

Curriculum for MS Degree in Ophthalmology



IN PURSUIT OF EXCELLENCE



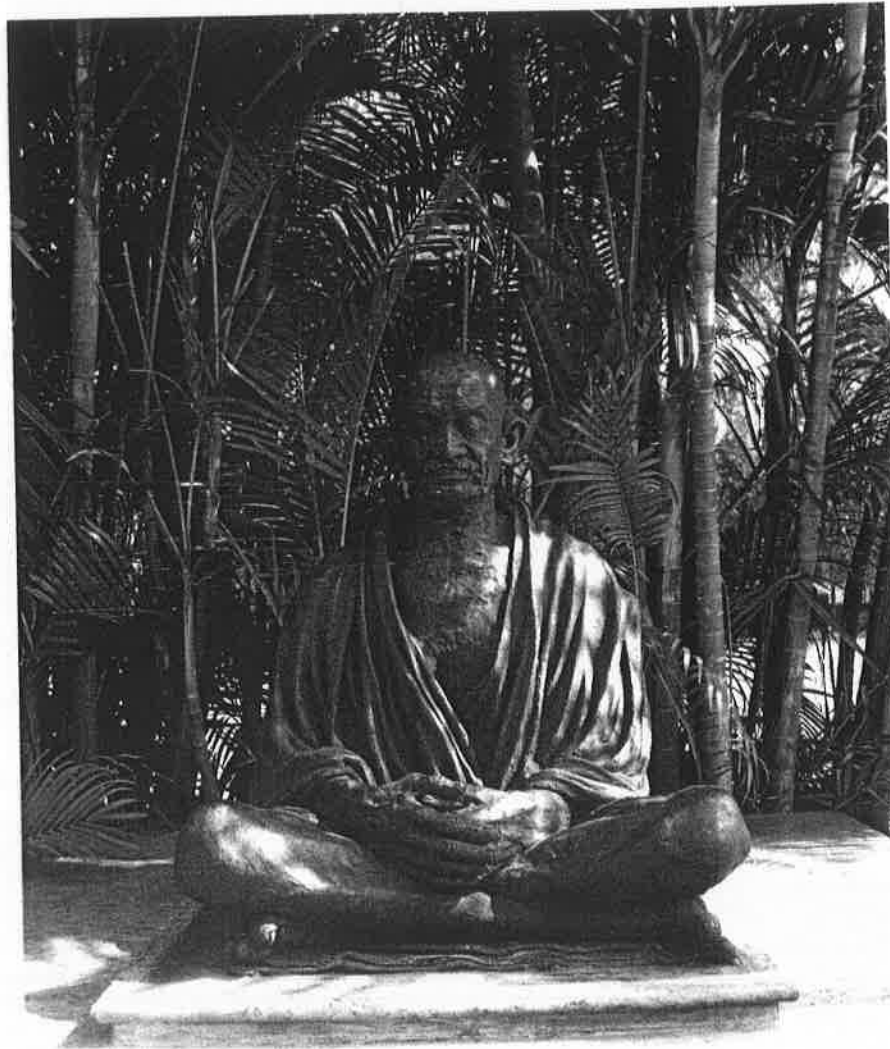
MGM INSTITUTE OF HEALTH SCIENCES

(Deemed University Established u/s 3 of UGC Act, 1956)

Navi Mumbai - 410 209


[www. mgmuhs.com](http://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.

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Chancellor's Message



It is my pleasure to welcome you to join constituent colleges of Mahatma Gandhi Mission'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 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)

MS (OPHTHALMOLOGY)

Objectives:-

1. Posses the basic knowledge of the structure, function and development of the human body as related to ophthalmology
2. Clinical knowledge should be such as to be able to practice and handle most day to day problems independently
3. Candidate should be able to integrate the preventive and promotive methods with curative and rehabilitative measures in treatment of disease
4. Should practice ophthalmology at the door step of community
5. Should be able to plan educational programmes in ophthalmology
6. Should be able to identify a problem for research purposes, plan a rational approach to its solution and critically evaluate his date in the light of existing knowledge

POSTGRADUATE COURSE (M.S.) IN OPHTHALMOLOGY

Divided into two parts:

1. BASIC
2. CLINICAL

I.BASIC

ANATOMY

- Orbit And Adnexa
- Ocular anatomy
- Cranial cavity
- CNS

PHYSIOLOGY

- Vision-visual acuity, accommodation, pupillary reflexes, light and dark adaptation, colour vision, electrophysiology
- Tear film, aqueous and vitreous
- Visual fields
- Eye movements
- Stereopsis

GENETICS

MOLECULAR AND CELL BIOLOGY

RECEPTOR PHYSIOLOGY

RETINAL NEUROCHEMISTRY

PHARMACOLOGY

- Cholinergic and adrenergic systems
- Drug control of IOP
- Serotonins

- Histamine
- Anti-inflammatory agents
- Local anesthetics
- Immunosuppressants
- Analgesics
- Mechanism of drug toxicity and drugs which specifically cause ocular toxicity

MICROBIOLOGY

- Bacteria
- Viruses
- HIV and AIDS
- Fungi
- Others- Toxoplasmosis, Chlamydia, Acanthamoeba, Helminthes

PATHOLOGY

- Eyelid tumors
- Tumors of conjunctiva and cornea
- Uveal tumors
- Retinoblastoma
- Metastasis in eye and orbit

OPTICS

Optics and refraction

Optical principles of refractive surgery

II.Clinical:

- Trauma and emergency ophthalmology
- Disorders of lids, lacrimal drainage apparatus, orbit and oculoplasty
- External eye disease, sclera, cornea and anterior uvea
- Optics and refraction, contact lens and low vision aids
- Disorders of lens
- Glaucoma
- Vitreoretinal disorders
- Disorders of optic nerve and visual pathways neuro-ophthalmology
- Strabismus and pediatric ophthalmology
- Community ophthalmology
- Ophthalmoplasty
- Investigative Ophthalmology- USG-A AND B
SCAN,UBM,OCT, etc

RESEARCH

Guidelines for the methodology and time schedules for writing thesis:-

Stage I

The candidate is allotted thesis topic within one month of joining as junior resident he should collect references relevant to the topic

Stage II (4-12 weeks)

Summaries of the article and preparation of the proforma
The proforma is written in consultation with the guide giving a short review of the subject aims and objects, lacunae in the knowledge and how the work is likely to fill or narrow the gap and contribute towards fresh thoughts and knowledge

Stage III (12-14 weeks)

- The approved proforma has to be submitted to the Dean of the university by the end of 4th month
- The candidate and guide should make sure that all facilities for the week to start are available

Stage IV (4-6 months)

Review of relevant literature, pilot experiments and standardization techniques

A full write up of the methodology to be applied be now approved by guides. The candidate should also prepare a proforma for recording observations. Changes if any, required in the mandate should be presented to the thesis committee for

approval giving reasons as to why the original mandate cannot be carried out.

Stage V (6-12 months)

Actual experimental work on the project. The work should be completed in 10 months. Observations should be regularly made and recorded.

Stage VI (12-18 months)

Follow up observation, data processing etc to be carried out

Stage VII (14-24 months)

Presentation, Writing and Submission of thesis and Paper for Publication

TEACHING OF CLINICAL OPHTHALMOLOGY

The training is given in Wards, OPD, Speciality clinics and OTs

- OPDs-

For the first six months residents are attached to a faculty member to be able to pick up methods of history taking and ocular examination in ophthalmic practice.

After six months the clinical resident is allotted a cubical where he receives new and old cases including refraction. The residents are attached to a faculty member whom they can consult in case of difficulty.

- WARDS-

Each resident is allotted beds in the in-patient section. A detailed history and case record is to be maintained by the resident.

- SPECIALITY CLINICS-

The resident gets 'hands-on' training in all investigating procedures, methods of diagnosis and principles of management of cases.

- OTs-

In the first phase the resident is given training in regional anesthetic block preparation of cases for operation and pre-medication. In the next phase the resident assists the operating surgeon to be familiar with the steps of surgery.

Some of the operative procedures are learnt by practicing the same on eye ball of the goat.

Residents are provided with an opportunity to operate specially so in the last semesters.

TEACHING

The residents are imparted training in several ways

- Group discussions
- Symposia(nearly fourteen in each specialty)
- Journal clubs
- Case discussion

CAMPS

The community and school surveys are conducted by the residents.

EVALUATION CLINICAL

The evaluation of candidates is done at the end of the course under the following headings

1. The resident shall be required to demonstrate a comprehension of basic knowledge of the subject by answering four papers of 3 hours each to the satisfaction of the board of examiners.

The theory examination shall have the following pattern:

- a. First paper- Anatomy, Physiology and Optics of the eye
- b. Second paper- Ophthalmic Medicine and Surgery
- c. Third paper- Ophthalmology in relation to Medicine
- d. Fourth paper- Recent advances in Ophthalmology

All four papers should have a minimum of twenty five percent of MCQs of high standard, 25% SAQ and 50% LAQ.

Each paper should be of one hundred marks

A candidate needs to score at least fifty percent marks to pass after which the candidate will be permitted to appear in the practical examination

2. The resident shall be evaluated in all fields of the instruction areas of work and demonstrate skills to elicit history, examine and diagnose and treat (medically or surgically or both) cases in out patient department and admitted cases including the relevance of investigative procedures in the case under discussion. The resident will be required to see and interpret X-rays, charts, laboratory reports and special investigations pertaining to these cases.

3. The resident may be required to demonstrate the use of appliances and specialized diagnostic techniques including their utility and limitations
4. The resident will be required to report on specimens and slides of pathology
5. Oral viva on any aspect of specialty
6. Instruments and Operative understanding is evaluated
7. The marking for practical examination will be as follows:-

OSCE	50 marks (x10 spots)
Clinical cases	200 marks (1 long) (2 short)
Demonstrations	50 marks (Skill to use the equipment)
Oral viva	100 marks
Total	400 marks
50% to pass	

A candidate needs to score atleast fifty percent marks to pass

LOG BOOK(record of daily working to be kept)

1. OPD Procedures:
 - a. Tonometry
 - b. Gonioscopy
 - c. Syringing
 - d. Staining
 2. Surgeries done
 3. Ophthalmic emergencies
 4. Special clinical investigations
 5. Clinical case presentation
 6. Symposia
 7. Journal club
 8. Teaching experience
 9. Meetings / conference attended
 10. Papers presented / published
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OPERATIONS FOR M.S.(OPHTHAL) CANDIDATES

At the end of training period candidate should have following surgical skills-

1. Lids- Entropion , Ectropion, Chalazion, Ptosis
2. Sac- DCT,DCR
3. Strabismus surgery
4. Cornea- Therapeutic Keratoplasty, LASIK
5. Lens- Cataract surgeries including SICS and PHACO .
6. Glaucoma- YAG laser Iridotomies,
goniotomy, trabeculectomy, trabeculotomy
Retina- Intravitreal injections, RD surgeries an
Vitreoretinal surgeries
7. Orbit and Globe- Enucleation, Evisceration, Exenteration
and Orbitotomies
8. Injuries- Repair of wounds, Removal of RIOFB

M.B.B.S : Application are invited for First M.B.B.S (NRI Category) at its following constituent colleges :

- 1. MGM Medical College, Sector-18, Kamothe, Navi Mumbai – 410 209**
- 2. MGM Medical College, N-6, CIDCO, Aurangabad – 431 003**

Issue of Application form : 10 June 2009

Last date of submission : 15 July 2009

Last date of submission of application form with late fee : 20 July 2009

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.S. (OPHTHALMOLOGY)

Seat No.	1 Practical Examinations						2 Viva-Voce Examinations			Grant Total 400 Marks (1+2)
	OSCE	Demonstration / Investigation interpretation	Clinical case			Total	Viva	Dissertation Viva	Total	
	50	50	Long Case 100	Short Case 50	Fundus Case 50	300	90	10	100	

NAME OF EXAMINER	COLLEGE	SIGNATURE WITH DATE
<u>1.</u>		
<u>2.</u>		
<u>3.</u>		
<u>4.</u>		

1.2. PG COURSES: - M.S.

Sr. No	COURSE	SUBJECT NAME	PAPER NO. & TOPICS
i)	M.S.	GENERAL SURGERY	I. Basic Sciences II. General Surgery Including Clinical Surgery III. General Surgery Including Subspecialities IV. Recent Advances
ii)	M.S.	OPHTHALMOLOGY	I. Anatomy, Physiology and optics of the eye. II. Ophthalmic Medicine and Surgery. III. Ophthalmology in relation to medicine IV. Newer Techniques and innovations in Ophthalmology.
iii)	M.S.	ORTHOPAEDICS	I. Basic and Applied Sciences as related to Orthopaedics II. Orthopaedics Traumatology III. Orthopaedic Diseases IV. Recent Advances
iv)	M.S.	OBSTETRICS AND GYNAECOLOGY	Basic Sciences in Obstetrics and Gynaecology including the diseases of the newborn. I. Clinical Obstetrics includes newborn. II. Clinical Gynaecology. III. Recent Advances in Ob/Gy.

I	MD Emergency Medicine	I) Basic Sciences as relevant to Emergency Medicine (Applied Anatomy, Clinical Physiology, Clinical Biochemistry, Clinical Pharmacology, Clinical Microbiology, Clinical Pathology, Research Methodology, Biostatistics) II) Emergency Medicine (Medicine, Dermatology, Psychiatry) III) Emergency Medicine (Surgery Trauma, Orthopedics, Obstetrics, Anesthesia, Eye, ENT, Dental, Radiology) IV) Emergency Medicine including recent advances (Pediatrics, Principles of Pre hospital Care, Disaster Medicine, Forensic Medicine)
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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. Patil College of Comp. Sc. & Tech.
- MGM's Hospital & Research Center
- MGM's College of Agricultural Bio-Technology
- MGM's Dept. of Bio-Technology & Bio-informatics.
- 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-Primary - 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 & Secondary 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)



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E-mail : mgmuniversity@mgmuhs.com

Website: www.mgmuhs.com

MS ophthalmology

Resolution No. 1.3.10.11 of BOM-51/2017: Resolved to have 50 hours of mandatory teaching per year for PG students. **Annexure XVIII**

50 Hours Lecture Dept of Ophthalmology

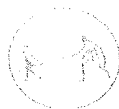
Anatomy of lacrimal apparatus
Diseases of lacrimal apparatus imaging
Anatomy of orbit
Diseases of orbit with Imaging
Orbital Trauma with imaging
Diseases of ocular Motility
Examination of Ptosis
Squint with its management
Pathology light reaction
Anatomy of Eyelids
Diseases of eyelids
Malignancy of orbit with Imaging
Ocular trauma
Optic nerve Anatomy with Vascular disorders
Ocular tumours
Anatomy of conjunctiva with Diseases
Anatomy of Cornea with diseases
Laceration and treatment
Sclera and uveitis
Anatomy of angle of eye
Congenital Anatomy of eye
Lasers in Glaucoma

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

All PG.
30 copies

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



MGM INSTITUTE OF HEALTH SCIENCES
Navi Mumbai

Induction Program for newly admitted Postgraduate students

Day 1	<ul style="list-style-type: none"> • Address by Dean, Medical Suptd, Director (Academics) • Pre-test • Communication Skills • Universal Safety Precautions • Biomedical Waste Management • Infection Control Policy
Day 2	<ul style="list-style-type: none"> • Emergency services • Laboratory services • Blood Bank services • Medicolegal issues • Prescription writing • Adverse Drug Reaction • Handling surgical specimens
Day 3	<ul style="list-style-type: none"> • Principles of Ethics • Professionalism • Research Ethics • Informed Consent • Confidentiality • Doctor-Patient relationship
Day 4	<ul style="list-style-type: none"> • Research Methodology • Synopsis writing • Dissertation writing • Statistics
Day 5	
Day 6	
Day 7	<ul style="list-style-type: none"> • 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)

MS. Ophthalmology

Resolution No. 3.8.2 of BOM-52/2018: It was resolved to have the following Allied posting for PG students:

d) Ophthalmology:

Mandatory postings:

- | | | |
|-----|---------------------|---------|
| I. | Emergency Medicine | 30 days |
| II. | Medicine /Neurology | 15 days |

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]**



**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. 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.