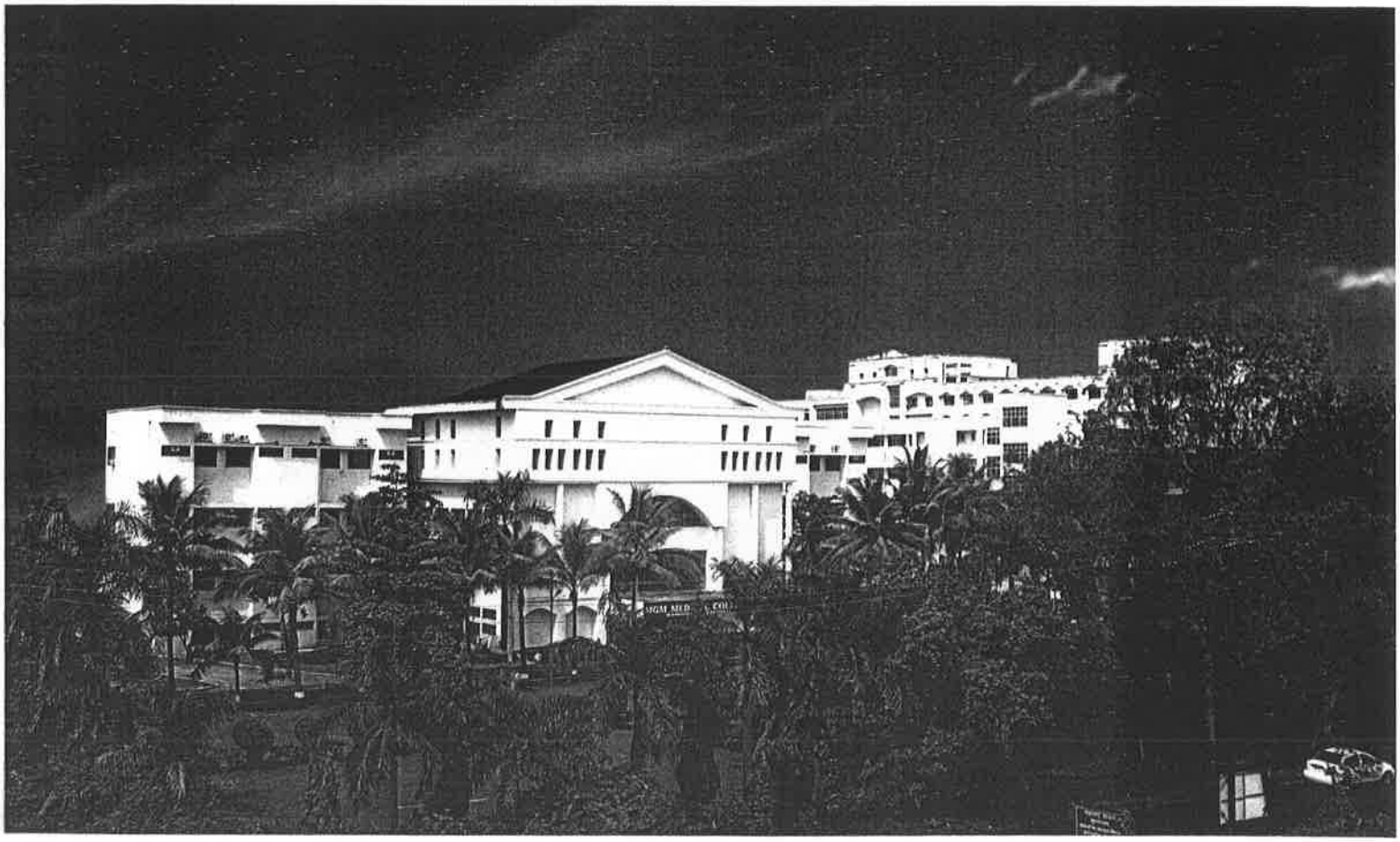
Curriculum for

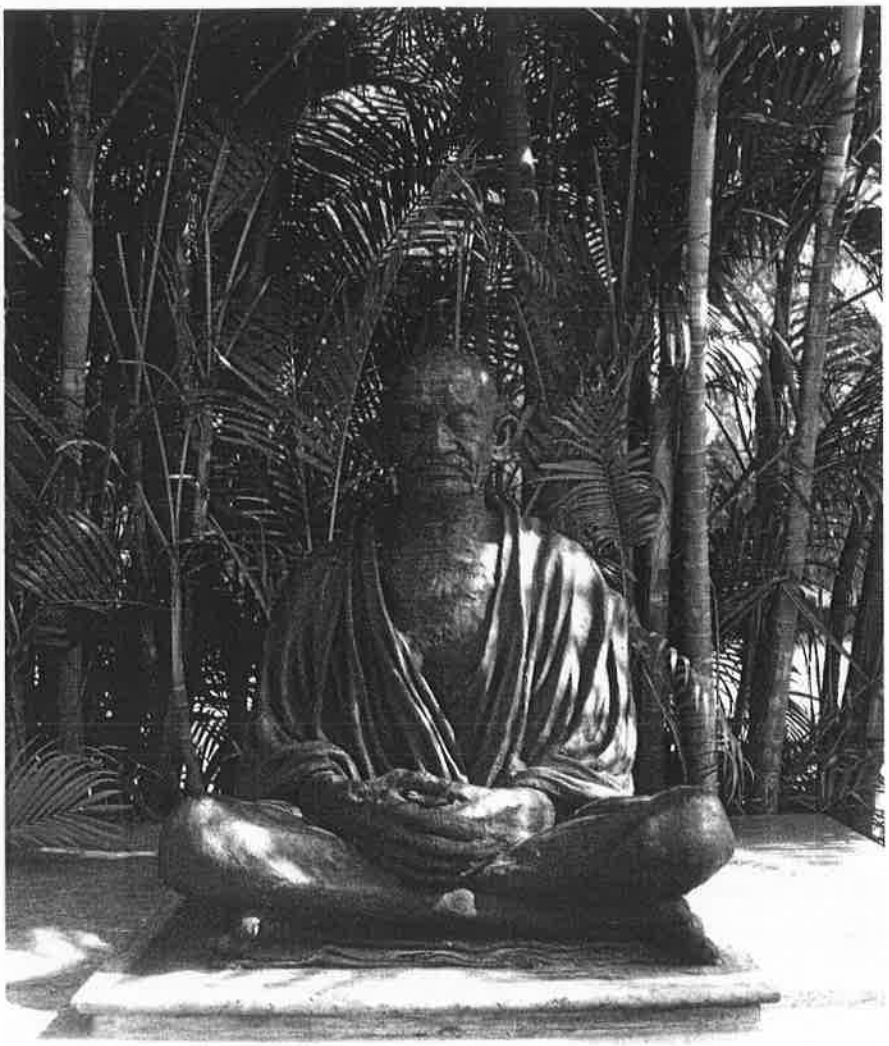
MD Degree in Microbiology



IN PURSUIT OF EXCELLENCE

MGM INSTITUTE OF HEALTH SCIENCES
(Deemed University Established u/s 3 of UGC Act, 1956)
Navi Mumbai - 410 209
www. mgmuhs.com

INSPIRING MINDS



Mission

To improve quality of the life for individuals and community by promoting health, preventing and curing disease, advancing biomedical and clinical research and educating tomorrow's Physicians and Scientists.

Vision

By 2020 the MGM University of Health Sciences will rank one of the top private Medical Institution. This will be achieved through ground breaking **discoveries in basic sciences and clinical research** targeted to prevent and relieve human suffering, **excellence in Medical Education** of the next generation of academic clinicians and intrinsic scientists.

MGM University of Health Sciences will transform the **Education of** tomorrow's Physicians and Scientists conducting Medical **Research** to advance health and improving lives by providing world-class patient care.

Many see the 21st Century as the golden age of biomedical research. The MGM University of Health Sciences will position for leadership at the horizon of this new era to promote and stabilise stand human health with a standard of excellence.

Chancellor's Message

It is my pleasure to welcome you to join constituent colleges of Mahatma Gandhi Misson's (MGM) University of Health Sciences, Navi Mumbai. I wish to avail this opportunity to apprise you and your parents about the academic excellence of the deemed university.

The MGM University of Health Sciences was established u/s 3 of UGC Act, 1956 vide HRD Notification No.F.9-21/2005-U.3(A) dated 30-8-2006. The MGM University is an outcome of untiring efforts of our educationists, professionals, social activists, technocrat, students and parents. The Mahatma Gandhi Mission Trust that manages the University of Health Sciences and over 40 institutions in Navi Mumbai, Aurangabad, Nanded, and Noida has the vision to empower the masses with the availability of state-of-the-art education. Most of our institutions have ISO certifications that further endorse our commitment to stringent quality standards. I am proud to state that we have succeeded in these accomplishments during our journey of the past 25 years.

I recollect the memories of struggle and determination when the MGM Trust established its two medical colleges, one each at Navi Mumbai and Aurangabad some twenty years ago. Both the medical colleges have grown into institutions imparting both undergraduate and postgraduate courses, and delivering quality health care to communities in their respective areas. While both colleges are engaged in their primary functions of teaching, patient care and research, they have also excelled in their pursuit for advancement of science and in taking health services to communities through extension programmes. A shining example is the establishment of the Department of Infectious Diseases in 1993 in collaboration with the University of Texas-Houston, USA. This department has established the state-of-the-art clinical services and laboratories for research and care of infectious diseases and received the acclaim of Director General of ICMR when he stated "MGM is the first medical college in India to establish a separate department of infectious diseases. This is the need of the hour." The department has undertaken path-breaking research and shaped the course of our national control programmes on HIV/AIDS and tuberculosis. The original research of the constituent colleges has been acclaimed among the scientific world globally.

In an era of economic liberalization and the competition among varsities, both in and out of India, the task of grooming professionals who will compete with the best in the world , is tough. To aid our efforts to excel, MGM University of Health Sciences has the latest research facilities, a dedicated research faculty, as well as an array of distinguished visiting faculty members. The quiet ambience of our campuses, the well filled library with subscriptions to international and national journals, and the lush-green gardens add to our accomplishments.

Considering the manpower needs of educational, industrial agricultural, and health sector to maintain their steady growth, several fresh M.Sc. courses have courses have been launched. M.Sc. courses introduced at the
University from the current academic year shall provide knowledge, skills and subsequent employability that are at par with the counterparts in India and abroad. The curricula of the courses have been designed by experts and peer-reviewed with an emphasis on the job requirements of educational institutions, industries, health care, and research institutions. These courses will empower the students to choose a career in a classroom, a research laboratory or an industry. I am happy that the university is ticking towards the pinnacle with the introduction of these value-added postgraduate courses in medical biotechnology, medical genetics and other basic sciences.

Finally, I wish to place on record my gratitude to the founder members, stake-holders, faculty, staff, students and their parents for providing the MGM Trust with your advice and support.

Once again, it is my pleasure to welcome you to join constituent colleges of MGM University of Health Sciences' at Navi Mumbai and Aurangabad.

Kamal Kishore Kadam
Chancellor

Dr R.D.Bapat
Vice Chancellor

Dr S.N.Kadam
Pro Vice Chancellor

Dr N.N.Kadam
Director (Examination)

Dr Ajit shroff
Dean (Aurangabad Campus)

Dr Z.G. Badade
Registrar

Dr G.S.Narshetty
Dean (Navi Mumbai Campus)

MAHATMA GANDHI MISSION'S UNIVERSITY OF HEALTHSCIENCES, NAVI MUMBAI

CURRICULUM POSTGRATUATE MEDICAL EDUCATION IN MICROBIOLOGY

MAHATMA GANGHI MISSION'S UNIVERSITY OF HEALTHSCIENCES, NAVI MUMBAI DRAFT CURRICULUM FOR POSTGRADUATE COURSE M.D. (MICROBIOLOGY)

The aim of this course is to train the students of Medicine in the field of Medical Diagnostic Microbiology. Knowledge and practical skills shall be acquired by the candidates in the sub-specialities of Bacteriology including Mycobacteriology, Virology, Parasitology, Immunology, Serology & Mycology so as to be able to deal with diagnosis and prevention of infectious diseases in the community. They will be trained in basic research methodology including molecular biology so that they are able to conduct fundamental and applied research. They will also be trained in teaching methods so that they can take up teaching assignments.

GOAL:

The goal of the postgraduate medical education shall be to produce a competent specialist and Medical teacher:

- Who shall recognize the health needs of the community and carry out professional obligations ethically in keeping with the objectives of the national health policy;
- Who shall have mastered most of the competencies, pertaining to Medical diagnostic Microbiology that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;
- Who shall be aware of the contemporary advances and developments in the field of medical and diagnostic Microbiology
- Who shall have acquired the spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology
- Who shall have acquired the basic skills of teaching of the medical and paramedical professionals.

EDUCATIONAL OBJECTIVES:

KNOWLEDGE:

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

1.State and explain the clinical features, etiology, pathogenesis and methods of laboratory diagnosis of infectious diseases and apply that knowledge in the treatment, prevention and control of communicable diseases caused by micro-organisms.

2.State and explain the principles of immunity and immunological phenomenon which help to understand the pathogenesis, laboratory diagnosis of infectious and non-infectious diseases.
3. Establish and practice "laboratory medicine" for diagnosis of infectious diseases in hospitals and community in the field of bacteriology, parasitology, virology, mycology, serology and immunology in the light of clinical findings.
4. Organize the prevention and control of communicable diseases in the community.
5. Understand and practice the principle of prevention and control of health care associated infections and rational antibiotic policy.
6. State the recent advances in the field of Medical Microbiology and apply this knowledge in understanding aetiopathogenesis and diagnosis of diseases caused by micro-organisms.
7. Carry out fundamental or applied research in the branches of medicine involving microbiological work.
8. Develop specialization in any of the above subspecialities.
9. Undertake teaching assignments in the subject of medical Microbiology.
(B) Skills
At the end of the course the student shall be able to
1. Plan the laboratory investigations for the diagnosis of infectious diseases
2.Perform laboratory procedures to arrive at the etiological diagnosis of infectious diseases caused by bacteria, fungi, viruses and parasites including the drug sensitivity profile.
3. Perform and interpret immunological and serological tests.
4. Operate routine and sophisticated instruments in the laboratory.
5. Develop microteaching skills and Pedagogy
6. Successfully implement the chosen research methodology

COURSE CONTENT (SYLLABUS)

DURATION OF COURSE:

The minimum period of training shall be three calendar years and the candidates can be admitted to this training after their full registration with the Medical Council.

TRAINING PROGRAM:

The candidates joining the course must work as full time residents during the whole period of their postgraduate training. They will be required to attend a minimum of 80% of training period. Candidate shall be given full time responsibility and assignments and their participation in all facets of the educational process assured.
Postgraduate students must maintain a record book of the work carried out by them and the training undergone by them during the period of training. These record books shall be checked and assessed by the faculty.

TEACHING /LEARNING METHODS:

Learning in M. D. (Microbiology) will essentially be self-learning.

Following teaching-learning methods shall be followed-

Group teaching sessions:

- Journal review
- Subject seminar presentation
- Group discussion
- Slides seminars
- Clinical case presentations pertaining to infectious diseases
- Presentation of the findings of an exercise on any of the sub-specialities
- Participation in CME programs and conferences

Hands on experience (practical training)

Practical training shall be imparted by posting the students in various sub-specialities (sections) as detailed in the intrinsic and extrinsic rotation.

Student shall be actively involved in day to day working of all the sections. He/she will be trained under the guidance of teachers in all the aspects of Clinical Microbiology and applied aspects of laboratory medicine including collection and transport of specimens, receiving of samples, preparation of requisite reagents, chemicals, media and glassware, processing of specimens, performing required antimicrobial susceptibility testing and reporting on the specimens, interpretation of results, sterilization procedures, bio-safety precautions, infection control practices, maintenance of equipments, record keeping and quality control in Microbiology.

Suggested schedule of rotation:

Intrinsic rotation:

1.	Bacteriology(Aerobic and anaerobic)	6 months
2.	Mycobacteriology	3 months
3.	Hospital infection surveillance	3 months
4.	Serology/Immunology	6 months
5.	Mycology	3 months
6.	Virology/HIV	3 months
7.	Parasitology	3 months
8.	Clinical Microbiology(OPD)	2 months
9.	Molecular Diagnostics	1 month

Extrinsic rotation:

Clinical Pathology		3 months
*Elective posting		3 months
	Total	36 months

Emergency duty:

Student shall be posted for managing emergency laboratory services in Microbiology. He/she will deal with all the emergency investigations in Microbiology.

Training in research methodology:

Training in research methodology shall be imparted by planning of a research project by the student under the guidance of a recognized guide to be executed and submitted in the form of a dissertation.

The dissertation is aimed at training the candidate in research methods and techniques. It will include identification of a research question, formulation of a hypothesis, search and review of relevant literature, getting acquainted with recent advances, designing of research study, collection of data, critical analysis of the results and drawing conclusions.

The topic shall be communicated to the university within six months of registration and at least 12 months should be spent on the research project.

The dissertation shall be completed and submitted by the student six months before appearing for the final university examination.

Teaching experience:

Student shall be actively involved in the teaching of undergraduate students. He/she will be trained in teaching methods and use of audiovisual aids.

BROAD AREAS OF STUDY

General Microbiology; Systematic Bacteriology, Mycology, Virology, Parasitology; Serology,Immunology, molecular diagnostics and Applied Clinical Microbiology including recent advances in Microbiology.

GENERAL MICROBIOLOGY

1. History and pioneers in Microbiology
2. Microscopy
3. Morphology of bacteria and other micro-organisms.
4. Nomenclature and classification of microbes.
5. Growth and nutrition of bacteria.
6. Bacterial metabolism.
7. Sterilization and disinfection.
8. Biomedical waste disposal
9. Bacterial toxins.
10. Bacterial antagonism: Bacteriocins.
11. Bacterial genetics, gene cloning.
12. Antibacterial substances used in treatment of infections and drug resistance in bacteria.
13. Bacterial ecology-normal flora of human body, hospital environment, air, water and milk
14. Host parasite relationship.
15. Quality control and Quality Assurance in Microbiology.
16. Laboratory Biosafety
17. Health care associated infections- prevention and control

IMMUNOLOGY AND APPLIED ASPECTS

1. The normal immune system.
2. Innate immunity.
3. Antigens.
4. Immunoglobulins.

5. Complement.
6. Antigen and antibody reactions.
7. Hypersensitivity.
8. Cell medidated immunity.
9. Immunodeficiency.
10. Autoimmunity.
11. Immune tolerance.
12. Transplantation immunity.
13. Tumour immunity.
14. Prophylaxis and immunotherapy
15. Measurement of immunity.
16. Immunity and immunopathogenesis of specific infectious diseases
17. Molecular Biology Techniques. For e.g. PCR, DNA probes.

SYSTEMATIC BACTERIOLOGY

1. Isolation, description and identification of bacteria. The epidemiology, pathogenesis, antigenic characteristics and laboratory diagnosis of disease caused by them
2. Staphylococcus and Micrococcus; Anaerobic Gram positive cocci.
3. Streptococcus and Lactobacillus.
4. Neisseria, Branhamnella and Moraxella.
5. Corynebacterium and other coryneform organisms.
6. Bacillus: the aerobic spore-bearing bacilli.
7. Clostridium: the spore-bearing anaerobic bacilli.
8. Non-sporing anaerobes
9. The Enterobacteriaceae.
10. Vibrios, Aeromonas, Plasiomonas, Campylobacter and Spirillum,H.pylori
11. Erysipelothrix and Listeria
12. Pseudomonas.
13. Chromobacterium, Flavobacterium, Acinetobacter and Alkaligens.
14. Pasteurella, Francisella.
15. Haemophilus and Bordetella.
16. Brucella.
17. Mycobacteria.
18. The spirochaetes.
19. Actinomyces, Nocardia and Actinobacillus.
20. Mycoplasmatales: Mycoplasma, Ureaplasma and Acholeplasma.
21. Rickettsiae.
22. Chlamydiae.
23. Emerging bacterial pathogens.

VIROLOGY

1. The nature of viruses
2. Classification of viruses
3. Morphology :virus structure
4. Virus replication
5. The genetics of viruses
6. The pathogenicity of viruses
7. Epidemiology of viral infections
8. Vaccines and antiviral drugs
9. Bacteriophages
10. Pox viruses
11. Herpes viruses
12. Vesicular viruses
13. Togaviridae

14. Bunyaviridae
15. Arenaviridae
16. Marburg and Ebola viruses
17. Rubella virus
18. Orbi viruses
19. Influenza virus
20. Respiratory disease: Rhinoviruses, adenoviruses, corona viruses
21. Paramyxoviridae
22. Enteroviruses : Polio, Echo, Coxsackie viruses
23. Other enteric viruses
24. Hepatitis viruses
25. Rabies virus
26. Slow viruses
27. Human immunodeficiency viruses
28. Oncogenic viruses
29. Teratogenic viruses
30. Viruses of gastroenteritis
31. Prion diseases
32. Emerging viral infections – SARS, Avian influenza

PARASITOLOGY

1.Protozoan parasites of medical importance : Entamoeba, Giardia, Trichomonas, Leishmania, Trypanosoma, Plasmodium, Toxoplasma, Sarcocystis, Cryptosporidium, Balantidium,Isospora, Cyclospora,Microsporidium etc.

2. Helminthology : All those medically important helminths belonging to Cestoda, Trematoda and Nematoda.

Cestodes : Diphyllobothrium, Taenia, Echinococcus, Hymenolepis, Dypyllidium, Multiceps etc.

Trematodes : Schistosomes, Fasciola, Gastrodiscoides, Paragonimus, Clonorchis, Opisthorchis etc.

Nematodes : Trichuris, Trichinella, Strongyloides, Ancylostoma, Nicator, Ascaris, Toxocara, Enterobius, Filarial worms, Dracunculus, etc.

3. Ectoparasites : Common arthropods and other vectors viz.,Mosquito, Sandfly, Ticks, Mite, Cyclops.

MYCOLOGY

1. The morphology and reproduction of fungi and antimycotic agents
2. Classification of fungi
3. Contaminant and opportunistic fungi
4. Fungi causing superficial mycoses
5. Fungi causing subcutaneous mycoses
6. Fungi causing systemic infections
7. Antifungal agents

APPLIED CLINICAL MICROBIOLOGY

1. Epidemiology of infectious diseases
2. Hospital acquired infections
3. Infections of various organs and systems of the human body
4. Molecular genetics as applicable to Microbiology
5. Automation in Microbiology
6. Rapid diagnostic techniques for microbial diseases.
7. Vaccinology : principle, methods of preparation, administration of vaccines
8. Outbreak investigations & disaster management
9. Biological warfare

PRACTICALS (SKILLS)

BACTERIOLOGY

Must acquire:

1. Care and operation of Microscopes viz. Light, Dark ground, Phase contrast, Inverted, Fluorescent microscopes.
2. Preparation of stains viz. Gram's, Albert's, Ziehl- Neelson and other special stains - performing of staining and interpretation of stained smears.
3. Washing and sterilization of glassware including plugging and packing.
4. Operation of incubator, autoclave, hot air oven, inspissator, distillation plant, filters like Seitz and membrane and sterility tests.
5. Care and maintainance of common laboratory equipments like water bath, centrifuge, refrigerators, incubators etc.
6. Preparation and pouring of liquid and solid media - Nutrient agar, Blood agar, MacConkey agar, sugars, TSI agar, Robertson's cooked meat, Lowenstiein- Jensen's, selective media.
7. Preparation of reagents – oxidase, Kovac, etc.
8. Tests for beta-lactamases including ESBLs.
9. Collection of specimens for Microbiological investigations such as blood, urine, throat swab, rectal swab, stool, pus, OT specimens.
10. Preparation, examination and interpretation of direct smears from clinical specimens,viz. Sputum for AFB – ZN & auramine O, slit smears for *M..leprae,*-ZN stain, conjunctival smear for Chlamydiae – Giemsa/Iodine.
11. Techniques of anaerobiosis – Gaspack system,anaerobic jars-evacuation & filling with H_2, CO_2.
12. Identification of bacteria of medical importance upto species level (except anaerobes – upto generic level)
13. Quantitative analysis of urine by pour plate method and semiquantitative analysis by standard loop test for significant bacteriuria.
14. Plating of clinical specimens on media for isolation, purification identification and quantitation.
15. Tests for motility: hanging drop, Craige's tube, dark ground microscopy for Spirochaetes – Treponema & Leptospira.
16. In-vitro toxigenicity tests – Elek test, Nagler's reaction
17. Special tests – Bile solubility, chick cell agglutination, sheep cell haemolysis, niacin and catalase tests for mycobacterium, satellitism, CAMP test, catalase test and slide agglutination tests, and other as applicable t identification of bacteria upto species level
18. Preparation of antibiotic discs; performance of antimicrobial susceptibility testing by Kirby-Bauer disk diffusion method; estimation of Minimum

19. Skin tests like Mantoux, Lepromin etc.
20. Testing of disinfectants- Phenol coefficient and 'in use' tests.
21. Quality control of media reagents etc. and validation of sterilization procedures.
22. Aseptic practices in laboratory and safety precautions.
23. Disposal of contaminated material like cultures.

MYCOLOGY

Must acquire:

1. Collection of specimens for mycology.
2. Direct examination of specimens by KOH, Gram, Kinyoun's, Giemsa, Lactophenol cotton blue stains.
3. Examination of histopathology slides for fungal infections.
4. Isolation and identification of pathogenic yeasts and moulds and recognition of common laboratory contaminants.
5. Special techniques like Wood's lamp examination, hair baiting, hair perforation, paraffin baiting and slide culture.
6. Maintenance of stock cultures.
7. Animal pathogenecity tests viz. Intracerebral and intraperitoneal inoculation of mice for cryptococcus.

PARASITOLOGY

Must acquire:

1. Examination of faeces for parasitic ova and cysts etc. by direct and concentration methods (salt floatation and formol – ether methods)and complete examination for other cellular features.
2. Egg counting techniques for helminths.
3. Examination of blood for protozoa and helminths by wet mount, thin and thick stained smears.
4. Examination of other specimens for e.g. urine, C.S.F., bone marrow etc. for parasites.
5. Histopathology sections – examination and identification of parasites.
6. Performance of stains – Leishman, Giemsa, Modified Acid Fast, Toluidine Blue O.
7. Identification of common arthropods and other vectors viz. Mosquito, sand fly, ticks, mite and cyclops.
8. Collection of specimens.
9. Preservation of parasites – mounting, fixing, staining etc.

Desirable to acquire:

1. In-vitro culture of parasites like entamoeba, leishmania, P.falciparum.
2. Maintainance of toxoplasma gondii in mice.
3. Preparation of media – NIH, NNN etc.
4. Copro-culture for larva of hook worms.
5. Antigen preparation viz. Entamoeba , Filarial , Hydatid for serological tests like IHA and skin test like Casoni's .
6. Permanent staining techniques like iron haematoxylin

VIROLOGY

Must acquire:

1. Preparation of glassware for tissue culture(washing, sterilization)
2. Preparation of media like Hanks, MEM.
3. Preparation of clinical specimens for isolation of viruses.
4. Serological tests-ELISA and rapid tests for HIV, RPHA for HbsAg, Haemagglutination inhibition for influenza, AGD and

couterimmunoelectrophoresis for detection of viral antigens or antiviral antibodies.
5. Chick embryo techniques- inoculation and harvesting.
6. Handling of mice, rats, guinea pigs, rabbits for collection of blood, pathogenicity test etc.

Desirable to acquire:

1. Preparation of Monkey Kidney Cells (Primary) maintenance of continuous cell lines by subcutures. Preservation of cell cultures.
2. Recognition of CPE in tissue cultures.
3. Performance of haemadsorption, haemagglutination, immunofluorescence, neutralization tests for identification of viruses.

SUGGESTED READING:
BOOKS:

Reference books (Please refer the most recent edition)

1. Topley and Wilson's Microbiology and Microbial infections. 8 volumes 2005, 10th edition
2. Color Atlas and Textbook of Diagnostic Microbiology: Elmer W Koneman -2006, 6th edition
3. Mandell, Douglas and Bennett's Principles and Practice of Infectious Diseases -2004, 6th edition
4. Microbiology and Clinical Practice: Shanson-1999, 3rd edition
5. Immunology: Janis Kuby- 2003.
6. Basic Clinical Immunology.
   Fudenburg, Stites, Caldwell, Weils.
7. Control of Hospital Infection- A practical handbook (most recent edition)-2000, 4th edition
8. Bailey and Scott's Diagnostic Microbiology.
9. Text book of Parasitology.
   Chatterjee K.D.
10. Microbiology in Clinical Practice.
    Shanson D.C.
11. Beaver's Parasitology Textbook

Further Reading

1. Mycology - Rippons
2. Essentials of Immunology- Roitt
3. Virology- Clinical Virology by Rich
4. Gradwohl's Clinical Laboratory Methods and Diagnosis.
5. Biochemical tests for the Identification of Medical Bacteria- MacFaddin JF
6. Manual of Clinical Microbiology- ASM press

Journals

1. Indian Journal of Medical Microbiology
2. Clinical Microbiology Reviews
3. Journal of Clinical Microbiology
4. Journal of Medical Microbiology
5. Journal of AIDS
6. Journal of Hospital Infection
7. Indian Journal of Tuberculosis and Lung Diseases.

8. Indian Journal of Medical Research
9. JAAC
10. Parasitology Today
11. Journal of Infection
12. Infection Control and Hospital Epidemiology
13. Indian Journal of Tuberculosis
14. Journal of Associations of Physicians of India
15. Lancet-Infectious Diseases
16. Emerging Infectious Diseases-online
17. New England Journal of Medicine- online
18. British Medical Journal
19. Scandinavian Journal of Infectious Diseases
20. ICMR Bulletin
21. AIDS Research & Review
22. MMWR
23. Tubercle
24. WHO Bulletin
25. Journal of American Medical Association
26. Paediatric infectious diseases
27. Indian Journal of Leprosy
28. International Journal of Leprosy
29. Immunology
30. American journal of Epidemiology

Important Websites:

1. Center for Disease Control -**www.cdc.gov**
2. World Health Organization- **www.who.int**
3. Infectious Disease Society of America- **www.idsociety.org**
4. United Nations Program on HIV/ AIDS- **www.unaids.org**
5. Johns Hopkins Infectious Diseases- **www.hopkins-id.edu**
6. National Library of medicine- **www.pubmed.com**
7. MD Consult- **www.mdconsult.com**
8. Global Infectious Disease epidemiology network- **www.gideononline.com**
9. National AIDS Control Organization- **www.nacoindia.org**
10. Tuberculosis Research Centre- **www.trc-chennai.org**

AMENDED RULES FOR MGM UNIVERSITY OF HEALTH SCIENCES

"Rules for Examination Scheme Leading To Post Graduate Courses in Medical Faculty"

(Approved by BOE 04/2009 vide resolution no.3 dated: 16.02.2009)

1. **NOMENCLATURE:** Nomenclature of PG courses in the faculty of medicine is given as below.

1.1. **PG COURSES: -M.D.**

i) Doctor of Medicine (General Medicine)
ii) Doctor of Medicine (Pathology)
iii) Doctor of Medicine (Microbiology)
iv) Doctor of Medicine (Pharmacology)
v) Doctor of Medicine (Paediatrics)
vi) Doctor of Medicine (Physiology)
vii) Doctor of Medicine (Anaesthesiology)
viii) Doctor of Medicine (Anatomy)

1.2. **PG COURSES: -M.S.**

i) Master of Surgery (General Surgery)
ii) Master of Surgery (Ophthalmology)
iii) Master of Surgery (Orthopaedics)
iv) Master of Surgery (Obstetrics & Gynaecology.)

1.3. **PG COURSES: -DIPLOMA**

i) P.G. Diploma in Paediatrics (D.C.H.)
ii) P.G. Diploma in Anaesthesialogy (D.A.)
iii) P.G. Diploma in Obstetrics & Gynaecology (D.G.O.)
iv) P.G. Diploma in Orthopaedics (D.Ortho.)
v) P.G. Diploma in Ophthalmology (D.O.)

2. METHOD OF TRAINING :

2.1. The training given with due care to the Post Graduate students in the recognized institutions for the award of various Post Graduate medical degrees/diplomas shall determine the expertise of the specialist medical teachers produced as a result of the educational programme during the period of stay in the institution.

2.2. All candidates joining these Post Graduate training programmes will work as full time residents, during the period of training, attending not less than 80% (Eighty percent) of the training during each calendar year, and given full time responsibility, assignments and participation in all facets of the educational process.

2.3. Every institution undertaking postgraduate training programme shall set up an academic cell or a curriculum committee, under the chairmanship of a senior faculty member, which shall work out the details of the training programme in each specialty in consultation with other department faculty staff and also coordinate and monitor the implementation of these training programmes.

2.4. The training programme shall be updated as and when required. The structured training programme shall be strictly followed to enable the examiners to determine the training undergone by the candidates and the Medical Council of India inspectors to assess the same at the time of inspection.

2.5. Postgraduate students shall maintain a record (log book) of the work carried out by them and the training programme undergone during the period of training including details of procedures surgical operations assisted or done independently (for M.S. candidates).

2.6. The record books shall be checked and assessed by the faculty members imparting the training.

2.7. During the training for degree/diploma to be awarded in clinical disciplines, there shall be proper training in basic medical sciences related to the discipline concerned. During the training for the degree to be awarded in basic medical sciences, there shall be training in applied aspects of the subject; and there shall be training in allied subjects related to the disciplines concerned. In all postgraduate training programmes, both clinical and basic medical sciences, emphasis is to be laid on preventive and social aspects and emergency care.

2.8. Facilities for autopsies, biopsies, cytopsies, endoscopic and imaging etc. also be made available for training purposes.

2.9. The postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.

2.10. Training in medical audit, management, health economics, health information system, basics of statistics, exposure to human behaviour studies, knowledge of pharmaco- economics and introduction to non-linear mathematics shall be imparted to the postgraduate students.

2.11. Implementation of training programmes for the award of various postgraduate degrees and diplomas shall include the following: -

(a) Doctor of Medicine (M.D.)/Master of Surgery (M.S.) -

(i) Basic Medical Sciences: Lectures, seminars, journal clubs, group discussions, participation in laboratory and experimental work, and involvement in research studies in the concerned speciality and exposure to the applied aspects of the subject relevant to clinical specialities.

(ii) Clinical disciplines: In service training, with the students being given graded responsibility in the management and treatment of patients entrusted to their care; participation in Seminars, Journal clubs, group discussions, clinical meetings, grand rounds, and clinicopathological conferences; practical training in diagnosis, medical and surgical treatment; training in the basic medical sciences, as well as in allied clinical specialities.

(b) Diploma: -
In-Service training, with students being given graded clinical responsibility; lectures, seminars, journal clubs, group discussions and participation in clinical and clinico pathological conferences, practical training to manage independently common problems in the speciality; and training in the basic medical sciences.

3. PERIOD OF TRAINING:

2.1. The period of training for M.D./M.S. shall be three years including examination period provided that, in case of student having two years recognized PG Diploma course in the same subject the period of training shall be two years.

2.2. Period of training for PG Diploma Course shall be two years viz. four academic terms including examination period.

4. SCHEME OF EXAMINATION AND PASSING HEADS:

4.1. The university shall conduct not more than two examinations per year for any subject with an interval of not more than six months between the two examinations. For repeater students, the requirement for attending the department regularly shall be optional.

4.2. The university theory examination shall be conducted as per the following schedule and should be concluded with 15-20 days from commencement date of Exam.

4.3. In summer – the commencement of all examination will be from 1st June of every year.

4.4. In winter - the commencement of all examination will be from 2nd January of every year.

4.5. While preparing a detailed schedule of examination there shall be one day gap between two papers.

4.6. The practical examination will be concluded within 10 days after completion of theory examination.

4.7. The above schedule be followed strictly except for certain unavoidable circumstances such as natural calamity, disturbed law and order situation, disturbance attributed to agitations etc wherein, Director – Examination is authorized to issue such notification of change in schedule subject to approval of Hon'ble Vice Chancellor. The decision of Hon'ble Vice Chancellor will be final in case of any change from above schedule is desired.

4.8. University shall conduct examination at the end of three academic years for M.D, M.S., and at the end of two academic years for diploma courses. University shall conduct not more than two examinations in a year, with an interval of not less than four and not more than six months between the two examinations.

4.9. M.D/M.S. examination in any subject shall consist of thesis, theory papers and clinical/practical and oral examination. Examination in any subject shall consist of theory and clinical/practical and oral examination.

4.10. Postgraduate diploma in any subject shall consist of theory, practical/clinical and oral examination.

5. **Criteria of Passing:** - There will be two heads of passing:

5.1. Four/Three papers of theory shall form one head of passing

5.2. Clinical, oral, and practical taken together shall form the second head of passing. A candidate must pass in both the heads that is the whole examination at one and the same attempt. A candidate passing in one head and failing to pass in the other head will be declared fail and shall not be entitled to any exemption in the subsequent attempt.

6. **To pass a candidate must obtain:** -

6.1. 50% of marks in theory examination in all papers, taken together but minimum 40% marks in each paper.

6.2. 50% of marks in clinical, oral and practical taken together but minimum 40% marks in each (clinical, oral & practical)

7. **SCHEME OF THEORY EXAMINATION:**

7.1. There shall be four theory papers at M.D./M.S. examinations, of 100 marks each.

7.2. There shall be three theory papers in Diploma examinations, of 100 marks each.

7.3. Each Paper shall be of 3 hours duration.

PAPER WISE DISTRIBUTION OF TOPIC IS AS GIVEN BELOW.

1.1. PG COURSES: - M.D.

SN	COURSE TITLE	SUBJECT NAME	PAPER NO. & TOPICS	
i)	M.D.	GENERAL MEDICINE	I.	Basic Sciences in General Medicine, Genetics, and Nutrition.
			II.	Cardio-Vascular system, Respiratory System Nephrology, Rheumatology, Immunology Infectious diseases, Dermatology.
			III.	Gastroenterology, Nervous system, Psychiatry, Hematology, Oncology, Endocrinology, Miscellaneous.
			IV.	Recent Advances in General Medicine.
ii)	M.D.	PATHOLOGY	I.	General Pathology including General Neoplasia, Immunopathology and cytopathology.
			II.	Systemic Pathology including Systemic Neoplasia.
			III.	Haematology, Transfusion medicine, Immunohaematology including Recent Advances.
			IV.	Clinical Pathology, Chemical Pathology, Pathology of infectious diseases, Recent Advances.
iii)	M.D.	MICROBIOLOGY	I.	General Microbiology & Immunology
			II.	Systemic Bacteriology,
			III.	Mycology & Virology
			IV.	Parasitology & Recent Advances
iv)	M.D.	PHARMACOLOGY	I.	Screening and evaluation of drugs (Animal and Clinical), Clinical Pharmacology, General Pharmacology, Biostatistics.
			II.	Systemic Pharmacology
			III.	Applied - Pharmacology including Therapeutics, Miscellaneous topics (GIT, RS. Autocolds, vitamins, skin, ocular Pharmacology, Immunopharmacology, chelating agents, Drugs and Pregnancy)
			IV.	Recent Advances in Pharmacology

v)	M.D.	PAEDIATRICS	I.	Basic Medical Sciences as applied paediatrics
			II.	Neonatology, Community and preventive Paediatrics
			III.	Systemic diseases in Paediatrics: - Respiratory Cardiology, C.V.S., Neurology, Haematology, Nephrology, Rheumatology, Immunology, Metabolic, Liver Gastroenterology, Growth and Development, Congenital and acquired disorders Endocrine System and Miscellaneous diseases.
			IV.	Recent advances in Paediatrics
vi)	M.D.	PHYSIOLOGY	I.	General physiology, Cellular physiology, Applied Biochemistry, Biophysics and Biostatistics, History of Physiology, Comparative Physiology
			II.	Nerve muscle, Blood, Cardiovascular system, Respiratory System, Gastrointestinal system, Renal Physiology.
			III.	Endocrine, special senses, Nervous system, Reproductive system
			IV.	Exercise Physiology, Nutrition, recent advances, Medical education technology, stress relaxation, medical ethics & applied physiology.
vii)	M.D.	ANAESTHESIOLOGY	I.	Basic Sciences related to Anaesthesia (History, Anatomy, Physiology, Pharmacology, Pathology, Physics, Instrument & Equipments, etc.)
			II.	Theory & Practice of Anaesthesia
			III.	Clinical sciences like Medicine & Surgery Related to Anaesthesia
			IV.	Recent Advances in Anaesthesia.

	M.D	ANATOMY	
[redacted]			
			III.
			IV.
[redacted]			
i)			
			II. General Surgery Including Clinical Surgery
			III. General Surgery Including Subspecialities
			embryology and clinical anatomy of Head, Face, Neck and Thorax.
			II Gross anatomy including corresponding microanatomy and Embryology and clinical anatomy of Abdomen, Pelvis and Perineum and superior and inferior extremity.
ii)			I. Anatomy, Physiology and optics of the eye
			II. Ophthalmic Medicine and Surgery.
			Neuroanatomy including corresponding microanatomy, embryology and clinical anatomy.
			III. Ophthalmology in relation to medicine
			IV. Genetics, Radiological Anatomy, Sectional Anatomy, Clinical Anatomy and Recent Advances.
iii)			I.

1.2. PG COURSES: - M.S

Sr. No		SUBJECT NAME	PAPER NO. & TOPICS
	M.S	GENERAL SURGERY	I. Basic Sciences Orthopaedic Diseases Recent Advances
		OBSTETRICS AND GYNAECOLOGY	nces I IV. Recent Advances
	M.S	OPHTHALMOLOGY	Recent Advances in Ob/Gy

PG COURSES: - DIPLOMA

Sr. No.	Course	Subject Name	Paper No. & Topics
i)	D.C.H.	DIPLOMA IN PAEDIATRIC	I. Basic medical as applied to paediatrics. II. Neonatology, social and preventive Paediatric. III. Systemic disease in Paediatrics Respiratory cardiology, CVS, Neurology, Haematology, Nephrology, Rheumatology, Immunology, Gastroenterology, growth and development. Congenital & acquired disorder of Eye care, Nose, Throat and joints, Endocrine system and miscellaneous diseases.
ii)	D.A.	DIPLOMA IN ANAESTHESIALOGY	I. Basic Sciences as related to Anaesthesia (History, Anatomy, Physiology, Pharmacology, Pathology, Physics, Instrument & Equipments, etc.) II. Theory & Practice of Anaesthesia III. Clinical Sciences like Medicine & Surgery related to Anaesthesia
iii)	D.G.O.	DIPLOMA IN OBST. & GYNAECOLOGY	I. Obstetrics including the diseases of newborn. II. Gynaecology, Gynaecological Pathology & Operative Gynaecology. III. Medical and surgical diseases complicating obstetrics & Gynaecology, social obstetrics & Gynaecology including M.CH. & F. W.
iv)	D. ORTHO	DIPLOMA IN ORTHOPAEDICS	I. Anatomy, Physiology and Pathology as applicable to Orthopaedics. II. Traumatology and general Surgery. III. General Orthopaedics
v)	D.O.	DIPLOMA IN OPHTHALMOLOGY	I. Anatomy, Physiology and Optics. II. Ophthalmic Medicine and surgery. III. Ophthalmology related to systemic diseases and new innovations and techniques in Ophthalmology.

8. SCHEME OF PRACTICAL EXAMINATION

8.1. Clinical examination for the subjects in clinical sciences shall be conducted to test the knowledge and competence of the candidates for undertaking independent work as a specialist/teacher, for which candidate shall examine a minimum two long and two short cases.

8.2. Practical examination for the subjects in Basic Medical Sciences shall be conducted to test the knowledge and competence of the candidate for making valid and relevant observations based on the experimental/Laboratory studies and his ability to perform such studies as are relevant to his subjects.

8.3. The oral examination shall be thorough and shall aim at assessing the candidate's knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the Specialty, which will form a part of the examination.

9. NUMBER OF CANDIDATES:

9.1. The maximum number of candidates to be examined in clinical/Practical and viva on any day shall not exceed 8 for M.D./M.S. degree, and 8 for diploma examinations.

9.2. All the 4 Examiners will sit together to examine the candidate for long cases. At least one internal & one external examiner would assess the candidate for short cases. All 4 examiners will conduct viva voce and practical if any.

1.1 PG Course - MD

i) M.D. (GENERAL MEDICINE)

PRACTICAL SCHEME: -

Sr. No.	Heads	Description	Marks	Preparation time	Assessment time
1	Long Cases (one)	1 Neurology case	150	45 min each	20 min
2	Short Cases (Two)	Of systems other than the system of long cases	75 each = 150	15 min each	10 min
3	Viva (Four Tables)	Radiology (X-Rays, CT, MR)	25		5 min
		ECG/Lab investigations	25		5 min
		Therapeutics	25		5 min
		Emergencies	25		5 min
		TOTAL PRACTICAL MARKS	400		

ii) M.D. (PATHOLOGY)

PRACTICAL SCHEME: -

SN.	Exercises	Maximum Marks
1	Histopathology slides (25 slides, 5 marks each)	125
2	Clinical case	75
3	Haematology & Cytology slides (15 slides, 5 marks each)	75
4	Grossing	35
5	Autopsy	20
6	Histotechniques	15
7	Serology	15
8	Viva Voce	40
Total Marks		400 Marks

Day 1: -

i) Clinical case will include

Urine examination	15
Biochemical test-1	15
Haemogram	15
Special haematology test-1	15
Case discussion	15
Autopsy/reconstructed autopsy	20
Gross/Morbid Anatomy	30
Haematology and Cytology Slides -(5 x 15)	75
(6 & 9 slides respectively, five minutes duration for each slide.)	
Total Marks	200 marks

Day 2: -

i) Histopathology slides-25 slides (The candidate should be assessed so as to evaluate performance in identifying common as well as rare lesions).	125
Five minutes duration for each slide.	
ii) Serology technique (Including routine serology and Blood Bank techniques)	15
iii) Histopathological Techniques	
1) Block cutting and staining H & E	10
2) Special stain 1	10
iv) Viva Voce: -	
Student will be examined by all the Examiners together, for	
Subject knowledge, comprehension, analytical approach,	40
expression and interpretation of data, and will include	
discussion related to dissertation.	
Total Marks	200 marks

iii) M.D. (MICROBIOLOGY) PRACTICAL SCHEME: -

SN.	EXERCISE/VIVA	MAXIMUM MARK
	A] LONG EXERCISE BACTERIOLOGY	50
	B] SHORT EXERCISES	
1	Bacteriology short exercise	30
2	Mycobacteriology/special staining	10
3	Exercise in Virology	30
4	Exercise in Immunology	30
5	Exercise in Mycology	30
6	Exercise in Parasitology	30
7	Serology/Exercise	30
8	Identification of slides	30
9	Microteaching/Pedagogy	20
	Total of Short-exercises (B)	300
	C] ORAL (VIVA VOCE)	100
	TOTAL of A, B, C	400

Day 1	Day 2	Day 3
Long exercise Bacteriology	Bacteriology Long exercise (contd.)	Bacteriology Long exercise
Bacteriology Short Exercise	Bacteriological Short Exercise (conclude)	Identification of slides Pedagogy
Mycobacteriology	Exercise in Mycology	Oral (Viva -voce)
Exercise in Virology	Exercise in Parasitology Exercise in Immunology	Including on Dissertation
Mycology Exercise	Serology Exercise	

PG Courses- (3 yrs. duration)
Academic Calender and Examination Pattern.
Students admitted in May 2007

1st yr – From 1st JUNE 2007 to 31st MAY 2008 – 1st yr Internal exam May 2008
2nd yr- From 1st June 2008 to 31st May 2009 – 2nd yr Internal exam May 2009
3rd yr – From 1st June 2009 to 31st May 2010 - Submission of Thesis – Dec. – 2009.
Prelim Exam March 2010 .
Preparation leave April / May 2010
University exam June 2010

PG Programme –

Sectional postings according to particular Departments
PG activities like Journal club , Seminar , case presentations.
Work on Thesis :- Selection of topic , submission of synopsis to Ethical committee and University. Presentation of synopsis to Vice Chancellor, Dean, Registrar , Ethical committee members, Clearance from Ethical Committee & University. Carry out the thesis work. Submission to University 06 months before exams.

Duties of PG student –

- Maintenance of work performed in PG Students Record book & Remark of Sectional Heads.
- Maintenance of Emergency duties and work performed.
- Internal Exam performance & Calculation of Internal assessment.
- Obtain Sectional postings completion certificate.
- No dues certificate from various sections & departments, needed at the time of Thesis Submission and submission of University Exam form.
- Departmental Teaching duties and its record.
- Record of Conferences attended and Papers presented.

'oint No. 6 should read as follows:-

5.1 Read 50% of marks in theory examination in all papers, taken together but minimum 40% marks in each paper

5.2 Read 50% of marks in clinical ,oral and practical taken together but minimum 40% marks in each { clinical ,oral & practical}

?oint No. 7

?attern of question paper is amended as follows:-

Q.No.	Nature of Questions	Division of Marks	Total Marks
1	Long questions	01 x 25	25 Marks
2	SAQs attempt any 10 out of 12	10 x 05	50 Marks
3.	Long questions	01 x 25	25 Marks
		Total	100 Marks

In addition to above following suggestions were also made by the members for perusal of academic council:

G Exam Pattern. . Internal exams & University exams.
Internal exams – Theory & Practical exams.

Internal exam – At the end of 1st yr	- Marks Reduced to 25
Internal exam -- At the end of2nd yr	- Marks Reduced to 25
relim exam - At the end of5th term	- Marks Reduced to 25
tudents application in each section	- Marks Reduced to 15
tudents application in teaching activities	- Marks Reduced to 10
Total	100

otal marks obtained out of 100 will be added in Final exam.
Details of Internal exam marks & portion for the exam, Theory , Practical and viva to be ecided & informed to Students by HOD)

University Exam -- Evaluation on basis of Theory , Practical and viva examination + nternal assessment. Contents of Theory & Practical exam will differ according to various ubjects.

Broad outline

1) It was decided in previous meeting ot follow curriculum for MD similar to MUHS for each subject.
2) Suggest Theory exam pattern:- There will be 4 paper of 100 marks each. 3hrs duration.

In each paper – 3 main Questions
2 Long answer questions
1 question with subdivisions
Recent advances can be asked in any paper

Evaluation Process—

1. Question to be evaluated on 0-10 grade scale
2. Total is converted into out of 100

Final Calculations:-

Theory 4 papers X 100marks	400marks
Practicals exam total marks	200 marks
Viva	100 marks
Internal Assessment	100 marks
	800 marks

If no provision for Internal Assessment

Theory	400 marks
Practicals	300 marks
Viva	100 Marks
Total	800 marks)

Minimum passing 50% in Aggregate in Theory & Practical Separately. In each paper, minimum 40% scoring in necessary.

Additional Note - If no provision for Internal assessment marks in final exam mark sheet, the the performance in Internal exams can be used for qualification to appear for Uni exam. Candidate must obtain minimum passing marks as above.

MGM INSTITUTE OF HEALTH SCIENCES, NAVI MUMBAI

MARKLIST FOR PRACTICAL AND VIVA-VOCE EXAMINATION

EXAM CENTRE:_____ **COURSE / EXAM : PG –**

DATE OF EXAMINATION:_____ **EXAMINATION FOR: M.D. (MICROBIOLOGY)**

Seat No.	1 LONG EXERCISE BACTERIOLOGY	2 SHORT EXERCISES										3 ORAL			Grant Total 400 Marks (1+2+3)
		1	2	3	4	5	6	7	8	9	Total	viva voce	Dissertation Viva	Total	
	50 marks	30 marks	10 marks	30 marks	30 marks	30 marks	30 marks	30 marks	30 marks	30 marks	300	90	10	100	

NAME OF EXAMINER	COLLEGE	SIGNATURE WITH DATE
1.		
2.		
3.		
4.		

PAPER WISE DISTRIBUTION OF TOPIC IS AS GIVEN BELOW.

1.1. PG COURSES: - M.D.

SN	COURSE TITLE	SUBJECT NAME	PAPER NO. & TOPICS
i)	M.D.	GENERAL MEDICINE	I. Basic Sciences in General Medicine, Genetics, and Nutrition.
			II. Cardio-Vascular system, Respiratory System Nephrology, Rheumatology, Immunology, Infectious diseases, Dermatology.
			III. Gastroenterology, Nervous system, Psychiatry, Hematology, Oncology, Endocrinology, Miscellaneous.
			IV. Recent Advances in General Medicine.
ii)	M.D.	PATHOLOGY	I. General Pathology including General Neoplasia, Immunopathology and cytopathology.
			II. Systemic Pathology including Systemic Neoplasia.
			III. Haematology, Transfusion medicine, Immunohaematology including Recent Advances.
			IV. Clinical Pathology, Chemical Pathology, Pathology of infectious diseases, Recent Advances.
iii)	M.D.	MICROBIOLOGY	I. General Microbiology & Immunology
			II. Systemic Bacteriology,
			III. Mycology & Virology
			IV. Parasitology & Recent Advances
iv)	M.D.	PHARMACOLOGY	I. Screening and evaluation of drugs (Animal and Clinical), Clinical Pharmacology, General Pharmacology, Biostatistics.
			II. Systemic Pharmacology
			III. Applied Pharmacology including Therapeutics, Miscellaneous topics (GIT, RS. Autocolds, vitamins, skin, ocular Pharmacology, Immunopharmacology, chelating agents, Drugs and Pregnancy)
			IV. Recent Advances in Pharmacology

IN PURSUIT OF EXCELLENCE

MGM DEEMED UNIVERSITY OF HEALTH SCIENCES

Constituent Colleges

Navi Mumbai

M.G.M. Medical College
M.G.M School of Biomedical Science
M.G.M School of Physiotherapy
M.G.M New Bombay College of Nursing
M.G.M College of Nursing

Aurangabad

M.G.M. Medical College
M.G.M School of Biomedical Science
M.G.M School of Physiotherapy
M.G.M College of Nursing

MAHATMA GANDHI MISSION

AURANGABAD

- MGM's Jawaharlal Nehru Engineering College
- MGM's Institute of Management
- MGM's Mother Teresa College of Nursing
- MGM's Mother Teresa Institute of Nursing Education
- MGM's College of Journalism & Media Science
- MGM's Medical Center & Research Institute
- MGM's College of Fine Arts
- MGM's Dr. D. Y. Pathrikar College of Comp. Sc. & Tech.
- MGM's Hospital & Research Center
- MGM's College of Agricultural Bio-Technology
- MGM's Dept. of Bio-Technology & Bio-informaties.
- MGM's Inst. of Hotel Management & Catering Tech.
- MGM's Institute of Indian & foreign Languages & Comm.
- MGM's College of Physiotherapy
- MGM's Hospital, Ajabnagar
- MGM's Sangeet Academy (Mahagami)
- MGM's Institute Naturopathy & Yoga
- MGM's Sports Club & Stadium
- MGM's Institute of Vocational Courses
- MGM's Horticulture
- MGM's Health Care Management
- MGM's Junior College of Education (Eng. & Mar.)
- MGM's Sanskar Vidyalaya (Pri. & Sec. - Mar.)
- MGM's Clover Dale School (Pri. & Sec. - Eng.)
- MGM's First Steps School (Pre-Primary - English)
- MGM's Sanskar Vidyalaya (Pre-Priamary - Marathi)
- MGM's School of Biomedical Sciences

NAVI MUMBAI

- MGM's College of Engineering & Technology
- MGM's Institute of Management Studies & Research
- MGM's Dental College & Hospital
- MGM's College of Physiotherapy
- MGM's College of Media Science
- MGM's Institute of Research
- MGM's New Bombay Hospital, Vashi
- MGM's Hospital, CBD
- MGM's Hospital, Kamothe
- MGM's Hospital, Kalamboli
- MGM's Infotech & Research Centre
- MGM's Pre-Primary School (English & Marathi)
- MGM's Primary & Secondatry School (Eng. & Mar.)
- MGM's Junior College Science
- MGM's Junior College of Vocational Courses
- MGM's Florence Nightingale Inst. Nursing Edu.
- MGM's College of Nursing
- MGM's College of Law

NANDED

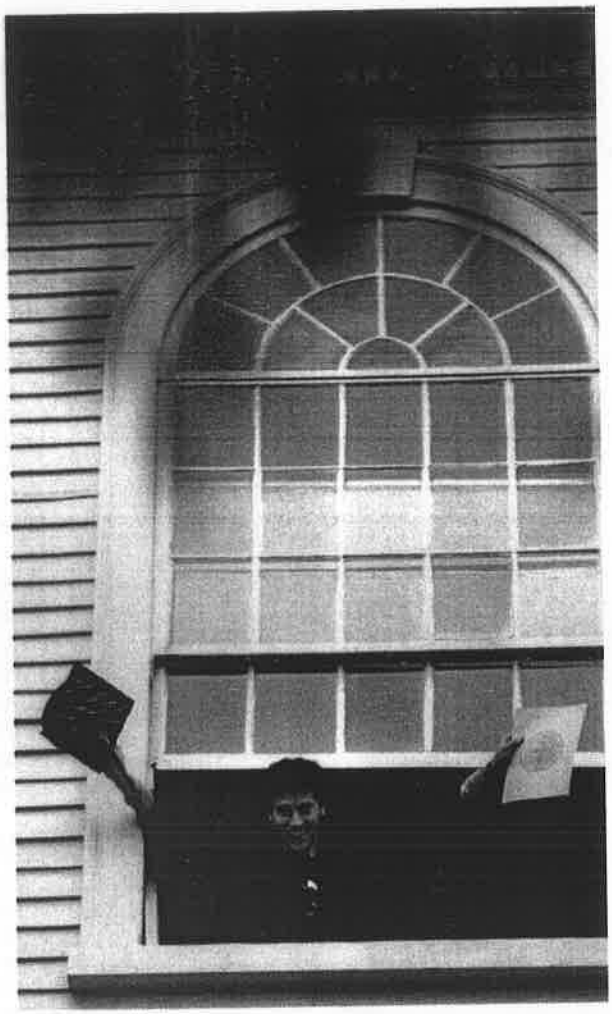
- MGM's College of Engineering
- MGM's College of Fine Arts
- MGM's College of Computer Science
- MGM's College of Journalism & Media Science
- MGM's Centre for Astronomy & Space Tech.
- MGM's College of Library & Information Science

PARBHANI

- MGM's College of Computer Science

NOIDA (U.P.)

- MGM's College of Engineering & Technology



MGM University of Health Sciences
(Education - Health Services - Research)
A Mission started, nurtured and Managed
by Professional Doctors, Scientists Engineers...

MGM INSTITUTE OF HEALTH SCIENCES
(Deemed University u/s 3 of UGC Act, 1956)

Post Box -6, MGM Educational Complex, Sector-18,
Kamothe, Navi Mumbai – 410209
Ph : - 022-27422471, 65168127, 65138121 Fax : 022-27420320
E-mail : mgmuniversity@mgmuhs.com
Website: www.mgmuhs.com

Resolution passed in BOM – 48/2017, dated 24/01/2017

Resolution No. 5.25: Resolved to institute 6 monthly progress Report for PG Students of all Courses from the batches admitted in 2016-17. **[Annexure-XVII of BOM-48/2017]**

ANNEXURE - XVII

Mahatma Gandhi Mission's Medical College and Hospital
Navi Mumbai

Six monthly Progress Report for Postgraduate Students

PART A

Name of the PG student: .....

Department: .....

Admitted in (Month and Year): .....

Name of the PG guide: .....

Report for the period: ..... to .....

Attendance: ..... days (_____%)

PART B

Grading as per performance

Grade	Percentage
A	80% and above
B	65% to 79%
C	50% to 64%
D	Below 50%

1. OPD work:
2. Ward work:
3. Lab work:
4. OT work:
5. ICU work:
6. Teaching assignments:

PART C

Progress of Thesis

PART D

Activities from serial No. 1 to 5 should be rated on a scale of 0 to 10.

1. Case Presentations

Sr. No.	Topic	Date	Guide	Marks

2. Microteaching

Sr. No.	Topic	Date	Guide	Marks

3. Recent Advances

Sr. No.	Topic	Date	Guide	Marks

4. Seminars

Sr. No.	Topic	Date	Guide	Marks

5. Journal Clubs

Sr. No.	Journal	Title of Paper	Date	Guide	Marks

6. Marks obtained in tests

Sr. No.	Date	Theory / Practical	Marks obtained

7. Any other academic activity conducted:

.....

.....

.....

.....

.....

PART E

1. Papers presented

Sr. No.	Title of Paper	Authors	Event	Date

2. Posters presented

Sr. No.	Title of Poster	Authors	Event	Date

3. Publications

(Note: Mention only those publications that are published or are accepted for publication during the said period only)

Sr. No.	Title of Paper	Authors	Journal	Year/Vol/ Issue	Page Nos	Indexed/ Non-Indexed	Status

Certificate by the PG Guide

This is to certify that Dr. _____ has an attendance of _____% , during the period _____ to _____.
His /Her performance during the said period has been satisfactory/ average / unsatisfactory.

Overall Grading: _____

Date: _____

Name and Signature of PG guide:

Certificate by the Head of Department

This is to certify that the performance of Dr _____ during the period _____to_____ has been satisfactory/ average / unsatisfactory.

Overall Grading: _____

Date: _____

Name and Signature of HOD:

Final Remarks

Satisfactory / Average / Unsatisfactory

Director (Academics) Dean

Date:

Resolution No. 1.3.8.11 of BOM-51/2017: Resolved to approve the topics to be included under Bioethics in UG. [Annexure-IX]

Bioethics Topics for UG/PG

For Post-graduates(MD Microbiology):

1. Universal principles
2. Sterilization techniques
3. Biosafety and Biohazard
4. Healthy Gene
5. Outbreak report
6. Drug resistance minimization
7. Environmental ethics

Resolution No. 1.3.8.5 of BOM-51/2017: Resolved to approve subject wise topics for PG teaching (Microbiology, Pathology, Pharmacology, FMT). [Annexure-V]

PG teaching topics in Microbiology

Sr Nos	Topics	Sections
1.	Historical aspects of Microbiology	General Microbiology
2.	Structure of bacteria	General Microbiology
3.	Bacterial growth, nutrition metabolism	General Microbiology
4.	Microscopes	General Microbiology
5.	Disinfection	General Microbiology
6.	Culture methods	General Microbiology
7.	Bacterial genetics and mutation	General Microbiology
8.	Bacterial gene transfer	General Microbiology
9.	Infection	General Microbiology
10.	Immunity	Immunology
11.	Immunoglobulins	Immunology
12.	Precipitation	Immunology
13.	Agglutination	Immunology
14.	ELISA	Immunology
15.	Complement	Immunology
16.	Anaphylaxis	Immunology
17.	Autoimmunity	Immunology
18.	Tumour immunity	Immunology
19.	Transplantation immunity	Immunology
20.	MRSA	Systemic Bacteriology
21.	Streptococcal infections	Systemic Bacteriology
22.	Gas gangrene	Systemic Bacteriology
23.	Salmonellosis	Systemic Bacteriology
24.	Leptospirosis	Systemic Bacteriology
25.	Rickettial diseases	Systemic Bacteriology
26.	PUO	Clinical Microbiology
27.	Diarrheoal diseases	Clinical Microbiology
28.	STDs	Clinical Microbiology
29.	UTI	Clinical Microbiology
30.	Superficial Mycosis	Mycology
31.	Deep mycosis	Mycology
32.	Opportunistic mycosis	Mycology
33.	Hepatitis B	Virology
34.	Enteroviruses	Virology
35	Retroviruse	Virology
36.	Oncogenic viruses	Virology
37.	Arboviruses	Virology
38.	Malaria	Parasitology
39	Toxoplasmosis	Parasitology
40.	Lymphatic filariasis	Parasitology
41.	Tapeworm and Cysticercosis	Parasitology
42.	Leishmaniasis	Parasitology
43.	Free living amoebae	Parasitology
44.	Healthy gene	Bioethics
45.	Universal principles	Bioethics
46.	Outbreak report	Bioethics

Item 10 & 11

47.	Drug resistance minimization	Bioethics
48.	Sterilization Techniques	Bioethics
49	Biosafety and Biohazard	Bioethics
50.	Environmental ethics	Bioethics

List of Topics for PG Teaching (Pharmacology)

1- Recent advances in treatment of hypertension	2hrs
2- Recent advances in treatment of Congestive Cardiac Failure	2hrs
3-Newer trend in Pharmacotherapy ofAngina Pectoris	2hrs
4-Treatment of Arrhythmias	2hrs
5-Drug affecting blood coagulation	2hrs
6- Advances in Treatment of Shock	2hrs
7-Central neurotransmitters	1hr
8- Treatment of Parkinsonian disease	2hrs
9- Pharmacotherapy of Alzheimer's disease	2hrs
T/T of convulsive disorders	2hrs
10- Newer antidepressants	1hrs
11- Pharmacotherapy of pain	2hrs
12- Pharmacotherapy of Migraine	1 hr
13- T/T of skeletal muscle dysfunction	2hrs
14- Advances in Insulin	1hrs
15- Recent advances in Pharmacotherapy of diabetes mellitus	2hrs
16-oral contraceptives	2hrs
17-Corticosteroids	2hrs
18-Advances in treatment of Osteoporosis	2hrs
19-Drugs acting on Uterus	2hrs
20-Advances in treatment of bronchial asthma	2hrs
21-Occular Pharmacology	2hrs
22- Pharmacotherapy of peptic ulcer	2hrs
23- Pharmacology of antiemetic drugs	1hr
24- Immunomodulaters	2hrs

9-2-12/1/1

Resolution No. 1.3.7.11 (i) of BOM-51/2017: Resolved that the following Bioethics topics in PG Curriculum are to be included for PG students of all specialization and a sensitization of these topics can be done during PG Induction programme:

- Concept of Autonomy
- Informed Consent
- Confidentiality
- Communication Skills
- Patient rights
- Withholding / Withdrawing life-saving treatment
- Palliative Care
- Issues related to Organ Transplantation
- Surgical Research and Surgical Innovation
- Hospital Ethics Committee
- Doctor-Patient relationship

Resolution No. 1.3.23 of BOM-51/2017: Resolved to implement a Structured Induction programme (07 days) for PG students. [Annexure-XLIV]

MGM INSTITUTE OF HEALTH SCIENCES
Navi Mumbai

Induction Program for newly admitted Postgraduate students

Day 1	◦ Address by Dean, Medical Suptd, Director (Academics) ◦ Pre-test ◦ Communication Skills ◦ Universal Safety Precautions ◦ Biomedical Waste Management ◦ Infection Control Policy
Day 2	◦ Emergency services ◦ Laboratory services ◦ Blood Bank services ◦ Medicolegal issues ◦ Prescription writing ◦ Adverse Drug Reaction ◦ Handling surgical specimens
Day 3	◦ Principles of Ethics ◦ Professionalism ◦ Research Ethics ◦ Informed Consent ◦ Confidentiality ◦ Doctor-Patient relationship
Day 4	◦ Research Methodology
Day 5	◦ Synopsis writing
Day 6	◦ Dissertation writing ◦ Statistics
Day 7	◦ ATLS ◦ Post-test

The Induction Program will be conducted in the first week of June.
Timing: 9.30 am to 3.30 pm

(Prof. Dr. Siddharth P. Dubhashi)
Director (Academics)

Resolution No. 3.6.6 of BOM-52/2018: Resolved to accept posting schedule of MD students in allied department [Annexure-VII]

Schedule of Allied Posting for Post graduates

Microbiology

Sr no.	Mandatory Postings	Duration
1.	Hematology and Clinical Pathology	1 month
2.	Transfusion medicine	1month
3.	Biochemistry	1month
4.	RNTCP	2 months
5.	CSSD (Central Sterilization Supply Department)	1 month
	TOTAL	**6 months**

Resolution No. 4.5.4.2 of BOM-55/2018: Resolved to have 10 short notes out of 11 (10 marks each) in all the papers in university examination for PG courses including superspeciality. To be implemented from batch appearing in April/May 2019 examination onwards for MD/MS/Diploma and August/September 2019 examination onwards for superspeciality.