की व्यक्तिगत निगरानी प्रणाली के अंतर्गत शामिल किया जाएगा।

इसमें पारंपरिक, स्थिर और पोर्टेबल एक्सरे, फ्लोरोस्कोपी, कंट्रास्ट अध्ययन, अल्ट्रासोनोग्राफी और कम्प्यूटरीकृत टोमोग्राफी की सुविधाएं होंगी। इसमें कम्प्यूटरीकृत/डिजिटल रेडियोग्राफी के साथ 500 एमए या इससे अधिक क्षमता की कम से कम दो एक्सरे मशीनें होंगी, दो यूएसजी मशीनें होंगी जिनमें से कम से कम एक में कार्डियोवैस्कुलर अध्ययन और लिनीयर प्रोब को सपोर्ट करने के लिए कलर डॉपलर होगा।

विभाग में होने वाली सभी जांचों के लिए एक डिजिटल रिकार्ड रूम होगा। सभी मशीनें उपयुक्त प्राधिकारी द्वारा विधिवत रूप से प्रमाणित की जाएंगी।

विभिन्न डायग्नोस्टिक इमेजिंग सिस्टम के लिए कमरे का आकार परमाणु ऊर्जा नियामक बोर्ड की सुरक्षा संहिता के प्रावधान के अनुसार होगा।

ख. 8. एनेस्थिसियोलॉजी विभाग : विभाग द्वारा योजनाबद्ध की जाने वाली नियमित आवश्यकताओं के अलावा, निम्नलिखित सुविधाएं भी होंगी :

आपातकालीन सेवाएं प्रदान करने के लिए, ट्रॉमा के मरीजों सहित आपातकालीन स्थिति के लिए कम से कम 2 आपातकालीन ऑपरेशन थिएटर ऐसे होने चाहिए जो चौबीसों घंटे काम करते हों और प्रसूति संबंधी आपात स्थितियों के लिए एक अलग ऑपरेशन थिएटर चौबीसों घंटे उपलब्ध होना चाहिए। लेबर एनाल्जेसिया की सुविधा भी उपलब्ध होनी चाहिए।

(क) एनेस्थीसिया पूर्व जांच (पीएसी) कक्ष

ओपीडी के मानदंडों के अनुसार पर्याप्त जगह, यह मुख्य ओपीडी परिसर में या ओटी परिसर के पास हो सकता है। इसमें प्रबंधन के लिए पर्याप्त कर्मचारियों के साथ-साथ रोगी परीक्षण टेबल, कद और वजन मापने की मशीन, बीपी उपकरण, एसपीओ2 की सुविधा होगी।

(ख) पेन क्लिनिक : एनेस्थिसियोलॉजी विभाग के अंतर्गत एक पेन क्लिनिक का होना वांछनीय होगा। इसमें ओपीडी के मानदंडों के अनुसार पर्याप्त जगह होगी, यह मुख्य ओपीडी परिसर में या ओटी परिसर के पास हो सकता है। इसमें प्रबंधन के लिए पर्याप्त कर्मचारियों के साथ-साथ रोगी परीक्षण टेबल, बीपी उपकरण, एसपीओ2 सहित सुविधाएं होंगी। यदि दर्द को नियंत्रित करने के लिए किसी मरीज को भर्ती करने की आवश्यकता होगी, तो मूल यूनिट संबंधित यूनिट में विशेषाधिकृत बेड प्रदान करेगी। पेन क्लिनिक/ओटी के लिए आरएफ एब्लेशन, फ्लोरोस्कोपी, पेन क्लिनिक में यूएसजी, सिरिंज पंप, कैथेटर, ओटी टेबल जैसी आवश्यकताओं को क्लिनिकल लोड और दर्द सेवाओं के कामकाज के अनुसार ऑर्थोपेडिक्स, न्यूरोसर्जरी, ऑन्कोलॉजी आदि जैसे अन्य विभागों के साथ साझा सुविधाओं के रूप में उपलब्ध कराया जा सकता है। विभाग के पास अच्छी प्रलेखन नीति होनी चाहिए।

ख. 9. केंद्रीय प्रयोगशाला :

हेमटोलॉजी, क्लिनिकल पैथोलॉजी, माइक्रोबायोलॉजी - एलिसा पर आधारित सीरोलॉजिकल टेस्ट, केमिलुमिनसेंस, रैपिड टेस्ट, क्लिनिकल बायोकैमिस्ट्री - फोटोमेट्रिक टेस्ट, केमिलुमिनसेंस आधारित टेस्ट, इलेक्ट्रोलाइट्स, एबीजी आदि में सभी नियमित जांच के लिए सामान्य संग्रह क्षेत्र के साथ-साथ अच्छी तरह से सुसज्जित और अद्यतन केंद्रीय प्रयोगशाला होगी। किसी अन्य विशेष कार्य के लिए विभागों में अलग से लैब स्थापित की जा सकती है। जहां तक संभव हो, केंद्रीय प्रयोगशाला में सभी नमूनों को एकत्र करने और रिपोर्ट भेजने की सुविधा होगी। केंद्रीय प्रयोगशाला के संबंधित अनुभागों का प्रबंधन मेडिकल कॉलेज के संबंधित शिक्षण विभागों द्वारा किया जाएगा और समग्र समन्वय का कार्य मेडिकल कॉलेज के संबंधित शिक्षण विभागों के एचओडी में से किसी एक द्वारा किया जा सकता है, जिसकी व्यवस्था हर 1 या 2 साल के लिए रोटेशन के आधार पर की जा सकती है।

हिस्टोपैथोलॉजी लैब में नमूनों की संख्या कुल बड़ी सर्जरी का कम से कम 30 प्रतिशत होगी, साइटोपैथोलॉजी लैब में नमूनों की संख्या अस्पताल के कुल ओपीडी का कम से कम 2 प्रतिशत होगी। हेमटोलॉजी लैब में क्लिनिकल पैथोलॉजी और क्लिनिकल बायोकैमिस्ट्री के नमूनों की संख्या ओपीडी का कम से कम 15 प्रतिशत और इनडोर बेड का 30 प्रतिशत होगी और माइक्रोबायोलॉजी में इनकी संख्या इनडोर बेड का कम से कम 30 प्रतिशत और सर्जरी के कुल मामलों का 50 प्रतिशत होगी।

ख. 10. ब्लड बैंक

एक सुसज्जित वातानुकूलित ब्लड बैंक होगा जो घटक चिकित्सा प्रदान करने में सक्षम हो। ब्लड बैंक और रक्त आधान सेवाएं राष्ट्रीय एड्स नियंत्रण संगठन के दिशानिर्देशों के अनुरूप होनी चाहिए और समय-समय पर संशोधित औषधि और प्रसाधन सामग्री नियमावली, 1945 की अनुसूची-च के भाग XII-बी में निर्धारित शर्तों के अनुसार होनी चाहिए।

जब ट्रांसफ्यूजन मेडिसिन का कोई अलग विभाग न हो, तो रक्त आधान सेवाएँ मेडिकल कॉलेज के शिक्षण पैथोलॉजी विभाग के प्रशासनिक नियंत्रण में होनी चाहिए।

ख.11 योग विभाग (अनुशंसित)

छात्रों और शिक्षकों को योग में प्रशिक्षित करने के लिए, प्रत्येक कॉलेज न्यूनतम एक पुरुष और एक महिला योग अनुदेशक/प्रशिक्षक के साथ योग विभाग शुरू कर सकता है। प्रशिक्षकों को कॉलेज द्वारा नियोजित या तैनात किया जाएगा। आयुष मंत्रालय या समय-समय पर निर्धारित इसके दिशानिर्देशों या स्थानीय आयुष केंद्रों से परामर्श का उपयोग किया जा सकता है।

ख.12 कम से कम एक योग्य रेडिएशन ऑन्कोलॉजिस्ट के साथ रेडिएशन ऑन्कोलॉजी विभाग की सिफारिश की जाती है।

रेडिएशन ऑन्कोलॉजी विभाग की योजना एईआरबी की नियामक आवश्यकताओं और उसके अनुमोदन के अनुसार बनाई जाएगी। देश में असाध्य बीमारियों की बढ़ती घटनाओं को देखते हुए शुरुआत में ओपीडी शुरू करना वांछनीय होगा। मरीजों के बहु-विषयक प्रबंधन के लिए विभिन्न विषयों की सुविधाओं के बीच अबाध संपर्क को सुगम बनाने के लिए इस विभाग को अस्पताल के शेष विभागों के साथ निकटता से जोड़ा जा सकता है। पूरे विभाग के पूर्ण लेआउट के साथ विकिरण चिकित्सा कक्ष/योजना का बार्क से पूर्व अनुमोदन अनिवार्य है।

ख. 13. एंटी-रेट्रोवायरल थेरेपी (एआरटी) केंद्र

प्रत्येक शिक्षण अस्पताल में एंटी-रेट्रोवायरल थेरेपी (एआरटी) केंद्र और मल्टी-ड्रग रेसिस्टेंट (एमडीआर)-टीबी के प्रबंधन की सुविधा होनी चाहिए।

ख. 14. फार्मेसी सेवाएँ शिक्षण अस्पताल में आने वाले बहिरंग रोगियों, आपातकालीन और अन्य रोगियों की देखभाल के लिए 24 घंटे फार्मेसी सेवाएं उपलब्ध होंगी। इसमें दवाओं के वितरण के लिए वैधानिक प्राधिकरणों द्वारा प्रमाणित योग्य प्रभारी फार्मासिस्ट और अन्य कर्मचारी होंगे।

ख. 15. बिजली, पानी, स्वच्छता

बिजली, पानी की आपूर्ति निरंतर रहेगी। उपयुक्त यूपीएस/जनरेटर उपलब्ध होगा। बिजली और पानी की निर्बाध आपूर्ति में मदद करने के लिए प्रशिक्षित कर्मचारी चौबीसों घंटे उपलब्ध रहेंगे। मरीजों और कर्मचारियों के लिए स्वच्छता की पर्याप्त सुविधाएं उपलब्ध कराई जाएंगी।

अनुसूची II : कर्मचारियों की आवश्यकताएँ

क. सामान्य टिप्पणियां :

1. चूंकि चिकित्सा शिक्षा में छोटे समूहों में व्यावहारिक शिक्षण और प्रदर्शन पर जोर दिया जाता है और छात्रों को स्वयं निर्देशित अध्ययन के लिए प्रोत्साहित किया जाता है, इसलिए शिक्षकों की संख्या यहां बताई गई आवश्यकता के अनुसार होनी चाहिए ताकि प्रभावी ढंग से शिक्षण प्रदान किए जा सके।

2. मेडिकल कॉलेज के सभी विभागों का शिक्षण स्टाफ पूर्णकालिक होगा; कॉलेज के कामकाजी समय के दौरान संकाय सदस्य निजी प्रैक्टिस में शामिल नहीं होंगे।

3. ये विनियम वार्षिक आधार पर एमबीबीएस छात्रों के प्रवेश के अनुसार स्नातक चिकित्सा शिक्षा की न्यूनतम आवश्यकताओं और इन विनियमों में दर्शाए गए न्यूनतम रोगी भार को कवर करते हैं। हालाँकि, मेडिकल कॉलेजों/संस्थानों और शिक्षण अस्पतालों को अतिरिक्त कर्मचारियों, जैसा कि नीचे दर्शाया गया है, के लिए प्रावधान करने की आवश्यकता होती है।

   (क) कार्यभार के अनुपात में अतिरिक्त स्टाफ उपलब्ध कराया जाएगा।

   (ख) ओपीडी, इनडोर, ऑपरेशन थिएटर और गहन देखभाल क्षेत्र, आपातकालीन देखभाल क्षेत्र, प्रसव कक्ष, नैदानिक प्रयोगशालाओं में या आउटरीच कार्य के लिए जहां काम का बोझ भारी है या विशेष प्रकृति का है, वहां शिक्षणेतर कर्मचारियों की भी आवश्यकता होगी।

   (ग) समय-समय पर निर्धारित "स्नातकोत्तर चिकित्सा शिक्षा विनियम" के अनुसार स्नातकोत्तर पाठ्यक्रम शुरू करते समय अतिरिक्त शिक्षण स्टाफ की आवश्यकता होगी।

4. मानव शरीररचना-विज्ञान, मानव शरीरक्रिया-विज्ञान और जीव रसायन विज्ञान विभागों में, विज्ञान के कुल पदों की संख्या के 15 प्रतिशत की सीमा तक गैर-मेडिकल अध्यापक नियुक्त किये जा सकते हैं। ऊपर उल्लिखित गैर-मेडिकल अध्यापकों और कम्युनिटी मेडिसिन विभाग में सांख्यिकीविदों के पास अध्यापक पात्रता शैक्षिक

योग्यता विनियमावली में दी गई शर्तों के अनुसार किसी मान्यताप्राप्त विश्वविद्यालय से उस विषय विशेष में शैक्षिक योग्यता होनी चाहिए।

5. सहायक प्रोफेसर तक कनिष्ठ संवर्ग के संकाय सदस्यों के पद को वरिष्ठ संवर्ग के संकाय सदस्यों द्वारा भरा जा सकता है; उदाहरण के लिए सहायक प्रोफेसर के पद को एसोसिएट प्रोफेसर या प्रोफेसर द्वारा भरा जा सकता है। इसी प्रकार, एसोसिएट प्रोफेसर के पद को प्रोफेसर द्वारा भरा जा सकता है। ट्यूटर और सीनियर रेजिडेंट मिलकर आवश्यक व्यक्तियों की कुल संख्या को पूरा करेंगे।

6. संकाय सदस्यों के पद "मेडिकल संस्थानों में शिक्षकों के लिए न्यूनतम योग्यता" विनियम के अनुरूप होंगे।

7. सीनियर रेजिडेंट डॉक्टर (एसआर) संबंधित स्पेशियलिटी या विभाग के स्नातकोत्तर उम्मीदवार होंगे। ट्यूटर एमबीबीएस उम्मीदवार होंगे। डिमॉन्सट्रेटर नियुक्त किए जाने वाले विषय में पीएचडी के साथ स्नातकोत्तर होंगे, न कि एमबीबीएस की योग्यता रखने वाले होंगे।

8. सुपर स्पेशियलिटी विभागों में संकाय सदस्य के रूप में नियुक्त शिक्षकों को व्यापक स्पेशियलिटी वाले विभागों में स्नातक चिकित्सा शिक्षा के लिए आवश्यक शिक्षकों के पूरक के रूप में नहीं गिना जाएगा। हालाँकि, व्यापक स्पेशियलिटी वाले विभाग में नियुक्त शिक्षकों, जिनके पास सुपर स्पेशियलिटी की योग्यता भी हो सकती है, को व्यापक स्पेशियलिटी वाले संबंधित विभाग में स्नातक चिकित्सा शिक्षा के लिए आवश्यक शिक्षकों के पूरक के रूप में गिना जाएगा।

9. अतिथि संकाय स्नातक छात्रों के शिक्षण की बोधगम्यता और गुणवत्ता बढ़ाने के उद्देश्य से "अतिथि संकाय" को "मेडिकल संस्थानों में शिक्षकों के लिए न्यूनतम योग्यता" विनियम के अनुसार निर्धारित न्यूनतम संकाय सदस्यों के अतिरिक्त नियुक्त किया जा सकता है। हालाँकि, अतिथि संकाय को इसके जरिए निर्धारित न्यूनतम आवश्यकताओं के अनुसार संकाय नहीं माना जाएगा।

मेडिकल कॉलेज के प्रत्येक विभाग में प्रोफेसर स्तर का एक विभागाध्यक्ष होगा जिसके पास विभाग का समग्र नियंत्रण होगा। अपवाद के रूप में, त्वचाविज्ञान विभाग, मनोचिकित्सा विभाग और दंत चिकित्सा विभाग जहां एसोसिएट प्रोफेसर या 5 साल से अधिक शिक्षण अनुभव वाले सहायक प्रोफेसर विभागाध्यक्ष हो सकते हैं, जिनके पास पूर्णकालिक प्रोफेसर की नियुक्ति होने या संबंधित संकाय सदस्य के प्रोफेसर के पद पर पदोन्नत होने तक विभाग का समग्र नियंत्रण होगा। ऐसी छूट अधिकतम पांच (5) वर्ष की अवधि के लिए उपलब्ध होगी।

इंगति किए गए कर्मचारियों के अलावा, चौबीसों घंटे सेवाएं प्रदान करने के लिए अस्पताल के विभिन्न क्षेत्रों जैसे कि वार्ड, प्रसव कक्ष, गहन देखभाल क्षेत्र, आपातकालीन वार्ड, और अस्पताल के नैदानिक प्रयोगशालाओं और जांच विभागों में नैदानिक भार के अनुसार अतिरिक्त सीनियर रेजिडेंट और जूनियर रेजिडेंट या चिकित्सा अधिकारी उपलब्ध कराए जाएंगे। इसके अलावा, शिक्षण विभागों की यूनिट में रोगियों की देखभाल के लिए कम से कम 02 (दो) जूनियर रेजिडेंट या स्नातकोत्तर / चिकित्सा अधिकारी होने चाहिए।

सामाजिक कार्यकर्ता, नैदानिक मनोवैज्ञानिक, ऑडियोमेट्री तकनीशियन, स्पीच थेरेपिस्ट, ऑप्टोमेट्रिस्ट, भौतिक विज्ञानी, तकनीशियन, परिचारक, पुस्तकालय स्टाफ और अन्य सहित सहायक कर्मचारियों को आवश्यकता के अनुसार नियोजित किया जाएगा।

एमबीबीएस प्रवेश के लिए संकाय सदस्यों की आवश्यकता

क्र.सं.	विभाग	पदनाम	50 सीट	100 सीट	150 सीट	200 सीट	250 सीट
1	**एनाटॉमी**	प्रोफेसर	1	1	1	1	1
		एसोसिएट प्रोफेसर	1	1	2	2	3
		सहायक प्रोफेसर	2	2	3	4	5
		ट्यूटर/डिमॉन्सट्रेटर	3	4	5	6	8
		वरिष्ठ रेजिडेंट	1	2	3	4	4
2	**फिजियोलॉजी**	प्रोफेसर	1	1	1	1	1
		एसोसिएट प्रोफेसर	1	1	2	2	3

		सहायक प्रोफेसर	1	2	2	4	5
		ट्यूटर/डिमॉन्सट्रेटर	2	3	4	5	5
		वरिष्ठ रेजिडेंट	1	2	3	4	4
3	**बायोकैमिस्ट्री**	प्रोफेसर	1	1	1	1	1
		एसोसिएट प्रोफेसर	1	1	2	2	3
		सहायक प्रोफेसर	1	2	2	3	4
		ट्यूटर/डिमॉन्सट्रेटर	2	3	4	4	4
		वरिष्ठ रेजिडेंट	1	2	3	4	4
4	**फार्माकोलॉजी**	प्रोफेसर	1	1	1	1	1
		एसोसिएट प्रोफेसर	1	1	2	2	3
		सहायक प्रोफेसर	1	2	3	4	4
		ट्यूटर/डिमॉन्सट्रेटर	2	3	4	6	6
		वरिष्ठ रेजिडेंट	1	2	3	4	4
5	**पैथोलॉजी**	प्रोफेसर	1	1	1	1	1
		एसोसिएट प्रोफेसर	1	2	3	3	4
		सहायक प्रोफेसर	1	3	3	4	5
		ट्यूटर/डिमॉन्सट्रेटर	2	4	5	6	6
		वरिष्ठ रेजिडेंट	1	2	3	4	4
6	**माइक्रोबाइलॉजी**	प्रोफेसर	1	1	1	1	1
		एसोसिएट प्रोफेसर	1	1	2	2	3
		सहायक प्रोफेसर	1	2	3	3	4
		ट्यूटर/डिमॉन्सट्रेटर	2	4	4	5	5
		वरिष्ठ रेजिडेंट	1	2	3	4	4
7	**फोरेंसिक मेडिसीन टॉक्सिकोलॉजी**	प्रोफेसर	1	1	1	1	1
		एसोसिएट प्रोफेसर	1	1	1	1	2
		सहायक प्रोफेसर	1	1	1	2	4
		ट्यूटर/डिमॉन्सट्रेटर	1	2	3	4	4
		वरिष्ठ रेजिडेंट	1	2	3	4	4
8	**सामुदायिक चिकित्सा**	प्रोफेसर	1	1	1	1	1
		एसोसिएट प्रोफेसर	1	2	2	3	3
		सहायक प्रोफेसर	2	3	4	5	6
		सांख्यिकीविद् (न्यूनतम एपी स्तर)	1	1	1	1	1
		ट्यूटर/डिमॉन्सट्रेटर	1	2	3	4	5
		वरिष्ठ रेजिडेंट	1	2	3	4	4
9	**सामान्य चिकित्सा**	प्रोफेसर	1	1	1	1	1

		एसोसिएट प्रोफेसर	1	3	4	6	7
		सहायक प्रोफेसर	2	4	5	7	8
		वरिष्ठ रेजिडेंट	2	4	5	7	8
10	**बाल रोग**	प्रोफेसर	1	1	1	1	1
		एसोसिएट प्रोफेसर	1	1	2	3	3
		सहायक प्रोफेसर	1	2	3	4	5
		वरिष्ठ रेजिडेंट	1	2	3	4	4
11	**त्वचा विज्ञान**	प्रोफेसर	0	0	1	1	1
	100 सीटों तक प्रोफेसर / एसोसिएट प्रोफेसर	एसोसिएट प्रोफेसर	1	1	1	1	1
		सहायक प्रोफेसर	1	1	1	1	1
		वरिष्ठ रेजिडेंट	1	1	1	1	2
12	**मनश्चिकित्सा**	प्रोफेसर	0	0	1	1	1
	100 सीटों तक प्रोफेसर / एसोसिएट प्रोफेसर	एसोसिएट प्रोफेसर	1	1	1	1	1
		सहायक प्रोफेसर	1	1	1	1	1
		वरिष्ठ रेजिडेंट	1	1	1	1	2
		नैदानिक मनोविज्ञानी	**1**	**1**	**1**	**1**	**1**
13	**सामान्य सर्जरी**	प्रोफेसर	1	1	1	1	1
		एसोसिएट प्रोफेसर	1	3	4	6	7
		सहायक प्रोफेसर	2	4	5	7	8
		वरिष्ठ रेजिडेंट	2	4	5	7	8
14	**आर्थोपेडिक्स**	प्रोफेसर	1	1	1	1	1
		एसोसिएट प्रोफेसर	1	1	2	3	3
		सहायक प्रोफेसर	1	2	3	4	5
		वरिष्ठ रेजिडेंट	1	2	3	4	4
15	**ओटोरहिनोलरिंगोलॉजी (ईएनटी)**	प्रोफेसर	0	1	1	1	1
	50 सीटों तक प्रोफेसर / एसोसिएट प्रोफेसर	एसोसिएट प्रोफेसर	1	1	1	2	2
		सहायक प्रोफेसर	1	1	2	2	3
		वरिष्ठ रेजिडेंट	1	1	2	2	3
16	**नेत्र विज्ञान**	प्रोफेसर	0	1	1	1	1
	50 सीटों तक प्रोफेसर / एसोसिएट प्रोफेसर	एसोसिएट प्रोफेसर	1	1	1	2	2
		सहायक प्रोफेसर	1	1	2	2	3
		वरिष्ठ रेजिडेंट	1	1	2	2	3
17	**प्रसूति एवं स्त्री रोग**	प्रोफेसर	1	1	1	1	1

	विज्ञान						
		एसोसिएट प्रोफेसर	1	1	3	4	4
		सहायक प्रोफेसर	1	2	4	4	5
		वरिष्ठ रेजिडेंट	1	2	4	4	5
18	**एनेस्थिसियोलॉजी**	प्रोफेसर	1	1	1	1	1
		एसोसिएट प्रोफेसर	1	2	3	4	5
		सहायक प्रोफेसर	2	4	5	5	6
		वरिष्ठ रेजिडेंट	2	3	4	5	5
19	**रेडियोडायग्नोसिस**	प्रोफेसर	0	1	1	1	1
	50 सीटों तक प्रोफेसर / एसोसिएट प्रोफेसर	एसोसिएट प्रोफेसर	1	1	1	1	2
		सहायक प्रोफेसर	1	1	2	3	3
		वरिष्ठ रेजिडेंट	1	2	3	3	3
20	**दंत चिकित्सा**	प्रोफेसर	0	0	0	1	1
	100 सीटों तक प्रोफेसर/एसोसिएट प्रोफेसर	एसोसिएट प्रोफेसर	1	1	1	1	1
	यदि डेंटल कॉलेज परिसर / शहर / कस्बे में मौजूद है, तो इसकी आवश्यकता नहीं है	सहायक प्रोफेसर	1	1	1	1	1
		वरिष्ठ रेजिडेंट	1	1	1	1	1

कुल संख्या

	प्रोफेसर	**एसोसिएट प्रोफेसर**	**सहायक प्रोफेसर**	**कुल**	**ट्यूटर/डिमॉन्सट्रेटर**	**वरिष्ठ रेजिडेंट**
50 सीटें	14	20	25	59	15	23
100 सीटें	17	27	41	85	25	40
150 सीटें	19	40	55	114	32	58
200 सीटें	20	51	70	142	40	73
250 सीटें	20	62	86	168	43	80

अनुसूची III

उपकरणों की सूची (कॉलेज और अस्पतालों के विभिन्न विभागों के लिए)

टिप्पणी : ये सिफारिशें न्यूनतम आवश्यकताएं हैं और एमबीबीएस छात्रों के शिक्षण के लिए आवश्यक उपकरणों के संबंध में संस्थानों के लिए एक मार्गदर्शक के रूप में काम करेंगी। संबद्ध अस्पताल को सेवा प्रदान करने के लिए, तदनुसार आवश्यक उपकरण प्रदान करने होंगे। यह विस्तृत सूची नहीं है और विभिन्न विभागों के कर्मचारी विभागों को सुसज्जित करने के लिए अपने अनुभव का उपयोग करेंगे।

शरीर रचना विभाग :

(क)	मदों का नाम (खरीदी जाने वाली मात्रा आवश्यकता के अनुसार विभाग के विवेक पर निर्भर कर सकती है)
1.	संगमरमर या स्टेनलेस स्टील के शीर्ष वाली न्यूनतम 6' x 2' x 3' की टेबल
2.	संगमरमर या स्टेनलेस स्टील के शीर्ष वाली टेबल - मानक आकार का आधा
3.	ड्रिल मशीन
4.	दस्ती आरी, अधिमानतः धातु की
5.	शरीर और अंगों को विभाजित करने के लिए बैंड आरी
6.	स्टूल, अधिमानतः धातु के
7.	ब्रेन नाइफ
8.	कम से कम 8 शवों को रखने की व्यवस्था वाला मुर्दाघर कूलर या उपयुक्त वैकल्पिक व्यवस्था
9.	10 शवों को रखने के लिए भंडारण टैंक, स्थिर/सचल, ढक्कन के साथ इनपुट और आउटपुट की सुविधा वाला टिकाऊ टैंक
10.	नरम और विच्छेदित अंगों के भंडारण के लिए प्लास्टिक के टैंक
11.	ट्रॉली टेबल (स्टील)
12.	स्क्रीन के साथ मल्टीमीडिया प्रोजेक्टर
13.	प्रोजेक्शन स्क्रीन के साथ मूवी कैमरा
14.	इंटरनेट कनेक्शन के साथ कंप्यूटर और वीडियो सीडी लाइब्रेरी
15.	एक्सरे व्यू बॉक्स
16.	एक्सरे प्लेट/एमआरआई/सीटी स्कैन/यूएसजी
17.	चार्ट, डायग्राम, मॉडल, स्लाइड आदि
18.	विच्छेदन यंत्र
19.	सकल शरीर रचना के अलग करने योग्य अध्ययन के लिए शरीर के पतले भागों (ट्रांस और वर्टिकल) के लिए मांस काटने की मशीन
20.	स्टील की ट्रे (बड़ी और छोटी)
21.	शव
22.	शव का संलेपन करने वाली मशीन
(ख) ऊतक विज्ञान	
23.	माइक्रोस्कोप
24.	डाइसेक्शन माइक्रोस्कोप
25.	माइक्रोटोम, रोटरी
26.	माइक्रोटोम, स्लेज, बड़ी कटिंग वाले
27.	स्लाइड के लिए कैबिनेट (1000)
28.	इनक्यूबेटर

29.	पैराफिन एम्बेडिंग बाथ
30.	टुकड़ों को समतल करने के लिए हॉट प्लेटें
31.	स्लाइडों को सुखाने के लिए गर्म हवा वाला ओवन (450 डिग्री सेल्सियस)
32.	रेफ्रिजरेटर (न्यूनतम 165 लीटर)
33.	डायमंड पेंसिल
(ग) संग्रहालय	
34.	विभाजित कंकाल सेट
35.	अविभाजित बोन सेट
36.	गीला नमूना जार (ग्लास)
37.	स्टील की रैक
38.	प्रिंटर-स्कैनर-कॉपियर की सुविधा के साथ डेस्कटॉप कंप्यूटर/लैपटॉप

2. शरीर क्रिया विज्ञान विभाग

क्र. सं.	**मद का नाम** **(खरीदी जाने वाली मात्रा आवश्यकता के अनुसार विभाग के विवेक पर निर्भर कर सकती है)**
1.	सूक्ष्मदर्शी, तेल निमज्जन
2.	डिमॉन्सट्रेशन आई पीस
3.	डबल डिमॉन्सट्रेशन आइ पीस
4.	स्टेज इनक्यूबेटर
5.	स्टैंड . पर ईएसआर के लिए वेस्टरग्रेन का पिपेट (स्पेस पिपेट के साथ)
6.	ईएसआर और पीसीवी प्रतिरोध के लिए विंट्रोब का पिपेट
7.	साहली या हेलिगे का हीमोग्लोबिन मीटर (स्पेस के साथ)
8.	हेमोसाइटो मीटर
9.	थर्मामीटर, तराजू, माइक्रोस्लाइड और कांच के बर्तन
10.	मल्टी चैनल फिजियोग्राफ, 3 चैनल, सहायक सामग्री के साथ पूर्ण
11.	अपकेन्द्रण यंत्र, टैकोमीटर के साथ हाई स्पीड
12.	कलरमीटर, फोटोइलेक्ट्रिक
13.	पीएच मीटर इलेक्ट्रिक
15.	डिजिटल फिजियोग्राफ
16.	डिजिटल पेरिमीटर
17.	स्फिग्मोमैनो मीटर (डिजिटल) (पारा आधारित उपकरणों को उपयुक्त विकल्पों से प्रतिस्थापित किया जाएगा)
18.	स्टेथोस्कोप

19.	स्टेथोस्कोप, मल्टीपल ईयर पीस के साथ डिमॉन्सट्रेशन
20.	पॉलीग्राफ
21.	स्पाइरोमीटर, साधारण
22.	डिजिटल स्पाइरोमीटर
23.	मोसो का एर्गोग्राफ
24.	क्लिनिकल थर्मामीटर
25.	कम्पास एस्थेसियोमीटर
26.	थर्मो-एस्थेसियोमीटर
27.	अल्गोमीटर
28.	नी हैमर
29.	स्टेथोग्राफ
30.	साइकिल एर्गोमीटर
31.	ओल्फैक्टोमीटर
32.	आप्थाल्मोस्कोप
33.	स्कीमैटिक आइ
34	कलर पर्सेप्शन लालटेन एड्रिज ग्रीन
34.	डायनेमोमीटर
35.	ओटोस्कोप
36.	स्टॉप वाच
37.	डिजिटल ईसीजी मशीन
38.	योग चटाई
40.	सुनने की क्षमता का परीक्षण करने के लिए ट्यूनिंग फॉर्क 32-10000 सीपीएस (100, 256, 512 हर्ट्ज)
41.	वैन स्लाइक का उपकरण मैनोमेट्रिक (वांछित)
42.	शिरापरक दबाव उपकरण (वांछित)
43.	डगलस बैग, पूर्ण (वांछित)
44.	बेसल चयापचय उपकरण (वांछित)
45.	निष्क्रिय गति के लिए उपकरण (वांछित)
46.	फाकोस्कोप (वांछित)
47.	चार्ट के साथ परिधि (लिस्टर की)(वांछित)
48.	मैडॉक्स रॉड (वांछित)
55.	न्यूटन की कलर ह्वील (वांछित)
56.	सहायक सामग्री के साथ छात्र फिजियोग्राफ़ (एकल चैनल) (वांछित)
57.	CO2, O2, N2 के लिए स्वचालित गैस विश्लेषक (वांछित)

59.	शेरिंगटन स्टार्लिंग किमोग्राफ (विद्युत चालित) पूर्ण असेंबली
60.	इलेक्ट्रोमैगनेटिक टाइम मार्कर
61.	मायोग्राफ स्टैंड
62.	इलेक्ट्रॉनिक स्टिमुलेटर
63.	ट्यूनिंग फॉर्क टाइम मार्कर 100/सेकंड
64.	इलेक्ट्रोड्स
65.	स्पिरिट लैंप
66.	मैरी ढोल
67.	उभयचर और स्तनधारी के प्रयोगों को प्रदर्शित करने के लिए सॉफ्टवेयर (वांछित)
68.	उत्तेजना के लिए 2 और 4 वोल्ट की टैपिंग के लिए कम वोल्टेज की इकाई (वांछित)
सामान्य	
69.	अपकेन्द्रण यंत्र, टेक्नोमीटर आदि के साथ हाई स्पीड
70.	रेफ्रिजरेटर, 9-10c फीट
71.	स्थिर अवस्था में पानी का आसवन, हीटिंग के अतिरिक्त एलीमेंट के साथ
72.	ग्लास आसवन के सभी उपकरण डबल चरण
73.	वोल्टेज स्टेबलाइजर
74.	स्टेपडाउन ट्रांसफार्मर

3. बायोकैमिस्ट्री विभाग

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1.	विश्लेषणात्मक तराजू : 200 ग्राम/1 ग्राम तक की वृद्धि
2.	कैलिब्रेटेड यूरिनोमीटर (पारा आधारित उपकरणों को अन्य विकल्पों से प्रतिस्थापित किया जाएगा)
3.	हॉट एयर ओवन (200 लीटर से अधिक)
4.	डिजिटल कलरमीटर
5.	छात्र माइक्रोस्कोप
6.	स्ट्रिप्स के साथ ग्लूकोमीटर (पीओसीटी के लिए)
7.	थर्मामीटर 0 - 250 डिग्री सेल्सियस
8.	सेमी ऑटोएनलाइज़र
9.	बॉइलिंग वाटर बाथ
10.	स्थिर तापमान वाले वाटर बाथ टैंक क्षमता : (तापमान की रेंज 5 से 80 डिग्री सेल्सियस)
11.	≥ 8 ट्यूब के लिए सेंट्रीफ्यूज क्लिनिकल

12.	व्यापक रेंज के पीएच मीटर डिजिटल
13.	निश्चित आयतन के पिपेट - 1 मिली, 0.5 मिली, 0.2 मिली, 0.1 मिली और 0.02 मिली
14.	बॉटल डिस्पेंसर
15.	परिवर्तनीय और निश्चित मात्रा वाले माइक्रो ऑटो पिपेट
16.	वैक्यूटेनर ट्यूब
17.	पीसीआर मशीन (या तो संस्थान में या कहीं और दौरे पर)
18.	एबीजी मशीन
19.	ऑटोएनलाइज़र (या तो संस्थान में या कहीं और दौरे पर)
20.	पेपर और टीएलसी के लिए पूर्ण क्रोमैटोग्राफ़िक इकाई (या तो संस्थान में या कहीं और दौरे पर)
21.	विद्युत आपूर्ति के साथ इलेक्ट्रोफोरेसिस के पूर्ण उपकरण (पेपर, पेज, एगरोज़) (या तो संस्थान में या कहीं और दौरे पर)
22.	कंप्यूटर के साथ डेंसिटोमीटर
23.	वॉर्टेक्स मिक्सर
24.	इनक्यूबेटर 37o C
25.	फ़्यूम कपबोर्ड
26.	डिजिटल विश्लेषणात्मक तराजू
27.	तराजू सूक्ष्म
28.	स्पेक्ट्रोफोटोमीटर
30.	पीसीआर मशीन (या तो संस्थान में या कहीं और दौरे पर)
31.	एलिसा रीडर एंड वाशर
32.	ग्लूकोज और प्रोटीन के लिए युरिन स्ट्रिप्स
33.	आईएसई एनलाइज़र
34.	रेफ्रिजरेटर (न्यूनतम - 400 लीटर क्षमता)

टिप्पणी : द्विरावृत्ति को रोकने और लागत को प्रभावी बनाने के लिए विभागों द्वारा छात्रों के प्रदर्शन के लिए उपकरण साझा किए जा सकते हैं।

(4) पैथोलॉजी विभाग (प्रदर्शन के लिए)

1. **साइटोपैथोलॉजी अनुभाग**
   - साइटोस्पिन
   - ऑटो स्टेनर
   - तरल आधारित साइटोलॉजी के लिए सुविधाएं
2. **रुधिर विज्ञान अनुभाग**
   - इलेक्ट्रोफोरेसिस उपकरण
   - एचपीएलसी

- फ्लो साइटोमेट्री - वांछनीय

3. **आईएचसी**

- इम्यूनो फ्लूयरेसन्स माइक्रोस्कोप

4. **मोलेकुलर डायग्नोस्टिक**

- पारंपरिक पीसीआर
- रियल टाइम पीसीआर

(क) क्लिनिकल प्रयोगशाला :

क्र. सं.	मद का नाम (खरीदी जाने वाली मात्रा आवश्यकता के अनुसार विभाग के विवेक पर निर्भर कर सकती है)
(क)	**सामान्य**
I.	**छात्रों के लिए हिस्टोपैथोलॉजी / साइटोपैथोलॉजी**
1.	**छात्रों के लिए** - स्कैनर, 10X, 40X, और तेल निमज्जन लेंस और इनबिल्ट बैटरी बैकअप पावर सोर्स के साथ एलईडी दूरबीन
II.	**छात्रों के लिए हेमेटोलॉजी**
2.	1/5 सेकंड पर स्टॉप बाच रीडिंग
3.	लाल और सफेद पिपेट के साथ हेमो-साइटोमीटर
4.	स्लाइडों के लिए स्टेनिंग जार
III.	**छात्रों के लिए क्लिनिकल पैथोलॉजी**
1.	यूरिनोमीटर (पारा आधारित उपकरणों को अन्य विकल्पों से प्रतिस्थापित किया जाएगा)
2.	अंशांकित सेंट्रीफ्यूज ट्यूब
3.	100 सीसी से 1000 सीसी तक की विभिन्न क्षमता के लिए अंशांकित सिलेंडर (छात्रों के लिए)
4.	डिस्पोज़ल टिप के साथ विभिन्न आकार के पिपेट (छात्रों के लिए)
5.	रीजन्ट बॉटल (छात्रों के लिए)
6.	ड्रॉप बॉटल (छात्रों के लिए)
7.	रीजन्ट (छात्रों के लिए)
(ख) मॉर्बिड हिस्टोलॉजी और मॉर्बिड एनाटॉमी	
1.	मैनुअल रोटरी माइक्रोटोम
2.	स्वचालित रोटरी माइक्रोटोम
3.	क्रायोस्टैट
4.	हॉट प्लेट
5.	पैराफिन एम्बेडिंग बाथ
6.	गर्म पैराफिन एंबेडिंग मॉड्यूल
7.	मॉड्यूलर टिश्यू एंबेडिंग सिस्टम के लिए कोल्ड प्लेट
8.	स्वचालित टिश्यू प्रोसेसर - हिस्टोकिनेट

9.	आटोक्लेव
10.	अल्ट्राप्योर जल समाधान - डिस्टिल्ड वाटर प्लांट
11.	वाटर बाथ
12.	सेंट्रीफ्यूज मशीन
13.	माइक्रो, मैक्रो, वाइड एंगल ज़ूम लेंस, फ्लैश और अन्य सहायक उपकरण के साथ कम से कम 20 मेगापिक्सल का डिजिटल एसएलआर
14.	डिजिटल स्वचालित कैमरा > 5 मेगापिक्सल
15.	पूरी तरह से स्वचालित हाई थ्रूपुट मल्टी-स्टेनर वर्कस्टेशन
16.	पूरी तरह से स्वचालित एंबेडिंग सिस्टम (गर्म एंबेडिंग मॉड्यूल और कोल्ड प्लेट) (वांछनीय)
17.	पूरी तरह से स्वचालित लचीला कवरस्लिपिंग वर्कस्टेशन (आकांक्षी)
18.	100 से अधिक कैसेट रखने वाली स्टैंडअलोन पैराफिन डिस्पेंसिंग मॉड्यूल कोल्ड प्लेट
19.	स्टैंडअलोन कोल्ड प्लेट
20.	सिंगल पैन वाला डिजिटल तराजू, रसायन
21.	तराजू, वजन के साथ रसायन
22.	**माइक्रोस्कोप**
23.	**ग्रासिंग स्टेशन** - स्टेनलेस स्टील, कंट्रोल पैनल के साथ, एयर फिल्ट्रेशन सिस्टम, आर्टिक्यूलेशन के साथ ट्रैक माउंटेड एडजस्टेबल कंप्यूटर आर्म, रंग और तीव्रता वाली एलईडी लाइट, एडजस्टेबल कैमरा नियंत्रण और डेटा ट्रांसफर के लिए समर्पित यूएसबी पोर्ट, इंटीग्रेटेड पैथोलॉजी कैमरा सिस्टम, उचित क्षमता के स्प्लिट एसी के साथ इंस्ट्रूमेंट सेट (उच्च गुणवत्ता) स्टेनलेस स्टील की एडजस्टेबल हाइट वाली कुर्सियों के साथ।
24.	महत्वपूर्ण एंटीबॉडी, लिम्फोमा पैनल आदि की निरंतर आपूर्ति के साथ पूरी तरह से स्वचालित इम्यूनो-हिस्टो-केमिस्ट्री सेटअप **(स्नातकोत्तर प्रशिक्षण के लिए)**
	(ग) हेमेटोलॉजी लैब : प्रदर्शन के लिए
25.	**पांच भाग वाला पूर्णतः स्वचालित कोशिका काउंटर**
26.	**तीन भाग वाला पूर्णतः स्वचालित कोशिका काउंटर**
27.	**कोगुलोमीटर (पूर्णतः स्वचालित)**

(5) माइक्रोबायोलॉजी विभाग

क्र. सं.	**मद का नाम** **(खरीदी जाने वाली मात्रा आवश्यकता के अनुसार विभाग के विवेक पर निर्भर कर सकती है)**
(क)	
1.	माइक्रोस्कोप (जैसा कि पैथोलॉजी में निर्दिष्ट है)
2.	कल्चर प्लेट/पेट्री डिश
3.	पाश्चर पिपेट सहित कांच के सामान
4.	स्लाइडों को गर्म करने की सुविधा

(ख) सामान्य	
5.	अवायवीय उपकरण
6.	आटोक्लेव
7.	इलेक्ट्रॉनिक डिजिटल तराजू
8.	जैव सुरक्षा कैबिनेट प्रकार - 2ए
9.	बीओडी इनक्यूबेटर
10.	सेंट्रीफ्यूज
11.	कार्बन डाइआक्साइड इनक्यूबेटर/मोमबत्ती जार
12.	कंप्यूटर यूनिट
13.	डीप फ्रीज़ -20 डिग्री सेल्सियस और डीप फ्रीज़र
14.	डिस्टिल्ड वाटर प्लांट
15.	वाशर के साथ एलिसा रीडर
16.	हाट एयर ओवन
17.	इनक्यूबेटर
18.	लैब रेफ्रिजरेटर (न्यूनतम 400 लीटर)
19.	लैमिनर प्रवाह
20.	माइक्रोमीटर आइ पीस
21.	माइक्रोमीटर स्टेज
22.	माइक्रोस्कोप दूरबीन
23.	तेल निमज्जन, उज्ज्वल क्षेत्र, फेज कंट्रास्ट और डार्क ग्राउंड युक्त सार्वभौमिक कंडेनसर के साथ माइक्रोस्कोप
24.	पीएच का निर्धारण करने के लिए उपकरण
25.	सीरम इंसपिसेटर
26.	वीडीआरएल शेकर
27.	वॉर्टेक्स मिक्सर
28.	परिवर्तनीय तापमान के साथ वाटर बाथ
29.	छात्र माइक्रोस्कोप के लिए तेल-निमज्जन लेंस
30.	स्वचालित ब्लड कल्चर सिस्टम
31.	कॉलोनी काउंटर
(ग) कल्चर और सीरोलॉजिकल डायग्नोसिस के लिए उपभोग्य वस्तुएं	
32.	एंटीबायोटिक सुग्राह्यता परीक्षण के लिए एंटीबायोटिक डिस्क
33.	एंटीबायोटिक जोन स्केल
34.	एंटीसेरा-साल्मोनेला

35.	एंटीसेरा-*शिगेलाडिसेंटेरिया*
36.	एंटीसेरा-*शिगेलाफ्लेक्सनारी*
37.	एंटीसेरा-*शिगेलासोन्नी*
38.	एंटीसेरा-*विब्रियो कॉलेरी*
39.	एटीसीसी स्ट्रेन - *एंटरोकोकस फ़ेकैलिस* 29213
40.	एटीसीसी स्ट्रेन - ई.कोली 25922
41.	एटीसीसी स्ट्रेन - ई.कोली 35218
42.	एटीसीसी स्ट्रेन - *स्यूडोमोनास एरुगिनोसा 27853*
43.	एटीसीसी स्ट्रेन - *स्टाफीलोकोकस ऑरीअस 25923*
44.	एटीसीसी स्ट्रेन - *स्टाफीलोकोकस ऑरीअस 29213*
45.	ब्लड कल्चर के लिए बोतलें
46.	माइक्रो पिपेट - मल्टी चैनल और सिंगल चैनल
47.	विभिन्न तापमान वाले डिजिटल थर्मामीटर
(घ) बीएसएल 2 लैब	
48.	यूपीएस के साथ -80 डिग्री सेल्सियस डीप फ्रीजर
49.	यूपीएस के साथ फ्लोरोफोर डाइ के लिए अंशांकित रियल टाइम पीसीआर मशीन (2 नग, 2 केवीए प्रत्येक, 2 घंटे के बैकअप के साथ)
50.	माइक्रो सेंट्रीफ्यूज / रेफ्रिजेरेटेड सेंट्रीफ्यूज
51.	(a) निजी संरक्षी उपकरण (पीपीई) (b) वायरल ट्रांसपोर्ट मीडियम (वीटीएम) (c) वायरोलॉजी अध्ययन के लिए आवश्यक अन्य सभी उपभोग्य वस्तुएं और किट
52.	मेटल के हैंडल के साथ आवर्धक कांच
53.	मेटल काटने की मशीन
54.	पोस्टमॉर्टम उपकरण के पूर्ण सेट
55.	सक्शन पंप
56.	फिल्टर करने के उपकरण सेट्ज़
57.	फिल्टर और मिलिपोर फिल्टर- प्रत्येक
58.	डेसीकेटर
59.	वैक्यूम डेसीकेटर
60.	पोस्टमॉर्टम के लिए प्लास्टिक के एप्रन
61.	पोस्टमॉर्टम के लिए रबर के एप्रन
62.	लियोफिलाइज़र
63.	थर्मल साइक्लर

64.	यूवी फोटोग्राफी के साथ पराबैंगनी ट्रांसिल्यूमिनेटर
65.	कॉलोनी काउंटर
66.	कोल्ड रूम + 4 डिग्री सेल्सियस
67.	बीएसीटीईसी सिस्टम
68.	फेज कंट्रास्ट माइक्रोस्कोप
69.	वॉर्टेक्स मिक्सर
70.	इलेक्ट्रॉनिक तराजू
71.	माइक्रोफ्यूज
72.	अल्ट्रा सेंट्रीफ्यूज
73.	फ्लोरोसेंट माइक्रोस्कोप

(6) औषध विज्ञान विभाग

क्र. सं.	मदों का नाम (खरीदी जाने वाली मात्रा आवश्यकता के अनुसार विभाग के विवेक पर निर्भर कर सकती है)
क. क्लिनिकल फार्माकोलॉजी लैब	
1.	विशेष दवा वितरण प्रणालियाँ जैसे कि मीटर्ड डोज़ इनहेलर्स, स्पेसर्स, नेज़ल स्प्रे, ट्रांसडर्मल पैच, इंसुलिन पेन आदि
2.	तर्कसंगत और तर्कहीन एफडीसी, आवश्यक दवाओं सहित दवा के विभिन्न महत्वपूर्ण संविन्यासों के नमूने
3.	दवा देने के मार्गों के प्रदर्शन के लिए सिमुलेशन मॉडल यानी विभिन्न इंजेक्शन (आईवी, आईएम, एससी, इंट्राकार्डियक), एनीमा, वैजाइनल पेसरी अंतर्वेशन, और दवा देने के अन्य मार्ग संचार संबंधी दक्षता के लिए मॉड्यूल, जैसे कि रोल प्ले के रिकॉर्ड किए गए वीडियो के साथ मॉड्यूल
ख. कंप्यूटर असिस्टेड लर्निंग लैब	
4.	मल्टीमीडिया प्रोजेक्टर और स्क्रीन/एलईडी स्क्रीन सहित एवी एड्स के साथ कंप्यूटर मानक कॉन्फ़िगरेशन वाले और इंटरनेट (अधिमानतः ब्रॉडबैंड) से जुड़े होने चाहिए। कंप्यूटर में कंप्यूटर सहायता प्राप्त अध्यापन-अध्ययन और मूल्यांकन सामग्री जैसे कि आवश्यक दवाओं की राष्ट्रीय सूची, मानक उपचार के दिशानिर्देश, सीडीएससीओ की प्रतिबंधित दवाओं की सूची, अस्पताल फॉर्मूलरी, मनुष्यों में चिकित्सकीय रूप से उपयोगी दवाओं की कार्रवाई के तंत्र के एनिमेशन/वीडियो, प्रतिकूल दवा प्रतिक्रिया प्रपत्र, एडीआर की तस्वीरें, औषधि प्रचार साहित्य, ओएससीई/ओएसपीई स्टेशन सामग्री और स्व-मूल्यांकन मॉड्यूल होंगे। ई-प्रिस्क्रिप्शन, डिजिटल केस और केस वीडियो (वैकल्पिक)

(7) फोरेंसिक मेडिसिन और टॉक्सिकोलॉजी विभाग

1. शव परीक्षण मेज - 2
2. मृतकों के साथ सम्मानजनक व्यवहार की आवश्यकता को पूरा करने के लिए शव परीक्षण कक्ष से रेडियोलॉजी विभाग तक शव की आवाजाही को रोकने के लिए रेडियो तकनीशियन (रेडियोलॉजी के विभाग साथ साझा किया जा सकता है) और रेडियोलॉजिस्ट द्वारा रिपोर्टिंग के प्रावधान के साथ प्रत्येक शव परीक्षण ब्लॉक में पोर्टेबल एक्सरे मशीन मौजूद होनी चाहिए।
3. प्रिंटर के साथ कंप्यूटर
4. पोस्टमॉर्टम रिपोर्ट तैयार करने और प्रिंट करने आदि के लिए सॉफ्टवेयर

5. मोर्चरी ब्लॉक में एयर कंडीशन की सुविधा होगी।

6. डेड बॉडी फ्रीजर (आवश्यकता के अनुसार)

7. शव परीक्षण ब्लॉक में काम करने वाले विभाग के कर्मचारियों के लिए पर्याप्त सुरक्षात्मक कपड़े, उपकरण

8. डिजिटल इंडिया की आवश्यकता को पूरा करने के लिए अदालत में साक्ष्य देने के लिए विभाग में इंटरनेट, कंप्यूटर, वीडियो कैमरा इत्यादि की उपयुक्त सुविधा के साथ **वीडियो कॉन्फ्रेंस रूम** का प्रावधान

जहाँ एफएमटी विभाग में कार्यशीनल विष सूचना केंद्र और विश्लेषणात्मक विष विज्ञान प्रयोगशाला है, तो उसमें निम्नलिखित उपकरण होने चाहिए :

1. डिजिटल स्पेक्ट्रोफोटोमीटर

2. रासायनिक तराजू

3. डिस्टिलेशन प्लांट

4. एडजस्टेबल स्लिट के साथ स्पेक्ट्रोस्कोपिक लेंस

5. टीएलसी, एचपीएलसी, जीसी-एमएस

क्र. सं.	**मद का नाम** **(खरीदी जाने वाली मात्रा आवश्यकता के अनुसार विभाग के विवेक पर निर्भर कर सकती है)**
1	एंथ्रोपोमेट्रिक सेट जिसमें हों
	क) 7 फुट तक फोल्डिंग मेटल रॉड
	ख) ऑस्टियोमेट्रिक बोर्ड
	ग) क्रैनियोमीटर
	घ) मैंडिबुलोमीटर
	ङ) गोनियोमीटर
	च) वर्नियर कैलिपर्स
	छ) रिपोर्टिंग ह्राइट के लिए उपकरण
	ज) वजन मापने की मशीन डायल टाइप मानव
2	डिजिटल पीएच मीटर
3	डिजिटल स्पेक्ट्रोफोटोमीटर
4	रासायनिक तराजू
5	डिस्टिलेशन प्लांट
6	रेफ्रिजरेटर
7	सेंट्रीफ्यूज
8	स्लाइड वार्मिंग टेबल
9	हॉट प्लेट
10	एडजस्टेबल स्लिट के साथ स्पेक्ट्रोस्कोपिक लेंस
11	डाइसेक्शन सेट पूर्ण
12	डिजिटल बीपी उपकरण

13	स्टेथोस्कोप
चिकित्सा विधिक कार्य	
14	शवों के लिए कोल्ड स्टोरेज
15	शवों को तौलने के लिए मशीन
16	शव परीक्षण मेज
17	एक्सेसरीज के साथ स्ट्राइकर टाइप ऑटोप्सी सॉ
18	अंगों को तौलने के लिए मशीन
19	भ्रूण को तौलने के लिए मशीन
20	डाइसेक्शन सेट पूर्ण
21	ब्रेन नाइफ
22	हैक सॉ
23	पसली कतरनी लेफ्ट और राइट
24	मापन टेप (स्टील टेप रोल)
25	मैग्निफाइंग लेंस
26	एक्सरे व्यू बॉक्स (4 इन 1)
27	टूथ एक्स्ट्रैक्टर लेफ्ट और राइट
28	हैंड सेट हीट सीलर
29	उपकरण ट्रॉली
30	रेक्टल थर्मामीटर
31	पोर्टेबल एक्सरे मशीन (रेडियोलॉजी विभाग के साथ साझा की जा सकती है)

(8) सामुदायिक चिकित्सा विभाग

क्र. सं.	**मद का नाम** **(खरीदी जाने वाली मात्रा आवश्यकता के अनुसार विभाग के विवेक पर निर्भर कर सकती है)**
1	हाइड्रोमीटर, दूध
2	इनक्यूबेटर, इलेक्ट्रिक (माइक्रोबायोलॉजी विभाग से खरीदा जा सकता है)
3	खाद्य सामग्री को तौलने के लिए तराजू (क्षमता 2 किलो)
4	सेंट्रीफ्यूज क्लिनिकल
5	वयस्कों का वजन मापने की मशीन
6	बच्चों का वजन मापने की मशीन
7	साल्टर की बेबी वेइंग मशीन
8	हार्पेंडेन कैलिपर्स (त्वचा की तह की मोटाई के लिए)
9	ऊंचाई मापने का स्टैंड

10	रेफ्रिजरेटर 9 घन फीट
11	आइस लाइन्ड रेफ्रिजरेटर (आईएलआर) (स्वास्थ्य केंद्र पर)
12	स्मार्ट टीवी
13	आरएचटीसी और यूएचटीसी तक छात्रों / प्रशिक्षुओं / शिक्षकों / पैरामेडिकल स्टाफ के परिवहन के लिए वाहन
14	स्क्रीन के साथ मल्टीमीडिया प्रोजेक्टर
15	पब्लिक अड्रेस सिस्टम (क्षेत्र आधारित गतिविधियों के लिए 2 पोर्टेबल और आरएचटीसी और यूएचटीसी के लिए एक-एक)
16	क्लोरोस्कोप
17	हॉरॉक का उपकरण
18	एमयूएसी टेप
19	हीमोग्लोबिनोमीटर
20	बीपी उपस्कर (डिजिटल)
21	स्टेथोस्कोप
22	ध्वनि स्तर मीटर
23	किसी भी गहराई से पानी का नमूना लेने वाली बोतल
24	नीडल श्रेडर
25	वैक्सीन कैरियर
26	शिल्प जल परीक्षण किट
27	राष्ट्रीय स्वास्थ्य कार्यक्रमों के अनुसार उपचार किट
28	आयोडिन परीक्षण किट
29	ग्लूकोमीटर
30	मच्छर पकड़ने की किट
31	क्लिनिकल थर्मामीटर
32	प्राथमिक उपचार किट
33	ओटोस्कोप

स्नातक छात्रों के प्रशिक्षण के लिए ग्रामीण और स्वास्थ्य केंद्र परिवहन की पर्याप्त सुविधा के साथ उपयुक्त रूप से सुसज्जित होंगे।

चरण 3 के विभागों के लिए

इनडोर और आउटडोर दोनों क्लिनिकल विभागों के लिए उपकरणों की सूची विभागाध्यक्षों द्वारा तैयार की जा सकती है, जो निम्नलिखित आवश्यकताओं को ध्यान में रखेंगे :

(1) नैदानिक सहायक सामग्री के साथ विशेष जांच और प्रयोगशाला, एक्सरे आदि जैसी जांच

(2) नियमित उपचार, चिकित्सा एवं शल्य चिकित्सा आदि

(3) विशेष चिकित्सा जैसे कि शारीरिक, पेशागत, आहार संबंधी आदि

कौशल लैब

(i) निम्नलिखित के लिए ट्रेनर सिमुलेटर/मॉडल/पुतले :

- प्राथमिक उपचार, पट्टी बाँधना, कमठी बाँधना
- बेसिक लाइफ सपोर्ट (बीएलएस), सीपीआर (कार्डियो पल्मोनरी रिससिटेशन) पुतला
- विभिन्न प्रकार के इंजेक्शन - सब्क्यूटेनियस, इंट्रा-मस्कुलर, इंट्रा-वेनस
- मूत्र कैथेटर अंतर्वेशन
- त्वचा एवं पट्टी की सिलाई
- स्तन परीक्षण मॉडल/पुतला
- आईयूसीडी (अंतर गर्भाशय गर्भनिरोधक उपकरण) प्रशिक्षण मॉडल सहित स्त्री रोग संबंधी जांच मॉडल/पुतला
- प्रसूति जांच, संचालन और योनि प्रसव प्रबंधन सहित प्रसूति के पुतले
- नवजात एवं बाल चिकित्सा पुनर्जीवन के पुतले
- संपूर्ण शरीर के पुतले
- ट्रॉमा का पुतला

(ii) प्रत्येक मॉडल (निम्न या उच्च निष्ठा) में उद्देश्यों, विधियों और मूल्यांकन सहित प्रशिक्षण के लिए एक मॉड्यूल होना चाहिए। मॉड्यूल में हाइब्रिड मॉडल भी हो सकते हैं जहां वास्तविक रोगियों या मानकीकृत / नकली रोगियों / कंप्यूटर सिमुलेशन का उपयोग किया जा सकता है।

(iii) पर्याप्त कंप्यूटर के साथ कंप्यूटर सहायता प्राप्त शिक्षा के लिए भी जगह होगी।

डा. अरूणा वी. वणीकर, अध्यक्ष

[विज्ञापन III/4/असा./360/2023-24]

नोट I : ये दिशानिर्देश अंग्रेजी और हिंदी दोनों भाषाओं में प्रकाशित किया जा रहा है, इन दिशानिर्देशों की व्याख्या के बारे में किसी भी संदेह के मामले में अंग्रेजी संस्करण मान्य होगा।

नोट II : इन दिशानिर्देशों से संबंधित अनुबध आयोग के वेबसाइट पर उपलब्ध होगा।

NATIONAL MEDICAL COMMISSION

(UNDERGRADUATE MEDICAL EDUCATION BOARD)

NOTIFICATION

New Delhi, the 16th August, 2023

No. U. 11022/3/2023-UGMEB.—In exercise of the powers conferred vide sub-section (a), (d) and (e) of Section 24 read with Sections 26, 28 and 29 of the National Medical Commission Act, 2019 (Act 30 of 2019), the Under Graduate Medical Education Board hereby issues the following detailed "Guidelines under Regulation 10 of the Establishment of New Medical Institutions, Starting of New Medical Courses, Increase of Seats for Existing Courses & Assessment and Rating Regulations, 2023 in short (UG-MSR 2023)" and Regulation 19 of the Graduate Medical Education Regulations 2023.

1. (i) These Guidelines may be called the — "Guidelines for Under Graduate Courses under Establishment of New Medical Institutions, Starting of New Medical Courses, Increase of Seats for Existing Courses & Assessment and Rating Regulations, 2023".

(ii) These Guidelines shall come into force from the date of their publication in the Official Gazette.

CHAPTER-I

Objectives :

The objective of these regulations is to prescribe for a medical college and Medical Institution approved for admissions of MBBS students annually, the minimum requirements of accommodation in the college and its associated teaching hospitals, staff (teaching and technical) and equipment in the college departments and hospitals.

These regulations shall be applicable for Medical Colleges being established from the academic session 2024-25 onwards. Applications for establishing new undergraduate medical education colleges shall be allowed only for 50/100/150 seats.

- Only such colleges meeting these requirements shall be eligible for continuing their admission of permitted/recognised number of MBBS students from the academic year 2024-2025.
- Colleges seeking increased number of seats cannot exceed a total of 150 MBBS students from the year 2024-25;
- Colleges seeking increase in seats for admission, shall have admitted batch fulfilling all the criteria for number of seats admitted for the preceding academic year and also shall be fulfilling all the requirements for increase in seat capacity;
- Any additional permitted seat quota for admissions shall be within the number of seats granted for admission to that college;
- With the exception that colleges who have applied for academic year 2023-24 for increased seats but failed to get the same, can ask for the same number (totaling 200 or 250) that was in their previous application for one time in the year 2024-25 only.
- After A.Y. 2023-24, Letter of permission (LOP) for starting of new medical colleges shall be issued only for annual intake capacity of 50/100/150 seats;

Provided that medical college shall follow the ratio of 100 MBBS seats for 10 lakh population in that state/ U.T.

Departments: Every medical college/ institution approved for under graduate admissions annually shall have the following departments, namely;

i. Anatomy
ii. Physiology
iii. Biochemistry
iv. Pathology
v. Microbiology
vi. Pharmacology
vii. Forensic Medicine And Toxicology
viii. Community Medicine
ix. General Medicine
x. Pediatrics
xi. Psychiatry
xii. Dermatology
xiii. General Surgery
xiv. Orthopaedics
xv. Radio-Diagnosis
xvi. Oto-Rhinolaryngology
xvii. Ophthalmology
xviii. Obstetrics & Gynaecology
xix. Anesthesiology
xx. Dentistry
xxi. Integrative Medical Research

SCHEDULE -I

ACCOMMODATION IN THE MEDICAL COLLEGE AND ITS ASSOCIATED TEACHING HOSPITALS

A-COLLEGE

A. 1. GENERAL

1.1 Campus

Every hospital seeking permission to start medical college after the publication of this amended regulation

shall comprise of the Medical College, the attached Teaching hospital/(s), and the hostels for the students and interns, with or without the residential area for faculty and other staff of college /hospital. The medical college, hostels for students/interns and the teaching hospital/institution shall be either in a unitary campus or maximum of two campuses.

Each unitary campus shall have adequate constructed area on the land, as per the prevalent building norms, belonging to the college management or if on lease, at least for a period of 30 years on lease. If there are 2 plots/ campuses, then college shall be in single plot. The distance between the plots of college and hospital shall have a travel time of maximum of 30 minutes.

The hospital shall have at least two hundred and twenty (220) beds.

The medical college shall provide adequate built-up space to accommodate various teaching areas (both in the college and the teaching hospital), Library, administrative areas, rooms for teaching and non-teaching staff, student amenities, etc. as specified in various sections of this schedule.

The buildings of the medical college and hospital shall conform to the prevailing building codes and local building byelaws/ norms. The hospitals should have fire-safety measures, including patient evacuation plans as per local byelaws and regulations. They must also comply with the requirements for providing access and facilities to those who are disabled. The buildings of the college and hospital shall meet the requirements for the numbers of students to be admitted as prescribed.

1.2 Administrative Area

There should be adequate accommodation for the Principal/Dean, College Council, Academic and examination sections, Accounts, and other administrative offices (as per the need), the medical education unit and the server room for the computer network.

1.3 College Council

Every Medical College / Medical Institution shall have a College Council comprising of the Head of departments as members and Principal/ Dean as Chairperson. The Council shall meet at least four times in a year to draw up the details of curriculum and training programme, enforcement of discipline and other academic matters. The Council shall also organise regular interdepartmental meetings like grand rounds, statistical meetings, and clinic-pathological meetings including periodical review of research in the institution.

1.4. Central Library

1. There shall be a central library (preferably air-conditioned) with good lighting and adequate space for stocking the books and journals. There shall be provision for:

(a) Rooms for the Librarian and other staff.

(b) Reading rooms with adequate seating for twice the number of annual intake of UG students distributed over 2 areas.

(c) Reading room for faculty.

(d) Room for stocking old books, journals, etc.

(e) A computer room with computer nodes with internet facilities for at least 10% of the annual intake of students.

2. Books: There shall be at least thirty (30) books per annual intake of students comprising all subjects with at least two (2) copies of each of the textbooks for every 50 students, for the various subjects in MBBS curriculum.

3. Journals: The minimum number of journals for various annual intake of MBBS students shall be at least one (1) percent of the minimum books prescribed. The journals shall be either in print or electronic form, provided that there shall be at least one (1) print journal of each major specialty departments for MBBS training – Anatomy, Physiology, Biochemistry, Pathology, Pharmacology, Microbiology, Forensic Medicine & Toxicology, Community Medicine, Medicine, Pediatrics, Dermatology, Psychiatry, Surgery, Orthopedics, Otorhinolaryngology, Ophthalmology, Obstetrics & Gynecology, Anesthesia, Radio-diagnosis and Dentistry.

Provided that only journals that are indexed in the following databases i.e. Pubmed Central (PMC), Medline, Science Citation index (SCI), Science Citation Index Expanded (SCIe), Embase, SCOPUS and INDMED/ MedInd will be considered. There shall be evidence for a full annual subscription for all these journals. For every 50 students, there shall be minimum 15 journals and 1500 books. A total of up to 60% of books can be made be available as hard copies and the remaining 40% be available in electronic format. Variety of journals shall be the same irrespective of annual student intake.

1.5. Lecture theatres

1. There shall be minimum of four lecture theatres preferably air conditioned, of gallery type in the Institution, each of them with seating capacity for 20% more than the annual student intake (shall provide at least 1.40 sq.m. /student).

2. In case the hospital is not in the same unitary campus there shall be one additional lecture theatre in the teaching hospital with a similar seating capacity as prescribed for the medical college.

3. The Lecture theatres shall have provision for audio-visual and internet facilities and shall be enabled for e-learning with adequate band width. The lecture theatres shall be linked digitally to all teaching areas designated for small group teaching.

4. The lecture theatres shall be shared by all the departments in a programmed manner.

1.6 Small Group Teaching Facilities

The size of each batch for small group teaching shall be about 15 students. The common resource pool of teaching rooms, student practical laboratories, museums and lecture theatres and any other available area that can be utilized for teaching purposes as prescribed in these regulations shall all be utilized for small group teaching and shared by the teaching departments. All the above-mentioned teaching areas shall have audio-visual and internet facilities and be linked digitally to one another.

a. **Teaching Rooms**: The minimum number of teaching rooms in the medical college for various intake of MBBS students annually to be shared by all the departments (each teaching room shall provide at least 1.2 sq.m/student). To provide adequate small group teaching, appropriate area in each of the teaching specialties and locations shall be made available. Each of such area shall also have a facility to connect to larger lecture halls and internet facilities.

b. **Student Practical Laboratories**. There shall be practical laboratories, one each for Histology, Clinical Physiology, Biochemistry, Histopathology & cytopathology, Clinical Pathology & Hematology, Microbiology, Clinical Pharmacology, and Computer Assisted Learning (CAL) in Pharmacology. For optimal utilization of the space, labs may be shared by the departments with mutual consent. Adequate work stations shall be provided to ensure the training of students (either for the entire batch or in parts thereof). All the above-mentioned laboratories shall have audio-visual and internet facilities and be linked digitally to all other teaching areas and museums. Facilities for technical staff shall be ensured.

Laboratories may be designed and provided with required facilities appropriately for each department.

The service laboratories for the hospital in the departments of Pathology including Hematology, Biochemistry, and Microbiology can be co-located in the medical college with appropriate additional spacing.

Computer Assisted Learning (CAL) lab in Pharmacology shall have computers with broadband internet and AV aids for computer assisted teaching-learning and assessment activities.

c. Museum: There shall be museum/s in the college for teaching Anatomy, Pathology, Forensic Medicine, Pharmacology, Microbiology, and Community Medicine. The specimens/ charts/ skeleton, etc in the museum shall be adequate to train each of the above subjects. In addition to the display area, the museum shall also have sufficient space to seat at least 50 students (at least 1.2 sq. m. per student) and shall have audio-visual and internet facilities and be linked digitally to the Lecture theatres, teaching rooms and practical laboratories. The museum shall have adequate racks and shelves for storing and proper display of wet and dry specimens (where applicable) and models. There shall also be adequate facilities for displaying and viewing radiological and digitalized images. Sharing of the teaching time in museum shall be programmed by the college authorities optimally.

1.7. Skills Laboratory

Every medical institution shall have a Skills Laboratory where students can practice and improve skills pre-specified in the curriculum. The purpose of the skills laboratory is to provide a safe and non-threatening environment for students to learn, practice and be observed performing skills in a simulated environment thus mitigating the risks involved in direct patient exposure without adequate preparation and supervision. The skills laboratory attempts to recreate the clinical environment and tasks which future health care workers have to perform with various levels of complexity and fidelity. *Skills lab is only to prepare the student for clinical exposure. It shall not replace or be used for compensating any hands-on clinical training or conducting examination.* Six (6) weeks of skills lab training including evaluation before the students are posted to the wards for clinical training shall be mandatory.

The skills laboratory shall have a total area of at least 600 Sq.m for intake upto 150 MBBS students annually and 800 Sq.m for intakes of 200 and 250 MBBS students annually, and shall have-

(a) a minimum of 04 rooms for examination of patients or standardized/ simulated patients,

(b) a room for demonstration of skills to small groups,

(c) area for review or debriefing area,

(d) rooms for faculty coordinator and support staff,

(e) adequate space for storage of mannequins and/or other equipment,

(f) facility for video recording and review of the interaction for teaching communication skills,

(g) stations for practicing skills individually or in groups,

(h) trainers or mannequins required to achieve skills outlined in the Competency Based Medical Education curriculum for Undergraduates,

(i) a dedicated technical officer and adequate support staff,

(j) the teaching areas of the skills lab shall have provision for audio-visual and internet facilities and shall be enabled for e-learning.

1.8. Department Offices, Rooms For Staff And Other Requirements

Every Teaching Department shall have:

(k) room for Head of Department with Space for Department Office, for office staff and storage of records

(l) rooms with adequate space for teaching faculty, and Tutors/Demonstrators/ Residents (both Junior & Senior)

(m) rooms for faculty, provided with communication, computer and internet facilities.

(n) rooms for non-teaching staff.

1.9. Medical Education Unit

There shall be a Medical Education Unit for faculty development and providing teaching or learning resource material. The Unit shall have provision for audio-visual and internet facilities. The requirements of this unit shall be as prescribed by the Undergraduate Medical Education Board of National Medical Commission from time to time (it shall have an area of at least 150-160 sq.m).

2. Research Facility

A well- equipped research facility shall be available to be used by all departments. The details are covered under ***Annexure I.***

2.1. Communication Facilities

Adequate communication network (land line or hardware network or wi fi) between various sections of the college and hospitals shall be provided for better services, coordination and patient care.

2.2. Student Amenities

Student amenities including facilities for common rooms for boys and girls (separate), cafeteria, cultural activities, Yoga training, gymnasium, outdoor and indoor games, shall be provided.

2.3 Child Care Centre

A Child Care Centre shall be established in the medical college with adequate facilities for taking care of the infants and the children of staff of the medical college and/or teaching hospital.

3. Aadhar Enabled Biometric Attendance System (AEBAS) & Close Circuit TV Monitoring of Medical Colleges / Institutions And Hospitals:

The medical college/ institution shall be responsible for the installation and maintenance of AEBAS, close circuit camera and HMIS and other Information Technology as prescribed from time to time.

3.1 AEBAS:

i) All Medical Colleges/Institutions shall install AEBAS to be linked to Command-and-Control center of NMC.

ii) ***The daily AEBAS of the required staff (faculty, residents and supporting staff), preferably along with face linked recognition, shall be made available to NMC as well as on the Medical College Website in the form of daily attendance dashboard.***

3.2 Minimum requirement of attendance:

It shall be mandatory to have at least 75% attendance of the total working days (excluding vacations) for all faculty and resident doctors. During vacation period, other than sick leave or leaves availed due to emergency situations, the faculty on duty shall not be availing any leave. Emergency leaves shall be certified by Head of the

department or Head of the institution.

AEBAS, preferably with face recognition of all students attending every lecture/ teaching class/ seminar shall be recorded and linked to NMC.

3.3 Close Circuit Camera:

Every medical college shall have prescribed number and location of cameras with Close-Circuit Television (CCTV) system in the medical college and shall provide live streaming of classroom teaching, patient care in the teaching hospital and any other area as specified from to time ***(Annexure II)***, to enable the Commission to maintain a constant vigil on the standard of medical education/ training being imparted.

The live streaming of both classroom teaching and hospital, shall be integrated with the appropriate virtual monitoring/ teaching system of the National Medical Commission.

3.3 (a): College Website:

1) Every college /institute shall have its own website which shall contain the details mentioned in ***(Annexure III)*** to be updated in the first week of every month or earlier if any changes are made.

2) There shall be a separate dynamic dashboard for the hospital including details of clinical material in the hospital (OPD and IPD) ***(Annexure III).***

3) Adequate Qualified Information Technology (IT) manpower, preferably two (02) persons with minimum BE/ B. Tech qualification to maintain these data shall be employed by the college.

4. Biomedical Waste Management

The Medical Institution must ensure compliance with the Bio-medical Waste (Management & Handing) Rules, 2019 and as notified from time to time. They shall have a robust institutional policy on biomedical waste management of human origin, with a well-defined arrangement for segregation and discarding of biomedical waste. Facilities for biomedical waste management shall be commensurate with the Central/State legislations.

Registration at state level shall be made with registration certificate & receipt of fee paid should be available. Provision for Fire-safety & PWD-friendly arrangements must be established. Power management with evidence of use of amount must be available as and when required for assessment of facilities. This shall be under the direct supervision of Superintendent/ Head of the Institute in close coordination with Department of Microbiology.

5. Hostels For Students, Interns And Resident Doctors.

The College/Institution shall provide furnished accommodation for atleast 75% students, interns, and Resident Doctors. It is desirable that hostel rooms are double accommodation facilities. Adequate recreational, dining and 24x7 security facilities shall be provided at the hostels. However, those who do not wish to avail of the hostel facilities shall be allowed to choose their own residential facilities without the college collecting 'hostel fees'.

6. Department Specific Requirements

The equipment for each department may be as per existing norms to train students adequately.

Other facilities for training:

6.1. Department of Anatomy

Dissection Hall – There shall be a dissection hall to accommodate 50% of annual student intake (area of at least 4.20 Sq.m/student shall be provided which shall be sufficient for ante-room for students with lockers, wash basins. embalming room, space for storage tanks and cold storage room or cooling cabinets with sufficient space. Every academic year, at least one cadaver shall be provided for every 10 students. Dissection hall shall be well lit, well-ventilated with exhaust fans. There shall be adequate teaching aids in the hall. Annual declaration about the details of every cadaver shall be provided by the college.

6.2 Department of Forensic Medicine and Toxicology:

Autopsy Block- There shall be an Autopsy room (approx. 400 sq.mt. area) with facilities for cold storage, for cadavers, ante-rooms, washing facilities, with an accommodation capacity of 10-15 students, waiting hall and office. The location of mortuary and autopsy block should be either in the hospital or adjacent to the hospital in a separate structure and may be shared by the departments of Pathology and Forensic Medicine. Every college shall obtain appropriate permission from the state/ UT government for the conduct of autopsy/ post mortem or an appropriate MOU to facilitate the training of undergraduate students.

6.3. Microbiology department shall have separate service laboratory each for (a) Bacteriology including anaerobic bacteria; (b) Serology; (c) Virology; (d) Parasitology; (e) Mycology; (f) Tuberculosis; and (g) Immunology.

The Virology Service Laboratory shall be a BSL-2 level laboratory (as per e-gazette No. MCI -34(41)/2020-Med./103234 notified on 3.6.2020)

6.4. Department of Pharmacology

Animal holding area. For teaching Pharmacology in undergraduate curriculum, the required knowledge and skills should be imparted by using computer assisted module. However, if research and postgraduate training is envisaged, only an animal hold area, as per CPCSEA Guidelines is required.

6.5. Department Of Community Medicine: Staff requirements for RHTC & UHTC keeping in mind NHM population (RHTC – 30000 population & UHTC 50000 population). Medical Officer with MD qualification i.e. Assistant Professor may be made able to provide more quality education to UG CBME, CRMI and PGs in addition to quality care for the rural and urban populations. If a trained PHN is not available, trained staff nurse with community field experience for UHTC and RHTC shall be made available.

(a) Rural/ Urban Health Training Centre:

For every hospital seeking permission to start medical college, the medical college shall have Rural Health Training Centers/Community Health Centers/Urban Health Centers affiliated to it; as per the geographical location of the college, which shall be used for internship training. The number of these centers adopted by the college should fulfil the need of posting 15 interns per center as required in CRMI regulations 2021.

These centers shall be owned by the college or it should be affiliated to Government owned Health Center. If it is the latter, the academic control shall be with the Dean/Principal of the college for training of interns in community oriented primary health care and rural based health education for the rural community attached to it. This Health Center shall be within a distance of 30 kms except in X category (Tier-1) cities as amended where it shall be within 50 kms. Separate residential arrangements for boys and girls interns with mess facilities shall also be provided. Adequate transport (both for staff and students) shall be provided for carrying out field work and teaching and training activities by the department of Community Medicine.

Manpower	**RHTC for population of 30,000 and UHTC for population of 50,000**				
Students	**50**	**100**	**150**	**200**	**250**
Assistant Professor in-charge (in rotation) & MO (one male, one female) (at least one must be a Lady Medical Officer)	2	2	2	2	2
PHN/trained staff nurse with community field experience	1	2	2	2	2
ANM	2	2	4	5	5
Medical social worker	1	2	3	4	5
Technician/ Technical Assistant	1	1	1	1	1
Pharmacist	1	1	1	1	1
Sanitary inspector/Health inspector	1	1	2	2	2
Health educator	1	1	1	1	1
Store keeper/ record clerk	1	1	1	1	1

- There should be complete computerization of RHTC and UHTC patient record system.
- The distance of RHTC from medical college may need to have some flexibility in case of megacity or Metro cities where immediate rural field practice area may not be feasible.
- In case of megacity or Metro cities, there is need to have flexibility of adoption of families in various areas including urban slums.
- In case of megacity or Metro cities, there is need to have flexibility of distribution of interns in various OPDs of the teaching hospital like TB clinic, immunization clinic, anti-rabies clinic, which are also important learning outcomes for interns in addition to current CRMI postings.
- Since all infrastructural requirements can be easily fulfilled at the start of the college and one time,

there is need for a separate museum for Community Medicine. In addition, it will also bring ownership of the dept to develop in own museum and may not be possible in shared museum.

- Every medical college shall have one Rural Health Training Center and Urban Health Training Centre running as like teaching hospital before the first inspection/assessment or first LOP.

B. Teaching Hospital

B.1. General remarks

1. The hospital building shall conform to the existing national building norms and various local statutory regulations for hospitals taking into consideration the requirements of the hospital as a service provider including administration, registration, records storage, out-patient and inpatient areas, operating theaters, CSSD, ICUs, Radiology and laboratory services, emergency areas, etc. The teaching hospital shall provide for the minimum requirements as prescribed in these regulations.

2. **Space for Clinical Teaching Departments, Teaching faculty and Residents.**

(iv) When the teaching hospital and medical college are in a unitary campus, rooms for the clinical departments and its teaching faculty can be provided either in the medical college or in the teaching hospital.

(v) When the teaching hospital and medical college are on separate plots, besides the statutory requirements for the hospital, the teaching hospital shall also have adequate space for the offices of the clinical departments and rooms for the teaching faculty.

(vi) Teaching rooms. The teaching hospital shall have atleast 1 (one) teaching area for each of the department to accommodate atleast 30 students for clinical cases discussions/ demonstrations. Each such room shall have audio-visual facilities. Small group teaching in clinical departments essentially entails out-patient clinic and bed side teaching. However, additional teaching rooms shall be provided as required for any of the Clinical teaching departments. Internet facilities and connectivity to all teaching areas of the hospital shall be desirable.

B.1.1. B.1.1 Outpatient Area

1. There shall be a minimum daily OPD attendance of 8 patients (old & new) per student intake annually in the specialties/subjects of undergraduate curriculum.

2. The Out-patient areas should have adequate reception and patient waiting halls, consultation rooms, examination rooms and other ancillary facilities commensurate with the clinical specialty department.

B.1.2. Indoor beds occupancy : Average occupancy of indoor beds shall be a minimum of 80 % per annum. Bed strength shall be as under:

BEDS FOR MBBS SEAT CAPACITY	**50**	**100**	**150**	**200**	**250**
GENERAL MEDICINE	50	100	150	220	225
PEDIATRICS	25	50	75	100	125
DERMATOLOGY	5	10	10	10	10
PSYCHIATRY	5	10	15	20	25
GENERAL SURGERY *	50	100	150	150	200
ORTHOPEDICS	20	40	**60**	**80**	100
OTORHINOLARYNGOLOGY(ENT)	10	20	20	30	30
OPHTHALMOLOGY	10	20	20	30	30
OBSTETRICS & GYNAECOLOGY	25	50	75	100	125
ICUs	20	20	30	30	30
TOTAL	**220**	**420**	**605**	**770**	**900**
OPD/DAY	**400**	**800**	**1200**	**1600**	**2000**
Major OT	**4**	**7**	**9**	**10**	**11**
Minor OT- well equipped (with Anaesthesia facility)	**1 for each surgical specialty**				

** For hospitals with 100 or more beds dedicated for Gen. Surgery, at least 10% shall be dedicated to Pediatric*

Surgery.

1. The bed strength of the teaching hospitals shall be as mentioned in the table above. Supporting staff shall be in adequate number as required.
2. There shall be well equipped and updated intensive Care Unit (ICU), Intensive Coronary Care Unit (ICCU), Intensive Respiratory Care unit, Paediatric intensive care (PICU) and Neonatal Intensive care unit (NICU), Critical care Burns unit, Post-op surgical critical care unit, Obstetric HDU/ICU.
3. All beds which are available for teaching and training of undergraduate medical students shall be counted towards teaching beds as indicated above.
4. Wherever possible, the facilities available in other hospital services may be utilized for training in these specialties.

B. 2. Hospital Infection Control Committee (HICC): There shall be a HICC as per the national recommendations for health care facilities with Head of the institute / Medical Superintendent as the Chairperson and senior Microbiologist (Associate Professor/ Professor) as member- Secretary of the committee. Appropriate number of infection control nurses and senior technicians of the lab shall be appointed in this committee as per the bed strength of the hospital. This committee shall address and periodically review Infection control, anti-microbial resistance and antibiotic policy.

B. 3. Indoor Department Requirements:

The following shall be available with each ward, namely:

1. In a General ward, distance between the two beds shall not be less than 1.5 m with all facilities.
2. Ward should be constructed in such a way that the Nurse from her Nursing Station is able to have an overview of all the patients in the wards.
3. Examination and Treatment room.
4. Pantry.
5. Store room for linen and other equipment.
6. Resident Doctors and students Duty Room.
7. Clinical Demonstration area.
8. High Dependency Unit (HDU)

B. 4. The Operation Theatres shall confirm to existing norms. The minimum number of major and minor operating theaters for varying annual intake shall be as indicated in the table mentioning Bed strength for each department.

B. 5. Casualty services/ Emergency medicine department shall be managed by relevant Departments 24 x 7 by rotation. Every hospital shall have their own triaging policy. Accommodation for Resuscitation Services including Oxygen supply, ventilators, defibrillator and fully equipped disaster trolleys (emergency trolleys), Emergency X-ray, investigative facilities shall be provided.

Students shall be made aware about these services during their clinical postings.

Adequate sanitary arrangements (toilet and bathrooms) & drinking water facilities for patients, their attendants and the staff of the department shall be provided in the respective blocks.

The shifting of patients from casualty/ emergency medicine department to ICU / Surgery should be such that minimum time is lost in patient shifting.

B. 6. Central Sterilisation Services, laundry: shall confirm to existing norms.

B. 7. Department Of Radio-Diagnosis:

Requirements shall be as per existing norms. The staff of Radio-Diagnosis department shall be covered by Personal Monitoring System of BARC.

There shall be facilities for conventional, static and portable X-rays, fluoroscopy, contrast studies, ultrasonography and computerized tomography. It shall be having at least two X-ray machines of 500 mA capacity or higher with computerized/ digitized radiography, two USG machines with at least one of them having colour Doppler to support cardiovascular studies and linear probe.

There shall be digital record room for all the investigations done in the department. All the machines shall be duly certified by appropriate authority.

The room sizes for various Diagnostic Imaging Systems shall be as per the provision of the Atomic Energy Regulatory Board Safety Code.

B. 8. Department Of Anaesthesiology : In addition to routine requirements to be planned by the department, there shall be facilities;

To provide emergency services, minimum of 2 Emergency OTs working 24 X 7 for emergency including Trauma patients and one separate OT available 24 X 7 should be there for Obstetric emergencies. Facility for Labour analgesia should also be available.

(a) Pre-Anesthesia Check-up (PAC) Room.

Adequate room as per OPD Norms, Can be in main OPD complex or near OT complex. With facility for Patient examination tables, Height & Weighing machine, BP apparatus, SpO2, adequate staff for management.

(b) Pain Clinic: It shall be desirable to have a pain clinic under department of Anesthesiology. It shall have adequate room as per OPD Norms, can be in main OPD complex or near OT complex. It shall have facilities including patient examination tables, BP apparatus, SpO2 along with adequate staff for management. If any patient requires admission for pain management, the parent unit shall provide the privileged bed in concerned unit. The requirements for Pain Clinic/ OT like RF ablation, Fluroscopy, USG in pain clinic, Syringe pumps, Catheters, OT tables may be made available as per clinical load and functioning of Pain services with shared facilities with other departments like Orthopedics, Neurosurgery, Oncology etc. The department shall have a good documentation policy.

B. 9. Central Laboratory:

There shall be well-equipped and updated central laboratory preferably along with common collection area for all routine investigations in haematology, clinical pathology, microbiology- serological tests based on ELISA, Chemiluminescence, rapid tests, Clinical biochemistry- Photometric tests, Chemiluminescence based tests, electrolytes, ABG etc. Separate lab may be set up in the departments for any other specialized work. As far as possible, there shall be a facility in the central lab for collection of all samples and dispatch of reports. Respective sections of central laboratory shall be managed by respective teaching departments of the medical college and overall coordination may be managed by one of the HODs of the related teaching departments of the medical college, which may be arranged in rotation for every 1 or 2 years.

The number of samples in Histopathology lab shall be at least 20% of total major surgeries, number of samples in cytopathology lab shall be at least 1% of the total hospital OPD. The number of samples in Hematology lab, Clinical Pathology, and Clinical Biochemistry shall be at least 15% of OPD and 30% of indoor beds, and in Microbiology, these shall be at least 30% of indoor beds and 50 % of total surgery cases.

B. 10. Blood Bank

There shall be a well-equipped air-conditioned Blood Bank capable of providing component therapy. The Blood bank and Blood transfusion services should conform to the guidelines of the National AIDS Control Organization and as prescribed in Schedule-F Part XII-B to the Drugs and Cosmetics Rules, 1945 amended time to time.

The Blood Transfusion services should be under the administrative control of the teaching Department of Pathology of the medical college when there is no separate Department of Transfusion Medicine.

B.11. Department of Yoga (Recommended)

Every college may start a Yoga department with a minimum of one male and one female Yoga instructor/ trainer to train the students and faculty in Yoga. The trainers shall be employed or engaged by the college. Consultation with AYUSH ministry or its guidelines as prescribed from time to time, or local AYUSH centers could be utilised.

B.12. Department of Radiation-Oncology is recommended with at least one qualified Radiation Oncologist.

The department of radiation-oncology shall be planned in accordance with the regulatory requirements and approval of AERB. It would be desirable to start an OPD to begin with, in view of the rising incidence of malignancies in the country. This department may be closely connected with the rest of the hospital to facilitate free interaction of the facilities of various disciplines for multidisciplinary management of the patients. Prior BARC approval of the radiation therapy rooms/plan along with complete layout of the entire department is mandatory.

B. 13. Anti-Retroviral Therapy (ART) Centre

Every Teaching Hospital should have Anti-Retroviral Therapy (ART) Centre and facility for management of Multi-Drug Resistant (MDR)-TB.

B. 14. Pharmacy services. There shall be 24-hr pharmacy services to cater to the out-patient, emergency and other patients attending the teaching hospital. It shall have qualified Pharmacist in-charge and other staff certified by statutory authorities to dispense the drugs.

B. 15. Electricity, Water, Sanitation

There shall be continuous electricity, water supply. Appropriate UPS/ Generator shall be available. Trained staff to support uninterrupted electricity and water, 24 x 7 shall be available. Adequate sanitary facilities for patients and staff shall be made available.

SCHEDULE II- STAFF REQUIREMENTS

A. General Remarks:

1. Emphasis in medical education being on practical instruction and demonstration in small groups and encourage students for self-directed learning, the number of teachers must be as mentioned in requirement here so as to enable instructions to be imparted effectively.
2. The teaching staff of all departments of medical college, shall be full-time; faculty shall not indulge in private practice during college functioning hours.
3. These regulations cover the minimum requirements of under graduate medical education as per the annual MBBS student intake and the minimum patient load indicated in these regulations. However, the medical colleges/institutions and teaching hospital(s) need to make provision for additional staff as indicated below.
   a) Additional staff shall be provided proportionate to the workload.
   b) Non-teaching staff shall also be required in OPD, Indoors, Operation theatres and Intensive Care areas, emergency care area, labour room, clinical laboratories, or for outreach work where work load is heavy or is of a specialized nature.
   c) Additional teaching staff shall be required when starting postgraduate courses in accordance with "Postgraduate Medical Education Regulations" as prescribed from time to time.
4. In department of Anatomy, Physiology, Biochemistry, non-medical teachers may be appointed to the extent of 15% of the total number of posts in the department subject to non-availability of medical teachers. The above mentioned non-medical teachers and the Statistician in the department of Community Medicine should possess qualification in that particular subject from a recognised University as per requirements in Teacher Eligibility Qualification Regulations.
5. Post of junior cadre faculties up to Assistant Professors can be filled by senior cadre faculties; for example Assistant Professor, by Associate Professor or Professor. Similarly Associate Professor by Professor. Tutors/Demonstrators and S.Rs. together shall meet the total number of required persons.
6. Faculty position shall confirm to "Minimum Qualifications for Teachers in Medical Institutions" regulations.
7. Senior Resident Doctors (SRs) shall be postgraduate candidates of the corresponding specialty or department. Tutors shall be MBBS candidates. Demonstrators shall be postgraduates with PhD in the subject to be appointed, and not having qualifications of MBBS.
8. Teachers appointed as faculty in super-specialty departments shall not be counted against the complement of teachers required for under graduate medical education in broad speciality departments. However, teachers appointed in a broad specialty department who may also have super-speciality qualifications shall be counted against the complement of teachers required for under graduate medical education in the concerned broad specialty department.
9. Visiting faculty. With a view to enhance the comprehensiveness and quality of teaching of undergraduate students, "Visiting Faculty" may be appointed as prescribed in "Minimum Qualifications for Teachers in Medical Institutions" regulations over and above the minimum faculty prescribed herewith. The Visiting Faculty, however, shall not be considered as faculty as per minimum requirements prescribed herewith.

Each department of the medical college shall have a Head of the Department of the rank of Professor who shall have overall control of the Department. As an exception, the departments of Dermatology, Psychiatry, and Dentistry where Associate Professor or an Assistant Professor with more than 5 years of teaching experience may be the Head

of the Department who shall have overall control of the Department till full-time Professor is appointed or the concerned faculty is promoted to the post of Professor. Such exemption shall be available for a maximum period of five (5) years.

In addition to the staff indicated, additional Senior Residents and Junior Residents or Medical Officers shall be provided according to the clinical load in various areas of the hospital such as wards, Labour room, intensive care areas, emergency wards, and clinical laboratories and investigative departments of the hospital, for providing services round the clock. Also, unit of the teaching departments should have at least 02 (two) Junior Residents or postgraduates / M.O.s for patient care.

Ancillary staff including Social workers, Clinical Psychologists, Audiometry technicians, Speech Therapists, Optometrists, Physicists, Technicians, Attendants, Library staff, and others shall be employed as per the requirements.

FACULTY REQUIREMENT FOR MBBS ADMISSIONS

S. No.	Department	Designation	50 seats	100 seats	150 seats	200 seats	250 seats
1	**ANATOMY**	Professor	1	1	1	1	1
		Associate Prof.	1	1	2	2	3
		Asst. Prof.	2	2	3	4	5
		Tutor/ Demonstrator	3	4	5	6	8
		Senior Resident	1	2	3	4	4
2	**PHYSIOLOGY**	Professor	1	1	1	1	1
		Associate Prof.	1	1	2	2	3
		Asst. Prof.	1	2	2	4	5
		Tutor/ Demonstrator	2	3	4	5	5
		Senior Resident	1	2	3	4	4
3	**BIOCHEMISTRY**	Professor	1	1	1	1	1
		Associate Prof.	1	1	2	2	3
		Asst. Prof.	1	2	2	3	4
		Tutor/ Demonstrator	2	3	4	4	4
		Senior Resident	1	2	3	4	4
4	**PHARMACOLOGY**	Professor	1	1	1	1	1
		Associate Prof.	1	1	2	2	3
		Asst. Prof.	1	2	3	4	4
		Tutor/ Demonstrator	2	3	4	6	6
		Senior Resident	1	2	3	4	4
5	**PATHOLOGY**	Professor	1	1	1	1	1
		Associate Prof.	1	2	3	3	4
		Asst. Prof.	1	3	3	4	5
		Tutor/Demonstrator	2	4	5	6	6
		Senior Resident	1	2	3	4	4
6	**MICROBIOLOGY**	Professor	1	1	1	1	1
		Associate Prof.	1	1	2	2	3
		Asst. Prof.	1	2	3	3	4
		Tutor/ Demonstrator	2	4	4	5	5
		Senior Resident	1	2	3	4	4

7	**FORENSIC MED. TOXICO**	Professor	1	1	1	1	1
		Associate Prof.	1	1	1	1	2
		Asst. Prof.	1	1	1	2	4
		Tutor/ Demonstrator	1	2	3	4	4
		Senior Resident	1	2	3	4	4
8	**COMMUNITY MEDICINE**	Professor	1	1	1	1	1
		Associate Prof.	1	2	2	3	3
		Asst. Prof.	2	3	4	5	6
		Statistician (Minimum A.P. level)	1	1	1	1	1
		Tutor/Demonstrator	1	2	3	4	5
		Senior Resident	1	2	3	4	4
9	**GENERAL MEDICINE**	Professor	1	1	1	1	1
		Associate Prof.	1	3	4	6	7
		Asst. Prof.	2	4	5	7	8
		Senior Resident	2	4	5	7	8
10	**PEDIATRICS**	Professor	1	1	1	1	1
		Associate Prof.	1	1	2	3	3
		Asst. Prof.	1	2	3	4	5
		Senior Resident	1	2	3	4	4
11	**DERMATOLOGY**	Professor	0	0	1	1	1
	Prof/ Assoc. Prof. upto 100 seats	Associate Prof.	1	1	1	1	1
		Asst. Prof.	1	1	1	1	1
		Senior Resident	1	1	1	1	2
12	**PSYCHIATRY**	Professor	0	0	1	1	1
	Prof/ Assoc. Prof. Upto 100 Seats	Associate Prof.	1	1	1	1	1
		Asst. Prof.	1	1	1	1	1
		Senior Resident	1	1	1	1	2
		Clin. Psychologist	1	1	1	1	1
13	**GENERAL SURGERY**	Professor	1	1	1	1	1
		Associate Prof.	1	3	4	6	7
		Asst. Prof.	2	4	5	7	8
		Senior Resident	2	4	5	7	8
14	**ORTHOPEDICS**	Professor	1	1	1	1	1
		Associate Prof.	1	1	2	3	3
		Asst. Prof.	1	2	3	4	5
		Senior Resident	1	2	3	4	4
15	**OTORHINOLARYNGIOLOGY (ENT)**	Professor	0	1	1	1	1
	Prof/ Assoc. Prof. Up to 50 Seats	Associate Prof.	1	1	1	2	2

		Asst. Prof.	1	1	2	2	3
		Senior Resident	1	1	2	2	3
16	**OPHTHALMOLOGY**	Professor	0	1	1	1	1
	Prof/ Assoc. Prof. Up to 50 Seats	Associate Prof.	1	1	1	2	2
		Asst. Prof.	1	1	2	2	3
		Senior Resident	1	1	2	2	3
17	**OBSTETRICS & GYNECOLOGY**	Professor	1	1	1	1	1
		Associate Prof.	1	1	3	4	4
		Asst. Prof.	1	2	4	4	5
		Senior Resident	1	2	4	4	5
18	**ANESTHESIOLOGY**	Professor	1	1	1	1	1
		Associate Prof.	1	2	3	4	5
		Asst. Prof.	2	4	5	5	6
		Senior Resident	2	3	4	5	5
19	**RADIODIAGNOSIS**	Professor	0	1	1	1	1
	Prof/ Assoc. Prof. Up to 50 Seats	Associate Prof.	1	1	1	1	2
		Asst. Prof.	1	1	2	3	3
		Senior Resident	1	2	3	3	3
20	**DENTISTRY**	Professor	0	0	0	1	1
	Prof/ Assoc. Prof. Up to 100 Seats	Associate Prof.	1	1	1	1	1
	Not required if Dental coll Present in campus/ city/ town	Asst. Prof.	1	1	1	1	1
		Senior Resident	1	1	1	1	1

TOTAL STRENGTH

	PROF	ASSOC. PROF	ASST. PROF	TOTAL	TUT/DEMO	SR
50 SEATS	14	20	25	59	15	23
100 SEATS	17	27	41	85	25	40
150 SEATS	19	40	55	114	32	58
200 SEATS	20	51	70	142	40	73
250 SEATS	20	62	86	168	43	80

SCHEDULE III

LIST OF EQUIPMENTS (for various departments in the College and Hospitals).

Note: These recommendations are minimum requirements and will serve as a guide to the institutions with regard to the equipment required for teaching of MBBS students. For providing service to the attached hospital, the requirements would have to be provided accordingly. They are not meant to be an exhaustive list and the staff of the various departments will use their experience for equipping the departments.

Department of Anatomy:

A)	**Name of items** **(Quantity may be procured at the discretion of the department as per requirement)**
1.	Table with marble or stainless-steel top with a minimum size of 6' x 2' x3'
2.	Tables with marble or stainless-steel tops - half standard size
3.	Drill machine
4.	Hand saw, preferably metal
5.	Band saw for sectioning body and limbs
6.	Stools, preferably metal
7.	Brain knife
8.	Mortuary cooler with arrangement to keep at least 8 bodies or suitable alternative arrangement
9.	Storage tank to hold 10 cadavers, static/movable, durable tank with input and output facility with lid
10.	Plastic tanks for storing soft and dissected parts
11.	Trolley Table (Steel)
12.	Multimedia Projector with screen
13.	Movie camera with projection screen
14.	Computer with internet connection, & video CD library
15.	X-ray View box
16.	X-Ray plates/MRI/CT scan/USG
17.	Charts, Diagrams, Models, Slides etc.
18.	Dissecting instruments
19.	Meat cutting machine for thin body sections (trans and vertical) for gross anatomy sectional study
20.	Steel trays (big & small)
21.	Cadavers
22.	Embalming machine
(B) HISTOLOGY	
23.	Microscopes
24.	Dissection microscope
25.	Microtome, rotary
26.	Microtome, Sledge, large cutting
27.	Cabinet for slides (1000)
28.	Incubators
29.	Paraffin embedding bath
30.	Hot plates for flattening sections
31.	Hot air oven for drying slides (450° C)
32.	Refrigerator (minimum 165 L)
33.	Diamond pencils
C) MUSEUM	
34.	Articulated Skeleton set
35.	Disarticulated Bone set
36.	Wet Specimen jars (Glass)
37.	Steel Racks
38.	Desktop Computer/Laptop with printer-scanner-copier facility

2. Department of Physiology

S.No.	NAME OF THE ITEMS (Quantity may be procured at the discretion of the department as per requirement)
1.	Microscopes, oil immersion
2.	Demonstration eye piece
3.	Double demonstration eye piece
4.	Stage incubator
5.	Westergren's pipette for E.S.R. on stand (with space pipette)
6.	Wintrobe's pipette for ESR and PCV withstand
7.	Hemoglobin-meter Sahli's or Hellige (with spaces)
8.	Hemocytometer
9.	Thermometers, balances, microslides and glassware
10.	Multi-channel Physiograph,3 channels, complete with accessories
11.	Centrifuge, high speed with technometer
12.	Colorimeter, photoelectric
13.	pH meter electric
15.	Digital Physiograph
16.	Digital Perimeter
17.	Sphygmomanometer(digital) (Mercury based instruments to be replaced with suitable alternatives)
18.	Stethoscope
19.	Stethoscopes, demonstration with multiple ear pieces
20.	Polygraphs
21.	Spirometer, ordinary
22.	Digital Spirometer
23.	Mosso's Ergograph
24.	Clinical thermometer
25.	Compass aesthesiometer
26.	Thermo-aesthesiometer
27.	Algometer
28.	Knee hammer
29.	Stethograph
30.	Bicycle Ergometer
31.	Olfactometer
32.	Ophthalmoscope

33.	Schematic eye
34	Color perception lantern Edridge green
34.	Dynamometer
35.	Otoscope
36.	Stop watch
37.	Digital ECG Machine
38.	Yoga Mat
40.	Tuning fork to test hearing 32-10000 cps (100, 256, 512Hz)
41.	Van Slyke's apparatus manometric (Desirable)
42.	Venous pressure apparatus (Desirable)
43.	Douglas bag, complete (Desirable)
44.	Basal metabolism apparatus (Desirable)
45.	Apparatus for passive movement (Desirable)
46.	Phakoscope (Desirable)
47.	Perimeter with charts (Lister's) (Desirable)
48.	Maddox rod (Desirable)
55.	Newton's color wheel (Desirable)
56.	Student physiograph (single channel) with accessories (Desirable)
57.	Gas analyser automatic for CO2, O2, N2 (Desirable)
59.	Sherrington Starling kymograph (electrically driven) Complete assembly
60.	Electromagnetic time marker
61.	Myograph stand
62.	Electronic stimulator
63.	Tuning fork time marker100/sec
64.	Electrodes
65.	Spirit lamps
66.	Marey's tambour
67.	Softwares to demonstrate Amphibian and mammalian experiments (Desirable)
68.	Low voltage unit for tapping 2 and 4 volts for stimulation (Desirable)
GENERAL	
69.	Centrifuge, high speed with technometer etc.
70.	Refrigerator, 9-10c ft.
71.	Water distillation still, with spare heating elements

72.	All glass distillation apparatus double stage
73.	Voltage stabilizer
74.	Stepdown transformers

3. Department of Biochemistry

S. No.	NAME OF THE ITEMS (Quantity may be procured at the discretion of the department as per requirement)
1.	Analytical Balance : up to 200 g/1gm increment
2.	Urinometers calibrated (Mercury based instruments to bereplaced with other alternatives)
3.	Hot air oven (More than 200 litres)
4.	Digital Colorimeters
5.	Student Microscopes
6.	Glucometer with strips (For POCT)
7.	Thermometer 0 – 250 degree Celsius
8.	Semi autoanalyzer
9.	Boiling Water baths
10.	Constant temperature water bath Tank Capacity:(Temperature range 5 to 80 degree Celsius)
11.	Centrifuge clinical for ≥ 8 tubes
12.	pH meters of wide range digital
13.	Fixed volume pipettes -- 1ml,0.5ml,0.2ml,0.1ml and 0.02ml
14.	Bottle dispensers
15.	Variable and fixed volume micro auto pipettes
16.	Vacutainer Tube
17.	PCR Machine (either in the institution or elsewhere on avisit)
18.	ABG Machine
19.	Autoanalyzer (either in the institution or elsewhere on avisit)
20.	Complete Chromatographic Unit for paper & TLC (either in the institution or elsewhere on avisit)
21.	Complete Electrophoresis apparatus with power supply (Paper, PAGE, agarose) (either in the institution or elsewhere on avisit)
22.	Densitometer with computer
23.	Vortex mixers
24.	Incubator 37° C
25.	Fume cupboard
26.	Digital Analytical Balance
27.	Balance Micro
28.	Spectrophotometer
30.	PCR machine (either in the institution or elsewhere on avisit)
31.	ELISA Reader and washer

32.	Urine strips for Glucose & Protein
33.	ISE analyzer
34.	Refrigerators (Minimum - 400 Ltrs capacity)

Note: Equipments for student demonstration may be shared by the departments to prevent duplication and make cost effective.

(4) Department Of Pathology (for demonstration)

5. **Cytopathology section**

- Cytospin
- Auto stainer
- Facilities for liquid-based cytology

6. **Hematology section**

- Electrophoresis apparatus
- HPLC
- Flow cytometry –Desirable

7. **IHC**

- Immuno fluorescence Microscope

8. **Molecular Diagnostic**

- Conventional PCR
- Real time PCR

(a) Clinical Laboratory:

S.No.	NAME OF THE ITEMS (Quantity may be procured at the discretion of the department as per requirement)
(A)	**General**
I	**Histopathology / Cytopathology for Students**
1.	**For Students** – LED Binocular with Scanner, 10X, 40X, & Oil immersion lenses and inbuilt Battery backup power source
II	**Hematology for Students**
2.	Stop watch reading at 1/5 second.
3.	Haemo-cytometers with red and white pipettes
4.	Staining jars for slides.
III	**Clinical Pathology for Students**
1.	Urinometers(Mercury based instruments to be replacedwith other alternatives)
2.	Centrifuge tubes graduated.
3.	Graduated cylinders for various capacities ranging from100 cc to1000 cc. (For Students)
4.	Pipettes of various sizes with disposal tips. (For Students)
5.	Reagent bottles (For Students)
6.	Dropping bottles (For Students)
7.	Reagents (For Students)
(B) Morbid Histology and Morbid Anatomy	
1.	Manual Rotary Microtome
2.	Automated Rotary Microtome

3.	Cryostat
4.	Hot plate
5.	Paraffin embedding bath
6.	Heated Paraffin Embedding Module
7.	Cold Plate for Modular Tissue Embedding System
8.	Automated Tissue Processor - Histokinette
9.	Autoclave
10.	Ultrapure water solutions - Distilled water plant
11.	Water bath
12.	Centrifuge machine
13.	Digital SLR at least 20 megapixel with micro, macro, wideangle zoom lenses, Flash and other accessories
14.	Digital Automatic camera > 5 megapixel
15.	Fully Automated high throughput Multi-StainerWorkstation
16.	Fully Automated Embedding System (Heated embeddingmodule & cold plate) (desirable)
17.	Fully Automated Flexible Coverslipping Workstation (aspirational)
18.	Standalone paraffin dispensing module cold plate holdingmore than 100 cassettes
19.	Stand-alone cold plate
20.	Single Pan Digital Balance, Chemical
21.	Balance, chemical with weights
22.	**Microscopes**
23.	**Grossing Station** - Stainless steel, with Control panel. air filtration system, Track mounted adjustable computer arm with articulation, LED lights that are color and intensity, Dedicated USB ports for camera control and data transfer adjustable, Integrated pathology camera system, Instrument Set (High quality) Height Adjustable Stainless Steel Chairs With Split AC of appropriate capacity.
24.	Fully Automated Immuno-histo-chemistry Setup with Continuous supply of Important Antibodies, Lymphoma Panel etc. **(for Post graduate training)**
	(C) Hematology Lab: For demonstration
25.	**Five part Fully Automated Cell Counter**
26.	**Three Part Fully Automated Cell Counter**
27.	**Coagulometer (Fully automated)**

(5) Department Of Microbiology

S.No.	NAME OF THE ITEMS (Quantity may be procured at the discretion of the department as per requirement)
(A)	
1.	Microscopes (Specified as in Pathology)
2.	Culture Plates/ Petri Dishes
3.	Glass wares including Pasteur Pipettes
4.	Facility for heating slides
(B) General	
5.	Anaerobic apparatus
6.	Autoclave
7.	Balance Electronic Digital

8.	Biosafety Cabinet Type - 2A
9.	BOD Incubator
10.	Centrifuge
11.	CO2 Incubator/Candle Jar
12.	Computer Unit
13.	Deep Freeze -20° C & Deep Freezer
14.	Distilled water Plant
15.	Elisa Reader with washer
16.	Hot Air Oven
17.	Incubator
18.	Lab Refrigerator (minimum 400 litres)
19.	Laminar flow
20.	Micrometer eye pieces
21.	Micrometer stage
22.	Microscope Binocular
23.	Microscope with universal condenser containing oilimmersion, Bright field, Phase Contrast & Dark ground
24.	pH determination apparatus
25.	Serum inspissators
26.	VDRL shaker
27.	Vortex Mixer
28.	Water bath with variable temperature
29.	Oil-immersion lens for student microscope
30.	Automated Blood Culture System
31.	Colony Counter
(C) Consumables for Culture and Serological Diagnosis	
32.	Antibiotic Discs for Antibiotic susceptibility testing
33.	Antibiotic zone scale
34.	Antisera-Salmonella
35.	Antisera-*Shigelladysenteriae*
36.	Antisera-*Shigellaflexnari*
37.	Antisera-*Shigellasonnie*
38.	Antisera-*Vibrio cholerae*
39.	ATCC strain - *Enterococcus fecalis* 29213
40.	ATCC strain - E.coli 25922
41.	ATCC strain - E.coli 35218
42.	ATCC strain - *Pseudomonas aeruginosa* 27853
43.	ATCC strain - *Staphylococcus aureus* 25923
44.	ATCC strain - *Staphylococcus aureus* 29213
45.	Bottles for blood culture

46.	Micropipettes – Multi channel & Single channel
47.	Digital Thermometers of different temperatures
(D) BSL 2 Lab	
48.	-80°C deep freezer with UPS
49.	Real-time PCR machine calibrated for the fluorophore dyes with UPS (2 nos., 2KVA each, with 2 hours back-up)
50.	Microcentrifuge / Refrigerated Centrifuge
51.	(a) Personal protective equipment (PPE) (b) Viral Transport Medium (VTM) (c) All other consumables and kits as required forVirology studies.
52.	Magnifying glass with metal handle
53.	Metal mincing machine
54.	Postmortem instrument sets complete
55.	Suction pumps
56.	Filtering apparatus Seitz
57.	Filter and Millipore filter- each
58.	Desiccators
59.	Vacuum Dessicators
60.	Apron plastic for postmortem
61.	Apron rubber for postmortem
62.	Lyophilizer
63.	Thermal Cycler
64.	U.V. Transilluminator with photography
65.	Colony counter
66.	Cold room + 4 degree Celsius
67.	BACTEC system
68.	Phase contrast Microscope
69.	Vortex mixer
70.	Electronic Balance
71.	Microfuge
72.	Ultra centrifuge
73.	Flourescent Microscope

(6) Department Of Pharmacology

S. No.	NAME OF ITEMS **(Quantity may be procured at the discretion of the department as per requirement)**
A Clinical Pharmacology Lab	
1.	Special Drug Delivery systems like Metered Dose Inhalers, Spacers, Nasal sprays, Transdermal patches, Insulin pen etc.
2.	Samples of various important drug formulations including rational and irrational FDC, Essential medicines
3.	Simulation models for demonstration of routes of administration i.e., various injections (iv, im, sc. intracardiac), enema, vaginal pessary insertion, and other routes of drug administration. Modules for communication competencies e.g., module with recorded videos of role play.

B. Computer Assisted Learning Lab	
4.	Must have computers with standard configuration and connected to the internet, (Preferably broadband) along with AV aids including multimedia projector and screen/LED screen). The Computers to have computer assisted teaching-learning and assessment material e.g., National List of Essential Medicines, Standard Treatment Guidelines, Banned Drugs List of the CDSCO, Hospital formulary, Animations/videos of mechanism of action of clinically useful drugs in humans, Adverse Drug Reactions forms, photographs of ADRs, Drug Promotional Literature, OSCE/OSPE station material and Self-assessment modules. E-prescription, Digital cases, and case videos (optional)

(7) DEPARTMENT OF FORENSIC MEDICINE AND TOXICOLOGY

1. Autopsy table- 2
2. Portable X-ray machine must be present in every autopsy block with provision of Radio-technician (can be shared with Radiology) and reporting by Radiologist to avoid movement of dead body from autopsy room to Radiology Department to meet the requirement of dignified management of dead.
3. Computers with printers.
4. Software for preparing and printing postmortem report etc.
5. Mortuary block shall have air condition facility.
6. Dead body freezer (as per requirement).
7. Adequate protective clothes, equipment's for the staff of the department working in autopsy block.
8. Provision of **Video-conferencing room** in the department to give evidence in the court of law to meet requirement of Digital India with appropriate facility of Internet, Computer, Video camera, etc.

Where FMT department has functional Poison Information Centre and Analytical Toxicology lab then it should have following equipments:

1. Digital Spectrophotometer
2. Chemical Balance
3. Distillation Plant
4. Spectroscopic Lens with Adjustable Slit.
5. TLC, HPLC, GC-MS

S.No.	NAME OF THE ITEMS (Quantity may be procured at the discretion of the department as per requirement)
1	Anthropometric Set including
	A) Folding Metal Rod Upto 7 Ft
	B) Osteometric Board
	C) Craniometer
	D) Mandibulometer
	E) Goniometer
	F) Vernier Calipers
	G) Equipment for Reporting Height
	H) Weighing Machine Dial Type Human
2	Digital pH Meter
3	Digital Spectrophotometer
4	Chemical Balance
5	Distillation Plant
6	Refrigerator

7	Centrifuge
8	Slide Warming Table
9	Hot Plate
10	Spectroscopic Lens With Adjustable Slit
11	Dissection Set Complete
12	Digital BP Instrument
13	Stethoscope
Medico legal work	
14	Cold Storage For Dead Bodies
15	Weighing Machine For Dead Bodies
16	Autopsy Tables
17	Stryker Type Autopsy Saw With Accessories
18	Weighing Machine For Organs
19	Weighing Machine For Fetus
20	Dissection Set Complete
21	Brain Knife
22	Hack Saw
23	Rib Shear Left & Right
24	Measuring Tape(Steel Tape Roll)
25	Magnifying Lens
26	X- Ray View Box (4 In 1)
27	Tooth Extractor Left & Right
28	Hand Set Heat Sealer
29	Instrument Trolley
30	Rectal Thermometer
31	Portable X-ray Machine (can be shared with Radiology Department)

(8) Department Of Community Medicine

S.No.	NAME OF THE ITEMS (Quantity may be procured at the discretion of the department as per requirement)
1	Hydrometer, milk
2	Incubator, electric (can be procured from Microbiology)
3	Balance for weighing food stuff (Capacity 2 Kg).
4	Centrifuge clinical
5	Weighing machine adult
6	Baby weighing machine
7	Salters Baby weighing machine
8	Harpenden Calipers (for skinfold thickness)
9	Height measuring stand
10	Refrigerator 9 cu.ft.

11	Ice Lined Refrigerator (I.L.R.) (at Health Centre)
12	Smart TV
13	Vehicles for transport of students/interns/faculty/paramedical staff to the RHTC and UHTC
14	Multimedia Projector with Screen
15	Public Address system (2 portable for field basedactivities and one each for RHTC & UHTC)
16	Chloroscope
17	Horrock's Apparatus
18	MUAC tapes
19	Haemoglobinometer
20	BP Apparatus (Digital)
21	Stethoscope
22	Sound level meter
23	Water sampling bottle from any depth
24	Needle Shredder
25	Vaccine carrier
26	Craft water testing kit
27	Treatment kits as per national health programs
28	Iodine testing kit
29	Glucometer
30	Mosquito catching kit
31	Clinical Thermometer
32	First Aid Kit
33	Otoscope

The Rural and health centers for training of undergraduate students shall be suitably equipped along with adequate transport.

FOR PHASE 3 DEPARTMENTS

The list of equipment for clinical departments both indoor and outdoor, may be prepared by the Heads of departments, who would keep in view the needs for: -

(1) Special examination with diagnostic aids and investigations such as laboratory, X-ray, etc.

(2) Routine treatment, medical and surgical etc.

(3) Special therapy such as physical, occupational, dietetic etc.

SKILLS LAB

(I) **Trainer simulators / models / mannequins for:**

- First aid, Bandaging, splinting
- Basic Life Support (BLS), CPR (Cardio Pulmonary Resuscitation) mannequin
- Various types of injections- Subcutaneous, Intra-muscular, Intra-venous
- Urine Catheter insertion
- Skin & Fascia suturing
- Breast examination model /mannequin

- Gynecological examination model/mannequin including IUCD (Intra Uterine Contraceptive Device)Training model
- Obstetrics mannequins including Obstetric examination, conduct and management of vaginal delivery.
- Neonatal & Pediatric resuscitation mannequins
- Whole body mannequins
- Trauma mannequin

(II) Each model (Low or High Fidelity) should have a module for training including objectives, methods and assessment. Modules can also have hybrid models where real patients or standardized/simulated patients/ computer simulations can be used.

(III) There shall also be space for computer assisted learning with adequate computers.

Dr. ARUNA V. VANIKAR, President

[ADVT.-III/4/Exty./360/2023-24]

Note I: These Guidelines are being published in English and Hindi; the English version shall prevail in case of any doubt about the interpretation of these Guidelines.

Note II : Annexures to these guidelines shall be displayed on the NMC website.

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ANNEXURE-I

GUIDELINES FOR MANPOWER REQUIREMENT FOR RESEARCH FACILITIES IN A MEDICAL COLLEGE

Research labs can be under following categories:

1. **Molecular lab**
2. **Stem cell research lab**
3. **Cytogenetics**
4. **HLA and tissue typing research lab**

Applied Clinical research for organ perfusion, cancer research, in vitro fertilization, etc. can be under any of the above research facilities.

MAN POWER

(1)Lab Director-post-1

Minimum Qualifications required:

MD Path/ MD Microbiology/ MD Transfusion Medicine/ MD Biochemistry .

Faculty with PhD (Medical subject will be preferred)

Lab work: 10 years experience

Lab research related publications- minimum 10 in last 10 years

(2) Lab Supervisor- post-1 (per research facility)

Minimum Qualifications required:

MD Path/ MD Microbiology/ MD Transfusion Medicine/ MD Biochemistry

Faculty with PhD (Medical subject) will be preferred

or MSc in life sciences with PhD from Medical college

Lab work: 7years experience

Lab research related publications- minimum 5 in last 5 years

(3) Senior Scientific Research Officer- posts- 1 or more (per research facility)

Minimum Qualifications required:

PhD with MD Path/ MD Microbiology/ MD Transfusion Medicine/ MD Biochemistry / PhD in medical college or MSc in life sciences with PhD from medical college

Lab work: 4years experience

Lab research related publications- minimum 3 in last 3 years

(4) **Junior Research Officer**-posts- 1 or more (per research facility)

Minimum Qualifications required:

MD Path/ MD Microbiology/ MD Transfusion Medicine/ MD Biochemistry or Diploma in Clinical Pathology/ MSc in life sciences, PhD scholar/ Postdoc fellow

Diploma holder in any branch may pursue PhD if experience / research inclinations proved for minimum of 1 year. They can be enrolled for integrated Master's PhD course.

Lab work: 1 year experience

Lab research related publications- preferably 1 in last 2 years

(5) Laboratory Technicians- Posts- minimum 2

Minimum Qualifications required:BSc/ MSc, in life sciences including Biotechnology,

DMLT

(6) Data entry operator/ Clerk -1 (minimum)

(7) **Store keeper** -1 (minimum)

(8) **Biostatistician- 1**(minimum)

(9) Lab attendant

(10) Peon/ Multi-task worker

(11) **Clinical Monitors-**

Any MBBS or above with research inclination

(12) Social worker/ MSW with applied research inclinations

ANNEXURE-II

Installation of close circuit television system in Medical college Hospital

All Medical colleges and Institutions are hereby instructed install cameras in their institute premises at the following prescribed places with suggested numbers of cameras:

S.No	Precribed Places for Camera Installation	Prescribed Numbers of Cameras to be Installed
1	Main Entrance of the Hospital & College	1
2	Patient Registration Counter	2
3	OPDs (depending upon number of OPDs in the college); It should cover the Medicine OPD Surgical OPD, Gynecological PD, Paediatrics OPD, Ortho OPD, etc	5
4	Pre anesthesia area and recovery area in the operation theatre complex	2
5	Faculty Lounge and Attendance marking area	2
6	All 5 Lecture Theatres	5
7	Anatomy Dissection Hall	1
8	Physiology Lab/Bio Chemistry UG Labs	2
9	Patho and Micro Biology Labs	2
10	Pharmacology Lab	1
11	Patient Attendant waiting area	1
12	Emergency and Casualty ward	1
	Total	25

2. All the colleges to have atleast 100 mbps dedicated internet lease line. Maintenance of camera and other related infrastructure is responsibility of medical college/institution only.

ANNEXURE-III

Pro-Forma for Display of Information on the College Website

The Following Details are mandatory to be filled up by the Medical College and displayed on their website (once entered should be updated without removal of data)

S No.	**Information of the medical college/institution** **Year of Inception:** **Government/private:**	
1.	Name	
2.	Address with pin code	
3.	University address with pin code	
4.	Official website	
5.	Dean/ Principal/ Director	
6.	Mobile Number	
7.	Email ID of Dean	
8.	Hospital	
9	Date and Year of Registration of the Hospital (DD/MM/YYYY)	
10.	Number of Beds	
11.	Number of Beds for emergency	
12.	Date of the First Letter of Permission(LoP) of MBBS (DD/MM/YYYY) & number of seats	
13.	Status of Recognition	
14.	Number of MBBS and PG broad specialty and super specialty students admitted in this session*	MBBS: MD/MS: DM/MCh:

15.	Inpatients registered and admitted (Previous month record)	
16.	Outpatients registered (Previous month record)	
17.	Number of Deaths reported to the Municipality/ village register(month-wise) (Previous month record)	
18.	Address and pin code of the Corporation/ Village where the Death records are reported	
19.	Website link/ email ID/ hyperlink of the corporation in case Death Records are reported	
20.	Number of Births reported(Month-wise)	
21.	Address and pin code of the Corporation/village where the Birth records are reported	
22.	Website link/ email ID/ hyperlink of the corporation in case Birth Records are reported	
23.	Number of Rooms in Men's Hostel and students accommodated	
24.	Total Number of Rooms in Women's Hostel and students accommodated	
25.	Name of the Grievance Redressal Officer (PIO & CPIO):	
26.	Address with Pin code	

27.	Telephone Number Email Id	
28.	Grievances reported (Previous month record)	

29. Details of Post- Graduation Courses offered

Post Graduate Course	**Year of Commencement of the Course**	**Number of Students Currently pursuing the Course**	**Number of Students admitted in the current session**

30. Department wise list of Faculty Members

Department	Name of the faculty Qualification IMR Number	Current Designation & Date of promotion	Nature of employment Regular/ permanent or contract/outsourced	Details of Service in the Last 5 years					Number of lectures taken/year, small teaching group with Topics covered
				1	2	3	4	5	

N.B.

1. Publications by faculty should be attached as annexure.
2. Publications should be quoted in Vancouver referencing style.
3. Medical Educator Training/ research methodology and dates.
4. Additional Information, if any, may also be provided.

Sr. No	Faculty Name	Publication in Vancouver referencing style.	Indexing System

U/14021/8/2023/UGMEB

3347385/2023/UGMEB

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એકેડેમિક કાઉન્સિલ તા. 07/10 -2023
આઇટમ.....3.7.....બિડાણ/પરિશિષ્ટ.....19.....

राष्ट्रीय आयुर्विज्ञान आयोग
National Medical Commission
Under Graduate Medical Education Board

No.U/14021/8/2023-UGMEB Dated : 3rd October,2023

PUBLIC NOTICE

This is in continuation to new Amendment in CBME Guidelines issued through "Corrigendum" bearing No.F.No.U/14021/8/2023-UGMEB dated 01.09.2023 where a new amendment was introduced to the CBME Guidelines vide page number -58.

2. After thorough consideration of the subject matter, it has been decided that retrospective effect in this connection is not possible.

3/10/2023

(Shambhu Sharan Kumar)
Director(UGMEB)

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National Medical Commission
(Undergraduate Medical Education Board)

F. No. U/14021/8/2023-UGMEB

Dated the 1st September, 2023

CORRIGENDUM

Subject :Competency Based Medical Education Curriculum (CBME) Guidelines- National Medical Commission.

Kindly refer to the communication of even no. dated 01st August, 2023 on the above mentioned subject and to inform that provisions at page 58 of CBME is amended as under :

Page 58 of CBME Guidelines	Amended page 58 of CBME Guidelines
In subjects that have two papers, the learner must secure minimum 50% of marks in aggregate (both papers together) to pass in the said subject.	**In subjects that have two papers, the learner must secure** minimum 40% of marks in aggregate (both papers together) to pass in the said subject
Criteria for passing in a subject : A candidate shall obtain 50% marks in University conducted examination separately in Theory and in Practical (practical includes; practical/clinical and viva voce) in order to be declared as passed in that subject.	**Criteria for passing in a subject** : A candidate shall obtain 50% marks in aggregate and 60:40 (minimum) or 40:60 (minimum) in University conducted examination separately in Theory and in Practical (practical includes; practical/clinical and viva voce) in order to be declared as passed in that subject.

01/9/2023

(Shambhu Sharan Kumar)
Director, UGMEB