GUIDELINES FOR COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMME FOR MS IN OPHTHALMOLOGY

Preamble:

The purpose of PG education is to create specialists who would provide high quality health care and advance the cause of science through research & training.

The purpose of this programme is to standardize Ophthalmology teaching at post graduate level throughout the country so that it will benefit in achieving uniformity in post graduate and undergraduate teaching as well as result in creating competent ophthalmic surgeons with appropriate expertise.

The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment. This document was prepared by various subject-content specialists. The Reconciliation Board of the Academic Committee has attempted to render uniformity without compromise to purpose and content of the document. Compromise in purity of syntax has been made in order to preserve the purpose and content. This has necessitated retention of "domains of learning" under the heading "competencies".

SUBJECT SPECIFIC LEARNING OBJECTIVES

Programme Objectives

The clinical post graduate training programmes are intended at developing in a student a blend of qualities that of a clinical specialist, a teacher and a researcher. These programmes are organized such that a post graduate student should possess the following qualities, knowledge and skills:

a. The student should possess basic knowledge of the structure, function and development of the human body as related to ophthalmology, of the factors which may disturb these mechanisms and the disorders of structure and function which may result thereafter.

b. The student should be able to practice and handle most day-to-day problems independently in ophthalmology. The student should recognize the limitations of his/her own clinical knowledge and know when to seek further help.

c. The student should understand the effects of environment on health and be familiar with the epidemiology of at least the more common diseases in the field of ophthalmology.

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d. The student should be able to integrate the preventive methods with the curative and rehabilitative measures in the comprehensive management of the disease.

e. The student should be familiar with common eye problems occurring in rural areas and be able to deal with them effectively.

f. The student should also be made aware of Mobile Ophthalmic Unit and its working and components.

g. The student should be familiar with the current developments in Ophthalmic Sciences.

h. The student should be able to plan educational programmes in Ophthalmology in association with senior colleagues and be familiar with the modern methods of teaching and evaluation.

i. The student should be able to identify a problem for research, plan a rational approach to its solution, execute it and critically evaluate his/her data in the light of existing knowledge.

j. The student should reach the conclusions by logical deduction and should be able to assess evidence both as to its reliability and its relevance.

k. The student should have basic knowledge of medico-legal aspects of medicine.

l. The student should be familiar with patient counseling and proper consent taking.

SUBJECT SPECIFIC COMPETENCIES

A post graduate student upon successfully qualifying in the M.S. (Ophthalmology) examination should be able to:

a) Offer to the community, the current quality of 'standard of care' in ophthalmic diagnosis as well as therapeutics, medical or surgical, in most of the common situations encountered at the level of health services.

b) Periodically self assess his or her performance and keep abreast with ongoing advances in the field and apply the same in his/her practice.

c) Be aware of her/his own limitations to the application of the specialty in situations, which warrant referral to more qualified centers or individuals.

d) Apply research and epidemiological methods during his/her practice. The post graduate student should be able to present or publish work done by him/her.

e) Contribute as an individual/group towards the fulfillment of national objectives with regard to prevention of blindness.

f) Effectively communicate with patients or relatives so as to educate them sufficiently and give them the full benefit of informed consent to treatment and ensure compliance.

At the end of the course, the student should have acquired knowledge in the following:

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to learn special and complex operations by assisting the senior post graduate student or the faculty in operations of cases of the specialty and be responsible for the post-operative care of these cases.

In **first phase**, the post graduate student is given training in preparations of cases for operation, pre-medication and regional anaesthetic blocks. In the **next phase**, the post graduate student assists the operating surgeon during the operations. In the **third phase**, the post graduate student operates independently assisted by senior post graduate student or a faculty member. She/he is required to be proficient in some operations and show familiarity with others.

Syllabus

Course contents:

These are only broad guidelines and are illustrative, there may be overlap between sections.

I. Basic Sciences:

1. Orbital and ocular anatomy
   - i. Gross anatomy
   - ii. Histology
   - iii. Embryology
2. Ocular Physiology
3. Ocular Pathology
4. Ocular Biochemistry

   General biochemistry, biochemistry applicable to ocular function
5. Ocular Microbiology

   General Microbiology, specific microbiology applicable to the eye
6. Immunology with particular reference to ocular immunology
7. Genetics in ophthalmology
8. Community Eye Health

II. Optics

- a. Basic physics of optics
- b. Applied ophthalmic optics
- c. Applied optics including optical devices
- d. Disorders of Refraction

III. Clinical Ophthalmology

- i. Disorders of the lids
- ii. Disorders of the lacrimal system
- iii. Disorders of the Conjunctiva
- iv. Disorders of the Sclera

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be written up and submitted in the form of a Thesis. Work for writing the Thesis is aimed at contributing to the development of a spirit of enquiry, besides exposing the post graduate student to the techniques of research, critical analysis, acquaintance with the latest advances in medical science and the manner of identifying and consulting available literature.

Thesis shall be submitted at least six months before the Theory and Clinical / Practical examination. The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A post graduate student shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners. From regulations)

2. Theory Examination:

The examinations shall be organised on the basis of 'Grading'or 'Marking system' to evaluate and to certify post graduate student's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for M.D./ MS shall be held at the end of 3rd academic year. An academic term shall mean six month's training period.

There shall be four theory papers.

Paper I: Basic Sciences related to Ophthalmology, Refraction & Optics

Paper II: Clinical Ophthalmology

Paper III: Systemic Diseases in Relation to Ophthalmology

Paper IV: Recent Advances in Ophthalmology and Community Ophthalmology

3. Clinical/Practical and oral/viva voce examination

Clinical

1 long case

2 short cases with different problems

2 fundus Cases

1 refraction case

. **Oral/Viva voce Examination shall be comprehensive enough to test the** post graduate student**'s overall knowledge of the subject and shall include:**

i. Instruments
ii. Pathology specimens
iii. Drugs, X-rays, USG/OCT/CT/MRI Scans, etc.
iv. Visual fields and other ophthalmic diagnostic charts

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BOARD OF GOVERNORS IN SUPER-SESSION

OF MEDICAL COUNCIL OF INDIA

AMENDMENT NOTIFICATION

New Delhi, the 4th November, 2019

No. MCI-34(41)/2019-Med./161726.—In exercise of the powers conferred by Section 33 of the Indian Medical Council Act, 1956 (102 of 1956), the Board of Governors in super-session of Medical Council of India with the previous sanction of the Central Government, hereby makes the following Regulations to further amend the "Regulations on Graduate Medical Education , 1997", namely: -

1. (i)These Regulations may be called the "Regulations on Graduate Medical Education (Amendment), 2019.

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

2. The following shall be added as clause 1A to the Regulations on Graduate Medical Education, 1997:-

(i) The Regulations of Graduate Medical Education, 1997 from clause 2 to 14 contained in Chapters I to V and the Appendices and Schedules appended therein shall be included as Part I of the Regulation. These provisions shall be the governing Regulations with respect to batches admitted in MBBS courses until academic year 2018-19.

(ii) Part II containing the following Chapters shall be added to the Regulations on Graduate Medical Education, 1997 that shall be the governing Regulations with respect to batches admitted in MBBS course from academic year 2019-20 onwards.

3. Following shall be added as Part II of the Regulations on Graduate Medical Education, 1997:-

Part II

For MBBS course starting from academic year 2019-20 onwards

THE REGULATIONS ON GRADUATE MEDICAL EDUCATION, 1997

PART II

ARRANGEMENT OF CLAUSES

11.2.6 A learner shall not be entitled to graduate after 10 years of his/her joining of the first part of the MBBS course.

11.2.7 University Examinations shall be held as under:

(a) First Professional

1. The first Professional examination shall be held at the end of first Professional training (1+12 months), in the subjects of Human Anatomy, Physiology and Biochemistry.
2. A maximum number of four permissible attempts would be available to clear the first Professional University examination, whereby the first Professional course will have to be cleared within 4 years of admission to the said course. Partial attendance at any University examination shall be counted as an availed attempt.

(b) Second Professional

1. The second Professional examination shall be held at the end of second professional training (11 months), in the subjects of Pathology, Microbiology, and Pharmacology.

(c) Third Professional

1. Third Professional Part I shall be held at end of third Professional part 1 of training (12 months) in the subjects of Ophthalmology, Otorhinolaryngology, Community Medicine and Forensic Medicine and Toxicology
2. Third Professional Part II - (Final Professional) examination shall be at the end of training (14 months including 2 months of electives) in the subjects of General Medicine, General Surgery, Obstetrics & Gynecology and Pediatrics. The discipline of Orthopedics, Anesthesiology, Dentistry and Radiodiagnosis will constitute 25% of the total theory marks incorporated as a separate section in paper II of General Surgery.
3. The discipline of Psychiatry and Dermatology, Venereology and Leprosy (DVL), Respiratory Medicine including Tuberculosis will constitute 25% of the total theory marks in General Medicine incorporated as a separate section in paper II of General Medicine.

(d) Examination schedule is in Table 1.

(e) Marks distribution is in Table 10.

Table 10 : Marks distribution for various subjects

Phase of Course	Written-Theory – Total	Practicals/ Orals/ Clinicals	Pass Criteria
First Professional			Internal Assessment: 50% combined in theory and practical (not less than 40% in each) for eligibility for appearing for University Examinations University Examination Mandatory 50% marks separately in theory and practical (practical = practical/ clinical + viva)
Human Anatomy - 2 papers	200	100	
Physiology - 2 papers	200	100	
Biochemistry - 2 papers	200	100	
Second Professional			
Pharmacology - 2 Papers	200	100	
Pathology - 2 papers	200	100	
Microbiology - 2 papers	200	100	
Third Professional Part – I			
Forensic Medicine & Toxicology - 1 paper	100	100	
Ophthalmology – 1 paper	100	100	

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Otorhinolaryngology – 1 paper	100	100	
Community Medicine - 2 papers	200	100	
Third Professional Part – II			
General Medicine - 2 papers	200	200	
General Surgery - 2 papers	200	200	
Pediatrics – 1 paper	100	100	
Obstetrics & Gynaecology - 2 papers	200	200	

Note: At least one question in each paper of the clinical specialties should test knowledge - competencies acquired during the professional development programme (AETCOM module); Skills competencies acquired during the Professional Development programme (AETCOM module) must be tested during clinical, practical and viva.

In subjects that have two papers, the learner must secure at least 40% marks in each of the papers with minimum 50% of marks in aggregate (both papers together) to pass in the said subject.

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

11.2.9 **Appointment of Examiners**

(a) Person appointed as an examiner in the particular subject must have at least four years of total teaching experience as assistant professor after obtaining postgraduate degree in the subject in a college affiliated to a recognized/approved/permitted medical college.

(b) For the Practical/ Clinical examinations, there shall be at least four examiners for 100 learners, out of whom not less than 50% must be external examiners. Of the four examiners, the senior-most internal examiner will act as the Chairman and coordinator of the whole examination programme so that uniformity in the matter of assessment of candidates is maintained. Where candidates appearing are more than 100, two additional examiners (one external & one internal) for every additional 50 or part there of candidates appearing, be appointed.

(c) In case of non-availability of medical teachers, approved teachers without a medical degree (engaged in the teaching of MBBS students as whole-time teachers in a recognized medical college), may be appointed examiners in their concerned subjects provided they possess requisite doctorate qualifications and four years teaching experience (as assistant professors) of MBBS students. Provided further that the 50% of the examiners (Internal & External) are from the medical qualification stream.

(d) External examiners may not be from the same University.

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

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

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

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

(i) All eligible examiners with requisite qualifications and experience can be appointed internal examiners by rotation in their subjects.

(j) All theory paper assessment should be done as central assessment program (CAP) of concerned university.

(k) Internal examiners should be appointed from same institution for unitary examination in same institution. For pooled examinations at one centre approved internal examiners from same university may be appointed.

(l) The grace marks up to a maximum of five marks may be awarded at the discretion of the University to a learner for clearing the examination as a whole but not for clearing a subject resulting in exemption.

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CHAPTER VII

INTERNSHIP

12. INTERNSHIP

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

12.1. **Goal**:

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

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

12.2.1 Independently provide preventive, promotive, curative and palliative care with compassion,

12.2.2 Function as leader and member of the health care team and health system,

12.2.3 Communicate effectively with patients, families, colleagues and the community,

12.2.4 Be certified in diagnostic and therapeutic skills in different disciplines of medicine taught in the undergraduate programme,

12.2.5 Be a lifelong learner committed to continuous improvement of skills and knowledge,

12.2.6 Be a professional committed to excellence and is ethical, responsive and accountable to patients, community and profession.

12.3 Time Distribution

Community Medicine (Residential posting)	2 months
General Medicine including 15 days of Psychiatry	2 months
General Surgery including 15 days Anaesthesia	2 months
Obstetrics & Gynaecology including Family Welfare Planning	2 months
Pediatrics	1 month
Orthopaedics including PM & R	1 month
Otorhinolaryngology	15 days
Ophthalmology	15 days
Casualty	15 days
Elective posting (1x15 days)	15 days

Subjects for Elective posting will be as follows:

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

Note: Structure internship with assessment at the end in the college.

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M.D. / M.S.

POST GRADUATE DEGREE COURSES

SYLLABUS AND CURRICULUM

2021 - 2022

M.S. OBSTETRICS & GYNECOLOGY

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MS OBSTETRICS & GYNECOLOGY

1.GOALS

The goal of MD course in Obstetrics & Gynaecology is to produce a competent Obstetrician & Gynecologist who:

1. Recognizes the health needs of adolescents, females in reproductive age group & post-menopausal females
2. Is competent to manage the pathological states related to reproductive system with relevant knowledge of Anatomy, Physiology, Biochemistry, Pharmacology, Pathology, Microbiology and Virology.
3. Is aware of contemporary advances & developments in the field of maternal health & other related issues.
4. Is Oriented to the principles of research methodology and epidemiology
5. Has Acquired the basic skills in teaching of the Medical and Paramedical Professionals.

2.OBJECTIVES

A postgraduate resident should be able to achieve objectives in the following domains:

A. KNOWLEDGE

1. Learn the basics of the subjects of Obstetrics and Gynaecology, covering all conditions likely to be met in obstetric practice in our country.
2. Provide effective prenatal care depending on the clinical condition of the mother, including nutrition, immunization and risk assessment.
3. Learn in greater detail about common problems like hypertension complicating pregnancy, intrauterine growth restriction, cephalopelvic disproportion, obstructed labour and puerperal sepsis.
4. Appreciate the indications and methods of induction of labour.
5. Acquire thorough knowledge of gynaecologic conditions of public health importance such as cancer cervix and other gynaecological diseases likely to affect pregnancy.
6. Gain knowledge of other branches of medicine which are relevant to Obstetrics and Gynaecology with special stress on diabetes mellitus, hypertension, cardiac disease, anaemia, lower urinary tract disorders and medical and surgical causes of acute abdomen.
7. Aware of medico-legal aspects of practice of Obstetrics and Gynaecology.

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A) Active involvement in patient care in

- Antenatal clinic
- General Gynae – OPD
- Postnatal clinic
- Infertility clinic etc.,
- Adolescent clinic

B) Operation Theatre

- Assist procedures
- Operate under supervision
- Operate independently
- Emergencies – Participation in Management
- In the community – visits to RHC / CAMPS

6. STRUCTURED TRAINING PROGRAMME

CLINICAL POSTINGS -THREE YEAR MS OG			
	I Year	**II Year**	**III Year**
L.Ward	3 months	3 months	3 months
AN/PN Ward	3 months	3 months	3 months
Gyn/P.O Ward	3 months	3 months	3 months
Anaesthesia		15 days	15 days
Paediatrics		1 month	
Medicine	1 month		
Surgery & Urogynaecology	15+15 days	15 days	
FW		15 days	15 days
Infertility & USG	15 days	15 days	
Colposcopy & Pathology		15+15 days	
Radiotherapy			7 days
Oncology			7 days
Endocrinology			7 days
Genetics			7 days
Social Obstetrics			1 month

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10. THEORY EXAMINATION

There should be four theory papers, as given below:

Paper I: Applied Basic sciences.

Paper II: Obstetrics including social obstetrics and Diseases of New Born

Paper III: Gynaecology including fertility regulation

Paper IV: Recent Advances in Obstetrics & Gynaecology

Question paper Pattern:

Paper I : Write notes on

i.	Anatomy	4 x 5 = 20
ii.	Physiology	4 x 5 = 20
iii.	Biochemistry	3 x 5 = 15
iv.	Pharmacology	3 x 5 = 15
v.	Pathology	3 x 5 = 15
vi.	Microbiology	3 x 5 = 15

Total = 100 marks

Paper II, III & IV :

i.	Elaborate on :	2 x 15 = 30
ii.	Write notes on	10 x 7 = 70

Total = 100 marks

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M.D. / M.S.
POST GRADUATE DEGREE COURSES

SYLLABUS AND CURRICULUM
2021 - 2022

M.S. GENERAL SURGERY

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THE TAMIL NADU Dr. M.G.R MEDICAL UNIVERSITY, CHENNAI

M.S. GENERAL SURGERY

1. GOAL / OBJECTIVES

- To practice surgery safely and effectively, backed by scientific knowledge and sound skills.
- To have a keen interest in patient care and develop caring attitude.
- To maintain high ethical standards.
- To have sufficient understanding of basic sciences related to surgery to diagnose and manage majority of the surgical conditions clinically and with the help of relevant investigations through comprehensive training and experience necessary for independence practice.
- To exhibit competence in the basic concepts of research methodology and teaching skills.

2. COMPONENTS OF THE POSTGRADUATE CURRICULUM

- THEORETICAL KNOWLEDGE
- PRACTICAL AND CLINICAL SKILLS
- WRITING THESIS / RESEARCH ARTICLES
- ATTITUDES INCLUDING COMMUNICATION SKILLS
- TRAINING IN RESEARCH METHODOLOGY MEDICAL ETHICS

BIO ETHICS AND MEDICOLEGAL ASPECTS

- Students should compulsorily attend the research Methodology workshop conducted by the University within first six months of the M.S course.
- Students are encouraged to attend workshops/CME's on Bioethics conducted by the University and other reputed Institutions.
- Medical ethics, Bioethics, moral and legal issues and medical audit are part and parcel of the curriculum and syllabus.

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4. TEACHING LEARNING METHODS

1. Lectures
2. Case based Discussions
3. Ward Rounds
4. Seminars
5. Journal Clubs
6. Bed side clinics
7. Interdepartmental meetings(Weekly with Radiology and pathology departments)
8. Clinical Society Meetings
9. Surgeon's Club

All Postgraduates should attend the Clinico-Pathological Conference (CPC) held every month and Clinical combined rounds and Clinical Grand rounds (CGR) which are held weekly. They are also encouraged to attend CME's, conferences and skill workshops

All the activities should be entered in a log book which should be signed by the authorized teacher and head of the department

5. STRUCTURED TRAINING PROGRAM

1. Inter-unit rotation of residents for upto 1 year

-Rotation of residents can be done for a period of 2 months in a different unit three times a year in the first year and second year(exclusive of speciality rotation)

Total time spent in rotation will be 6 months in first year and 6 months in second year. However in final year , residents are to spend all 12 months in their parent unit.

2. **Rotation in sub-specialities for 6 months.**

First year:

Time spent in parent surgical unit- 3 months
Time spent in interunit rotation- 6 months
Orthopedics and Trauma- 1 month
Neurosurgery- 15 days
Radiodiagnosis- 15 days
Plastic surgery- 15 days
Anesthesia- 15 days

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Regarding submission of articles to the University Journal of Medical Sciences for all the PG Degree/Diploma courses, it is mandatory that the students have to submit at-least one research paper. Case Reports are not considered as Research Paper

9.**THEORY EXAMINATION**

PAPER I – Applied Basic Sciences in General Surgery

PAPER II – Surgery

PAPER III – Surgery including Traumatology

PAPER IV – Recent Advances

Question paper Pattern:

Paper I : Write notes on

i.	Anatomy	4 x 5 = 20
ii.	Physiology	4 x 5 = 20
iii.	Biochemistry	3 x 5 = 15
iv.	Pharmacology	3 x 5 = 15
v.	Pathology	3 x 5 = 15
vi.	Microbiology	3 x 5 = 15
	Total =	**100 marks**

Paper II, III & IV :

i.	Elaborate on :	2 x 15 = 30
ii.	Write notes on	10 x 7 = 70
	Total =	**100marks**

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NATIONAL MEDICAL COMMISSION
Postgraduate Medical Education Board

D 11011/1/22/AC/Guidelines/17 Date: 29-08-2022

GUIDELINES FOR COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMME FOR MS IN ORTHOPEDICS

GUIDELINES FOR COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMME FOR MS IN ORTHOPAEDICS

Preamble

Competency based training programme in Orthopaedics aims to create postgraduate student who, after undergoing the requisite training, should be able to serve the needs of the community and should be competent to solve the problems pertaining to the speciality of Orthopaedics and Trauma.

A postgraduate undergoing training MS in Orthopaedics should be trained to identify and recognize various congenital, developmental, inflammatory, infective, traumatic, metabolic, neuromuscular, degenerative and oncologic disorders of the musculoskeletal system. She/he should be able to provide competent professional services to trauma and orthopaedic patients at a primary/ secondary/tertiary healthcare centres. The PG should acquire knowledge, skill and attitude to provide healthcare and education to the patients and students.

The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment. This document was prepared by subject-content specialists. The Expert Group of the NMC had attempted to render uniformity without compromise to the purpose and content of the document. Compromise in purity of syntax has been made in order to preserve the purpose and content. This has necessitated retention of "domains of learning" under the heading "competencies.

In order to achieve sustainable outcomes, certain competencies are essential to be achieved and assessed that will enable the qualified professional to perform the role in practice as an orthopaedic specialist. These roles would be to perform as a:

1. Clinical Expert
2. Professional
3. Scholar
4. Team Member

SUBJECT SPECIFIC OBJECTIVES

The goal of M.S. Orthopaedics is to produce a competent doctor who:

D. Student Symposium: Minimum of once every 3 months.

A broad topic of significance should be selected, and each part shall be dealt by one postgraduate student. A teacher moderator should be allocated for each symposium and moderator should track the growth of students. The symposium should aim at an evidence-based exhaustive review of the topic. All participating postgraduates should be graded by the faculty and peers.

E. Laboratory work / Bedside clinics/case presentation: Case presentation once a week in the ward, outpatient department/special clinics.

Laboratory work/Clinics/bedside teaching should be coordinated and guided by faculty from the department. Various methods like DOAP (Demonstrate, Observe, Assist, Perform), simulations in skill lab, and case-based discussions etc. are to be used. Faculty from the department should participate in moderating the teaching-learning sessions during clinical rounds.

F. Interdepartmental colloquium

Faculty and students must attend monthly meetings between the main Department and other department/s on topics of current/common interest or clinical cases; eg., combined clinical round with Radiology, Pathology etc.

G. a. Rotational clinical / community / institutional postings

Depending on local institutional policy and the subject specialty needs, postgraduate trainees may be posted in relevant departments/ units/ institutions. The aim would be to acquire more in-depth knowledge as applicable to the concerned specialty. Postings would be rotated between various units/departments and details to be included in the specialty-based Guidelines. Few examples are listed below:

1. Clinical postings

A major portion of posting should be in Orthopaedics department. It should include in-patients, out-patients, ICU, trauma, emergency room and speciality clinics.

Rotation of posting

- Inter-unit rotation in the department should be done for a period of up to one year.
- Rotation in appropriate related subspecialties for a total period not exceeding 06 months.

- Medical Education Unit (MEU) or Department of Medical Education (DOME) (optional)

T/L Education

- Bone Skills Lab sessions – Twice a week
- Surgical Audit sessions – Once every week
- Cadaver based education – Twice a month
- Web based e-learning sessions – Once a fortnight
- Simulated environment learning – Two sessions in a week
- **Mortality & Morbidity meetings with SURGICAL AUDIT:** Once a month

G b. Posting under "District Residency Programme" (DRP):

All postgraduate students pursuing MS/MS in broad specialities in all Medical Colleges/Institutions shall undergo a compulsory rotation of three months in District Hospitals/District Health System as a part of the course curriculum, as per the Postgraduate Medical Education (Amendment) Regulations (2020). Such rotation shall take place in the 3rd or 4th or 5th semester of the Postgraduate programme and the rotation shall be termed as "District Residency Programme" and the PG medical student undergoing training shall be termed as "District Resident".

Every posting should have its defined learning objectives. It is recommended that the departments draw up objectives and guidelines for every posting offered in conjunction with the collaborating department/s or unit/s. This will ensure that students acquire expected competencies and are not considered as an additional helping hand for the department / unit in which they are posted. The PG student must be tagged along with those of other relevant departments for bedside case discussion/basic science exercises as needed, under the guidance of an assigned faculty.

Opportunities to present and discuss infectious disease cases through bedside discussion and ward/grand rounds with specialists / clinicians in different hospital settings must be scheduled to address antimicrobial resistance issues and strategies to deal with it.

H. Teaching research skills

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1. **Log book** of work done during the training period including rotation postings, departmental presentations, and internal assessment reports should be submitted.

2. At least **two presentations** at national level conference. One research paper should be published / accepted in an indexed journal. **(It is suggested that the local or University Review committee assess the work sent for publication).**

The summative examination would be carried out as per the Rules given in the latest POSTGRADUATE MEDICAL EDUCATION REGULATIONS. The theory examination shall be held in advance before the Clinical and Practical examination, so that the answer books can be assessed and evaluated before the commencement of the clinical/Practical and Oral examination.

The postgraduate examination shall be in three parts:

1. **Thesis**

   Thesis shall be submitted at least six months before the Theory and Clinical / Practical examination. The thesis shall be examined by a minimum of three examiners; one internal and two external examiners, who shall not be the examiners for Theory and Clinical examination. A post graduate student in broad specialty shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

2. **Theory examination**

   The examinations shall be organized on the basis of 'Grading'or 'Marking system' to evaluate and to certify post graduate student's level of knowledge, skill and competence at the end of the training, as given in the latest POSTGRADUATE MEDICAL EDUCATION REGULATIONS. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for M.D./ M.S shall be held at the end of 3rd academic year.

   There shall be four theory papers (as per PG Regulations).

   Paper I: Basic sciences as applied to the subject

   Paper II: Traumatology and Rehabilitation

   Paper III: Orthopaedic diseases

   Paper IV: Recent advances in Orthopaedic surgery & General Surgery as applied to Orhopaedics

GUIDELINES FOR COMPETENCY BASED POSTGRADUATE TRAINING PROGRAMME FOR MD IN RADIODIAGNOSIS

Preamble:

The purpose of PG education is to create specialists who would provide high quality health care and advance the cause of science through research & training.

The Goal of this program is to impart training in conventional and modern radiology and imaging techniques so that the post graduate student becomes well versed and competent to practice, teach and conduct research in the discipline of radiology. The student should also acquire basic knowledge in the various sub-specialities of radiology. These Guidelines also would also help to standardize Radiodiagnosis teaching at post graduate diploma (DMRD) level throughout the country so that it will benefit in achieving competent radiologist with appropriate expertise.

The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment. This document was prepared by various subject-content specialists. The Reconciliation Board of the Academic Committee has attempted to render uniformity without compromise to purpose and content of the document. Compromise in purity of syntax has been made in order to preserve the purpose and content. This has necessitated retention of "domains of learning" under the heading "competencies".

SPECIFIC LEARNING OBJECTIVES

The objective of the program is to train a student to become a skilled and competent radiologist to conduct and interpret various diagnostic/interventional imaging studies (both conventional and advanced imaging), to organize and conduct research and teaching activities and be well versed with medical ethics and legal aspects of imaging/ intervention.

SUBJECT SPECIFIC COMPETENCIES

A. Cognitive Domain

A post graduate student on completing MD (Radiodiagnosis) should acquire knowledge in the following areas, and be able to:

1. Acquire good basic knowledge in the various sub-specialties of radiology such as chest radiology, neuro-radiology, GI-radiology, uro-radiology, cardio-vascular-radiology, musculoskeletal, interventional radiology, emergency radiology, pediatric radiology and women's imaging.

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2. Independently conduct and interpret all routine and special radiologic and imaging investigations.
3. provide radiological services in acute emergency and trauma including its medico-legal aspects.
4. Elicit indications, diagnostic features and limitation of applications of ultrasonography, CT and MRI and should be able to describe proper cost-effective algorithm of various imaging techniques in a given problem setting.
5. Decide on the various image-guided interventional procedures to be done for diagnosis and therapeutic management.
6. Able to decide on further specialization to be undertaken in any of the branches in Radiodiagnosis such as gastrointestinal radiology, uro-radiology, neuro-radiology, vascular radiology, musculoskeletal radiology, interventional radiology etc.
7. Able to formulate basic research protocols and carry out research in the field of radiology- related clinical problems.
8. Acquire knowledge and teaching capabilities to work as a post graduate student /consultant in Radiodiagnosis and conduct teaching programmes for undergraduates, post graduates as well as paramedical and technical personnel.
9. interact with other specialists and super-specialists so that maximum benefit accrues to the patient.
10. Should be able to organize CME activities in the specialty utilizing modern methods of teaching and evaluation.
11. Acquire knowledge to impart training in both conventional radiology and modern imaging techniques so that the post graduate student is fully competent to practice, teach and do research in the broad discipline of radiology including ultrasound, Computed Tomography and Magnetic Resonance Imaging.
12. Acquire knowledge of interventional radiology.

B. Affective Domain:

1. Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.

2. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.

3. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.

C. Psychomotor domain

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1.	Conventional chest, abdomen, musculoskeletal including skull, spine, PNS and mammography etc	8 months
2.	Contrast studies: G.U., GIT, Hepato-biliary, angiography etc including fluoroscopic guided interventions	8 months
3.	US, Doppler and US guided interventions	8 Months
4.	CT and CT guided interventions	6 Months
5.	Emergency radiology	2 Months
6.	M.R.I.	2 Month
7.	Elective posting	2 Months

During each posting, post graduate student should be able to perform the procedures and interpret the findings.

PROPOSED SCHEDULE FOR ROTATION

1ST Year (1/6)	Conventional Chest & abdomen	Conventional skull, spine, musculo-skeletal etc.	US	Contrast studies - GIT & other fluoroscopic investigations	Contrast studies - G.U. tract	US
(2/6)	US & interventions	Conventional skull, spine, musculo-skeletal etc.	CT	Contrast studies -- GIT & other fluoroscopic investigations	Contrast studies - G.U. tract	US & interve-ntions
2nd Year (3/6)	Conventional Chest & abdomen	Contrast studies - GIT & other fluoroscopic investigations including angiography	Contrast studies - G.U. tract	US & interventions	Emergency	CT
(4/6)	Conventional skull, spine, musculo-skeletal etc.	Contrast studies - G.U. tract including pediatric MCU/genito-gram	US & interven-tions	US & Doppler	Emergency	MRI
3rd year (5/6)	Conventional Chest & mammo-graphy	Contrast studies - GIT & other fluoroscopic investigations including angiography	US & Doppler	Emergency	CT & inter-ventions	Elective
(6/6)	Conventional musculo-skeletal & mammo-graphy	Contrast studies - G.U. tract including pediatric MCU/genito-gram	CT& inter-ventions	CT & inter-ventions	MRI	Elective

During the training programme, patient safety is of paramount importance; therefore, skills are to be learnt initially on the models, later to be performed under supervision followed by performing independently. For this purpose, provision of skills laboratories in medical colleges is mandatory.

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Practical examination. The thesis shall be examined by a minimum of two external examiners, who shall not be the examiners for Theory and Clinical examination. A post graduate student shall be allowed to appear for the Theory and Practical/Clinical examination only after the acceptance of the Thesis by the examiners.

2. Theory Examination

The examinations shall be organized on the basis of 'Grading' or 'Marking system' to evaluate and to certify post graduate student's level of knowledge, skill and competence at the end of the training. Obtaining a minimum of 50% marks in 'Theory' as well as 'Practical' separately shall be mandatory for passing examination as a whole. The examination for M.D. shall be held at the end of 3rd academic year. An academic term shall mean six month's training period.

There shall be four theory papers:

Paper I: Basic sciences related to Radiology (consists of Anatomy, Pathology, Basic and Radiation Physics, Imaging Techniques, and Film processing).

Paper II: Chest, CVS, CNS including Head & Neck, Eye, ENT, musculo-skeletal, pediatric radiology and Mammography.

Paper III: Abdominal Imaging including GI, GU, Hepatobiliary, endocrine and metabolic, Obstetrics and Gynaecology and Interventional radiology

Paper IV: Recent advances, nuclear medicine; Radiology related to clinical specialties

All papers would consist of short answer questions (minimum 10) covering all aspects of the course.

3. Practical/clinical and oral Examination (will include cases, spots, ultrasound procedure, physics, implements etc)

Practical Examination will have:

1. 3-4 Cases
2. Film Quiz (50 – 60 Spots)
3. To perform Ultrasound on a patient

Oral/Viva voce will include:

- Radiation Physics and quality assurance
- Implements, Catheters and contrast
- Cassettes, films, dark room, equipment
- Radiographic techniques, Radiological procedures,
- Gross pathology

Suggested Reading:

Books (latest edition)

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No. 69, ANNA SALAI, GUINDY, CHENNAI – 600 032.

M.D. / M.S.

1. POST GRADUATE DEGREE COURSES

SYLLABUS AND CURRICULUM

2021 - 2022

M.D. PATHOLOGY

DEAN
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THE TAMIL NADU Dr. M.G.R MEDICAL UNIVERSITY, CHENNAI

M.D. PATHOLOGY

1. GOAL

The purpose of this program is to standardize Pathology teaching at Post Graduate level through out the country so that it will benefit in achieving uniformity in undergraduate teaching as well and resultantly creating suitable manpower with appropriate expertise.

2. OBJECTIVES

(A) KNOWLEDGE

A candidate upon successfully qualifying in the M.D. (Pathology) examination should be -

1. Capable of offering a high quality diagnostic opinion in a given clinical situation with an appropriate and relevant sample of tissue, blood, body fluid, etc., for the purpose of diagnosis and overall wellbeing of the ill.

2. Able to teach and share his knowledge and competence with others. He / She should be imparted Training in teaching methods in the subject which may enable them to take up teaching assignments in Medical Colleges /Institutes.

3. Capable of pursuing clinical and laboratory based research. He /She should be introduced to basic research methodology so that they can conduct fundamental and applied research.

(B) ATTITUDE

Cognitive Domain-

1. Diagnose routine and complex clinical problems on the basis of Histopathology (Surgical Pathology) and Cytopathology specimens, Blood and Bone Marrow examination and various tests of Laboratory Medicine (Clinical Pathology, Clinical Biochemistry) and basics of Blood Banking (Transfusion Medicine).

2. Interpret and correlate clinical and laboratory data so that clinical manifestations of disease can be explained.

3. Advice on the appropriate specimens and tests necessary to arrive at a diagnosis in a problematic case.

4. Correlate clinical and laboratory findings with pathologic findings of autopsy specimens submitted for study.

5. Should be able to teach Pathology to undergraduates, nursing and paramedical students at the appropriate level.

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6. STRUCTURED TRAINING PROGRAMME

The three-year training programme for the M.D. degree may be arranged in the form of postings to different assignments / laboratories for specified periods as outlined below. The period of such assignments / postings is recommended for 35 months. Postings schedules may be modified depending on needs, feasibility and exigencies. For facilities not available in the parent institution as well as for additional knowledge & skill, extramural postings may be undertaken.

	Section / Subject	**Duration in Month**
(i)	Surgical Pathology	14
(ii)	Surgical Pathology Techniques	1
(iii)	Haematology	8
(iv)	Cytopathology	6
(v)	Laboratory Medicine including Clinical Biochemistry and clinical Immunology	2
(vi)	Transfusion Medicine /Blood Bank	1
(vii)	Ancillary Techniques including Immunopathology – Transplant immunology, HLA typing, Molecular Biology basics, Research Methodologies and Electrophoresis .	1
	Elective / Reorientation including research methodologies	2
	Total	**35 months**

During II[nd] year, the Students are encouraged to undergo special postings for learning new advanced techniques / procedure / skills in institutions of higher repute where the requisite facilities are available without affecting the duties of the parent department.

The training programme should be designed to enable the student to acquire a capacity to learn and investigate for himself / herself, to synthesize and integrate a set of facts and develop a faculty to reason. The curricular programmes and scheduling of postings must provide the student with opportunities to achieve the above broad objectives. Most of the learning is to be accomplished by the student himself. Interactive discussions are to be preferred over didactic sessions. The student must blend as an integral part of the activities of an academic Department that usually revolves around three equally important basic functions of teaching, research and service. As mentioned earlier the emphasis is recommended under a residency programme or learning while serving / working.

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10. THEORY EXAMINATION

Theory : There shall be four theory papers

PATTERN OF EXAMINATION :-

FOUR PAPERS - 100 Marks each 3 Hours duration each

Paper I: General Pathology, Pathophysiology, Immunopathology and Cytopathology

Paper II: Systemic Pathology

Paper III: Haematology, Transfusion Medicine (Blood Banking) and Laboratory Medicine

Paper IV: Recent advances and applied aspects

Question Paper Pattern:

Structured Essay Questions	**2 x 15 Marks**	**= 30 Marks**
Short Notes	**- 10 x 5 Marks**	**= 50 Marks**
Reasoning out	**- 4 x 5 Marks**	**= 20 Marks**
		100 Marks

11. PRACTICAL EXAMINATION

PRACTICALS DAY 1
FORENOON SESSION

HAEMATOLOGY / CLINICAL PATHOLOGY / BLOOD BANKING **(2 HRS) (10 + 10 + 5 = 25 Marks)**	**25 MARKS**
GROSSING /AUTOPSY /GROSS SPECIMEN FOR Dx& DISCUSSION **(1.5 H) 5+ 10+10 MARKS**	**25 MARKS**
AFTERNOON SESSION	
HAEMATOLOGY + CYTOLOGY SLIDES & DISCUSSION **(5 Slides x 5 Marks) + (5 Slides x 5 Marks)** **(2 HRS) (10 SLIDES X 5 MARKS)**	**50 MARKS**
DAY2	
FORENOON SESSION	
	80 MARKS

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M.D. / M.S.

POST GRADUATE DEGREE COURSES

SYLLABUS AND CURRICULUM

2021 - 2022

MD COMMUNITY MEDICINE

DEAN
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THE TAMIL NADU Dr. M.G.R MEDICAL UNIVERSITY, CHENNAI

MD COMMUNITY MEDICINE

1. PREAMBLE

The purpose of this program is to standardize Community Medicine teaching at Post Graduate level throughout the country.

Program Objectives

A candidate upon successfully qualifying in the M.D. (Community Medicine) examinations should be competent in the following areas:-

I. Health policy, planning, leadership and management (organizational skills , managerial, Administrative)

II. Epidemiology, Biostatistics and Research Methodology (technical)

III. Health Promotion and disease prevention(technical)

IV. Behavior Change Communication (soft skills of communication, motivation, decision-making, team building,)

V. Education technology (skills in Health Information Management, software Application, training in scientific communication and medical writing.

VI. Public Heath Ethics:

The Community Medicine specialist, will inculcate a holistic view of health and medical interventions primarily focused on Community Health/ Population Health. Thus, he/she should be equipped with the knowledge, skills, competencies in primary, secondary & tertiary care, control and prevention of outbreaks/epidemics, community diagnosis, health needs assessment, epidemiological assessment, research and planning evidence-based health policies and programmes.

2. SPECIFIC LEARNING OBJECTIVES

In the area of (I) **Public Health policy, planning, leadership and Management**, he/she should be able to:-

1) Identify health problems of the community in the context of the socio-economic cultural milieu

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6. Ethics in Public Health

Skill	Activity	Quality Assessment
a. Identify and analyze ethical issues in public health practice, biological and medical research, and health policy with reference to the codes and regulations pertinent to clinical and research ethics	As a component activity for ALL the research activity undertaken.	Report on ethical issues in research conducted. EPI4d
b. Identify the beliefs and interests of stakeholders and their impact on ethical decision making in professional and research practice including those of public concerns.		Report on how interests of stake holders can influence conduct of the research planned by you and the ethics of it. EPI4e

MD COMMUNITY MEDICINE
TRAINING SCHEDULE ENSURING COVERAGE OF LEARNING OBLECTIVES.
(Suggested)
FORENOON CLINICAL SESSIONS

Month	I st year Postings	II nd year Postings	III rd year Postings
1	ObG/ Family planning HC1, HC2	PHC – 1 MLA3	Mentor for UG C2
2	Paediatrics HC3	PHC – 2 MLA3	Mentor for UG C2
3	Medicine HC5	Inst. Of Phys. Rehab/ NLEPHC4	PHC -1 MLA5
4	Psychiatry/ Geriatrics HC3	NRHM/ Health InsuranceEPI3b3	PHC – 2 MLA6
5	Diabetology Research 3	Data collection for dissertation Research 1	O/o Deputy Director of Hlth Services MLA8, MLA9
6	ICH Nutrition HC3	Corporation of Chennai MLA8, MLA9	UHC Research 5 EPI3b3
7	Dermatology/ Dental Hospital Administration MLA1	Communicable Diseases Hospital (CDH) PH3	PHC – 3 MLA7
8	Ophthalmology/ENTH C5	UHC PH1	UHC
9	PHC – 1	PHC – 3 MLA4	Department of Community Medicine.
10	PHC – 2 MLA2	ART/NIRT/RNTCP HC4	
11	PHC – 3 MLA2	Social Welfare/ Social Rehab PH2	
12	UHC MLA2	Special Vists Port/ Occupational health PH2	

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AFTERNOON SESSIONS

Day	I year MD Community Medicine	II year MD Community Medicine	III year MD Community Medicine
Monday	Teaching Technology – Guided Practice of UG teaching - **C1a**	Epidemiology - **EPI5**	8 mths: Health care delivery 2 mths: International health 2 mths: Bio Ethics
Tuesday	Case Presentation - **HC1a, HC1b**	Teaching UG / Research – Guiding Data collectn & scrutiny: C1b	Health administration
Wednesday	Seminar/ Journal club/ Family Study/ Management Case Study - **C1a, EPI1, PH1c.**		
Thursday	3 mths: Social &behavioral science 3 mths: Environmental Health 3 mths: Medical Entomology 3 mths: Bio statistics	9 mths: Health care of special groups 3 mths: Nutrition	4 mths: Health Financing & Health Economics 8 mthsTeaching UG/ Legal Aspects of health
Friday	Research methodology & Protocol development- **EPI4c**	6 mths Occupational Health 6 mths Disaster Management/ Injury	National Health Programs
Saturday	**1st**week - Log book evaluation by faculty i/c; PGs /Formative evaluation HOD in rotation.	**3rd**week – Special Lectures for **4th** week – Log book evaluation by	

During II[nd] year, the Students are encouraged to undergo special postings for learning new advanced techniques / procedure / skills in institutions of higher repute where the requisite facilities are available without affecting the duties of the parent department.

7. **Evaluation of the candidates in both theory and practical aspects will help the candidate in improvement of his/her knowledge, skills and attitude.**

8. **Competency Assessment:**

OVERALL:

a) Communication / commitment / Contribution / Compassion towards patients and Innovation () () **5 Marks**

b) Implementation of newly learnt techniques/skills ()

Number of cases presented in Clinical Meetings/ Journal clubs/seminars - **5 marks**

Number of Posters/Papers presented in Conferences/ Publications and Research Projects - **5 marks**

No. of Medals / Certificates won in the conference / Quiz competitions and other academic meetings with details. - **5 marks**

Total **20 Marks**

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A) Formative Assessment : Ongoing evaluation during the course –

During each posting/ Module, learning activities are evaluated as given in the activity log, by faculty in charge at the end of each month and by HOD once every 3 months.

B) Summative Assessment: Final assessment after 3 years.

A. FORMATIVE ASSESSMENT/ (Ongoing Evaluation)

Formative assessment will be conducted during each posting/module/unit. This will include the following:

1. HEALTH CARE through documented case study reports with follow up.

2. PUBLIC HEALTH PROMOTION AND DISEASE PREVENTION through survey of hamlet and details of COMMUNITY DIAGNOSIS and recommendations provided.

3. EPIDEMIOLOGY& BIOSTATISTICS through solutions worked out for various simulation exercises, and epidemiology studies completed as research for dissertation, e journal publication, oral presentation at a conference and poster presentation.

4. EDUCATION TECHNOLOGY & Behavioral Change Communication through health communication to a special group and documented lesson plans for undergraduate classes

5. PUBLIC HEALTH POLICY, PLANNING, LEADERSHIP AND MANAGEMENT through Their analytical report and recommendations of the different components of management at the public health care units they are posted.

B. SUMMATIVE ASSESSMENT (FINAL ASSESSMENT)

10) THEORY EXAMINATION

Final Theory papers: 4 Papers each 100 marks

Paper I: History of Public Health, Concepts in Public Health, Epidemiology and Research Methodology and Communicable and Non-Communicable diseases

Paper II: National Programs and Environmental Health, Nutrition, RCH, Demography and Family Welfare, Primary Health Care system, Health Care Administration, Health Management and Public Health Leadership.

Paper III: Public Health Legislations, International Health & Global Diseases surveillance, Social & Behavioral sciences- applied aspects

Paper IV: Recent Advancements, Health planning, Education Technology. Information Technology, Integration of alternative Health system including AYUSH, Occupational Health

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M.D. / M.S.

POST GRADUATE DEGREE COURSES

SYLLABUS AND CURRICULUM

2021 - 2022

MD ANAESTHESIOLOGY

DEAN
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MD ANESTHESIOLOGY

The curriculum shall train a candidate to manage anaesthesia in a competent, compassionate and caring manner.
Learning shall be self directed and essentially autonomous.
Exposure to all the sub-specialities shall be achieved
A combination of formative and summative assessments shall ensure completion of goals and training.

1. GOALS:

To produce competent and compassionate specialists who

a) shall recognize the health needs and ethically carry out the professional obligations towards the patient.
b) shall attain all the required competencies within all the sub-specialities in the speciality of anaesthesiology , enabling good practices at the secondary and tertiary levels of health care delivery.
c) Shall take effort to be aware and update knowledge about the latest advances and developments in the field.
d) Shall acquire the basic skills to teach medical and para-medical professionals.
e) Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.

a) Shall orient oneself to the principles of research methodology and epidemiology

2. OBJECTIVES:(Ref: Bloom's taxonomy of learning domains)

A. Knowledge to be gained from the syllabus
B. Skills to be learned from the practical training
C. Attitudes to be developed during the training period

The curriculum shall include

a) Anatomy, physiology and biochemistry relevant to anaesthesiology.
b) A thorough knowledge of the pharmacokinetics and pharmacodynamics of anaesthetic drugs for various age groups
c) Knowledge of cardiovascular, respiratory, neurological, hepatobiliary, renal and endocrine homeostasis and related drugs used in patients undergoing anaesthesia.
d) Physics and principles involved in the construction and functioning of anaesthesia machine and equipment used to provide anaesthesia and patient vital signs monitoring.
e) Knowledge of the commonly used techniques in General, Regional and Local anaesthesia
f) Understanding the concept of unconsciousness and its implications in anaesthesia.
g) Knowledge and management of acute and chronic intractable pain.
h) Knowledge of intensive care / therapy.

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• Log books shall be maintained regularly and should be checked and assessed periodically by the faculty members imparting the training.

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

• Department should encourage e-learning activities.

6. POSTINGS FOR ANAESTHESIOLOGY POST GRADUATE

The post graduate student should be exposed to the following areas of clinical anaesthesia practice:

1. Pre-anaesthesia clinic
2. Pain clinic
3. Recovery and Post anaesthesia Care Unit (PACU)
4. Intensive Care Units
5. Dialysis and transplant
6. All specialty theatres
7. Peripheral areas: Radiology, MRI, ECT and other interventional laboratories

First year : Basic skills and orientation to broad specialty departments

1.	General surgery :	4 months
2.	Orthopedics surgery	1 month
3.	Pre assessment clinic	1 month
4.	ENT	1month
5.	Medicine /Toxicology ICU	1 month
6.	PACU/Recovery room	1month
7.	Causality / Trauma	1month
8.	Obstetric & Gynecology:	1 month
9.	Pain Management	1 month

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2nd year multi specialty training

1. Paediatric surgery OT	1 month
2. Ophthalmic surgery	1 Month
3. Urology OT	1month
4. Surgical gastroenterology	1month
5. Neuro surgery	1 month
6. Cardio thoracic surgery	1 month
7. RADIOLOGY SUITES [radiology & radiotherapy]	1 month
8. ICU/IRCU/PACU	1 month
9. OBG	1 month
10. Special postings for learning new advanced techniques / procedure / skills in specialized institutions or when the Institution does not have a fully functioning specialized dept	2 months

During IInd year, the Students are encouraged to undergo special postings for learning new advanced techniques / procedure / skills in institutions of higher repute where the requisite facilities are available without affecting the duties of the parent department.

3rd year multi-specialty training

ENT & Faciomaxillary Surgery	1 month
Paediatric surgery	1 month
Neuro surgery	1 month
Plastic surgery	1 month
Cardio thoracic surgery	1 month
Transplant surgery OT	2 months
Vascular / Endocrine/ Geriatrics	1 month
Urology	1 month
Neonatology/ Cardiology Intensive Care	1 Month
Organ transplant OT & ICU	2 months

Emergency Operation Theatre & Day care surgery postings on rotation

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one change of topic with proper justification from the Head of the Department is permitted before 31st March of the first Post Graduate Year. The change of dissertation title will not be permitted after 31st March of the First Post Graduate Year. This modification in regulation will be scrupulously followed from the academic year 2015-16 admission onwards.

As per MCI Clause 14 (4)(a), thesis shall be submitted **atleast 6 Months before the Theory and Clinical/Practical Examination.**

The periodical evaluation of dissertation/log book should be done by the guide / **HOD once in every six months**. The HOD should ensure about the submission of dissertation within the stipulated time.

Regarding submission of articles to the University Journal of Medical Sciences for all the PG Degree/Diploma courses, it is mandatory that the students have to submit at-least one research paper. Case Reports are not considered as Research Paper

9.Examination

THEORY EXAMINATIONS:

Theory examination will comprise 4 papers.

Paper I: Basic Sciences as applied to Anaesthesiology
Paper II: Practice of Anaesthesia: Anaesthesia in relation to associated systemic and medical diseases.
Paper III: Anaesthesia in relation to subspecialties/superspecialties
Paper IV: Intensive Care Medicine, Pain Medicine and Recent advances.

All the four question Papers will have following pattern

I. Elaborate on	2 x 15 = 30
II. Write note on	10 x 7 = 70
	100 Marks

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THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY

No. 69, ANNA SALAI, GUINDY, CHENNAI – 600 032.

M.D. / M.S.

POST GRADUATE DEGREE COURSES

SYLLABUS AND CURRICULUM

2021 – 2022

M.D. GENERAL MEDICINE

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THE TAMIL NADU Dr. M.G.R MEDICAL UNIVERSITY, CHENNAI

M.D. GENERAL MEDICINE

1. GOAL

The goal of MD General Medicine Programme shall be to produce competent specialists and/or Medical teachers.

i. who shall recognize the health needs of the community, and carry out professional obligations ethically and in keeping with the objectives of the national health policy

ii. who shall have mastered most of the competencies, pertaining to General Medicine, that are required to be practiced at the secondary and the tertiary levels of the health care delivery system;

iii. who shall be aware of the contemporary advance and developments in General Medicine

iv. who shall have acquired a spirit of scientific inquiry and is oriented to the principles of research methodology and epidemiology; and

v. who shall have acquired the basic skills in teaching of the medical and paramedical professionals.

2. OBJECTIVES:

At the end of the postgraduate training in General Medicine in the student shall be able to

A) Knowledge

i. Recognize the importance to General Medicine in the context of the health needs of the community and the national priorities in the health section.

ii. Practice General Medicine ethically and in step with the principles of primary health care.

iii. Demonstrate sufficient understanding of the basic sciences relevant to General Medicine

iv. Identify social, economic, environmental, biological and emotional determinants of health in a given case, and take them into account while planning therapeutic, rehabilitative, preventive and primitive measure/strategies.

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Imaging technique including CT scan and MRD

1. **Medical disorders in Pregnany**
2. **Stem cell therapy**
3. **Critical care including ABG analysis / Toxicology**
4. **Disaster Management**
5. **Bioterrorism**
6. **Environmental Medicine**
7. **International Travel Regulations**
8. **Medical Fitness**
9. **International Health Regulations**
10. **Pharmacovigilance**
11. **Health Economics**
12. **HMIS**

5. TEACHING LEARNING METHODS

The teaching and training of the students shall include 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 Clinico-Pathological Conferences; practical training in Diagnosis and Medical treatment; training in the Basic Medical Sciences, as well as in allied clinical specialties.

The following teaching learning methods are recommended.

- **Lectures**
- **Case based discussion**
- **Bed side clinics**
- **Teaching on ward rounds**
- **Symposia**
- **Seminars**
- **Journal clubs**
- **Problem based learning**
- **Telemedicine**

STRUCTURED TRAINING PROGRAM

1st Year:

Haematology	**15 days**
Endocrinology	**15 days**
Paediatrics	**15 days**
Psychiatry	**15 days**
Dermatology	**15 days**
Coronary care unit	**15 days**

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Intensive Medical care unit	15 days
Thoracic Medicine	15 days
Radiology including imaging techniques & Nuclear Medicine	15 days
Diabetology	15 days
Rheumatology	15 days
Cancer Chemotherapy	15 days
Geriatrics	15 days
General Medical Wards	5 1/2 months
TOTAL	12 months

2nd Year:

Cardiology	1 Month
Nephrology	1 Month
Neurology	1 Month
Medical Gastroenterology	1 Month
General Medical Ward	8 Months
TOTAL	12 Months

During IInd year, the Students are encouraged to undergo special postings for learning new advanced techniques / procedure / skills in institutions of higher repute where the requisite facilities are available without affecting the duties of the parent department.

3rd Year:

General Medical Wards ... 12 Months

7. Evaluation of the candidates in both theory and practical aspects will help the candidate in improvement of his/her knowledge, skills and attitude.

8. COMPETENCY ASSESSMENT:

1 OVERALL:

1. a) Communication / commitment / Contribution / Compassion towards patients and Innovation () () - 5 Marks
b) Implementation of newly learnt techniques/Skills ()

2. Number of cases presented in Clinical Meetings/ Journal clubs/seminars - 5 marks

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The periodical evaluation of dissertation work should be done by the guide / HOD once in every six months. All the Heads of Department will be held responsible for submission of dissertation in time.

The periodical evaluation of dissertation/log book should be done by the guide / HOD once in every six months. The HOD should ensure about the submission of dissertation within the stipulated time.

Regarding submission of articles to the University Journal of Medical Sciences for all the PG Degree/Diploma courses, it is mandatory that the students have to submit at-least one research paper. Case Reports are not considered as Research Paper

10. THEORY EXAMINATION

Theory examination will comprise 4 papers.

Paper I: Basic Medical Sciences
Paper II: Medicine and allied specialties including pediatrics, Dermatology & Psychiatry
Paper III: Tropical Medicine and Infectious Diseases
Paper IV: Recent Advances in Medicine

Question paper Pattern:

Paper I : Write notes on

i.	Anatomy	4 x 5 = 20
ii.	Physiology	4 x 5 = 20
iii.	Biochemistry	3 x 5 = 15
iv.	Pharmacology	3 x 5 = 15
v.	Pathology	3 x 5 = 15
vi.	Microbiology	3 x 5 = 15

	Total =	**100 marks**

Paper II, III & IV :

i.	Elaborate on :	2 x 15 = 30
ii.	Write notes on	10 x 7 = 70
	Total =	**100 marks**

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POST GRADUATE DEGREE COURSES

SYLLABUS AND CURRICULUM

2021 - 2022

M.S. OTORHINOLARYNGOLOGY

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THE TAMIL NADU Dr. M.G.R MEDICAL UNIVERSITY, CHENNAI

M.S.OTORHINOLARYNGOLOGY

OTORHINOLARYNGOLOGY has undergone a major transformation in the past decade.the branch of surgery which initially comprised ENT head and neck surgery has acquired a totally new field in skull base surgery. There have been many advances in endoscopic surgery of the head and neck also. In tune with the continuing changes and the need for the students to update to the emerging new fields in otorhinolaryngology, the curriculum has been devised to acquire the new status

1 GOAL

The aim of this curriculum is to create a cadre of medical professionals who are well groomed to meet the challenges in the frontier of newer techniques and treatment in the emerging world of medicine and surgery.

1. This curriculum aims at students to keep abreast with latest in ENT subjects
2. Provide comprehensive diagnostic and therapeutic and surgical options and preventive ENT even in rural areas
3. Carry out research activities in emerging fields of ENT
4. To be a complete ENT surgeon by preventing ,diagnosing and treating ENT disease in the community and implement various health care programmes for the society
5. to standardize Otorhinolaryngology teaching at Post Graduate level throughout the country so that it will benefit in achieving uniformity in undergraduate teaching as well and resultantly creating competent ENT Surgeons with appropriate expertise.

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6. STRUCTURED TRAINING PROGRAM

ENT Postings Should include

1. in-patients,
2. out-patients,
3. ICU,
4. trauma,
5. emergency room,

Specialty clinics including

1. Vertigo Clinic,
2. Rhinology Clinic,
3. Otology Clinic,
4. Cancer Clinic,
5. Cadaveric dissection Lab,
6. Audiology and speech therapy.

- Inter-unit rotation in the department should be done for a period of up to one year.
- Rotation in appropriate related subspecialties for a total period not exceeding 06 months.

FIRST YEAR:

E.N.T.	..... 7 Months
General Surgery	..... 2 Weeks
Anaesthesia	..... 2 Weeks
Plastic Surgery	..... 2 Weeks
Cardio Thoracic Surgery / Pulmonary Medicine	..... 2 Weeks
Neuro Surgery	..... 2 Weeks
Oral * Facio Maxillary Surgery	..... 2 Weeks
Surgical oncology	..... 2 Weeks
Radiotherapy	..... 2 Weeks
Chemotherapy	..... 2 Weeks
Radiology	..... 2 Weeks
Total	12 Months

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10. THEORY EXAMINATION

Theory shall consist of four papers of 3 hours each.

Paper I: Basic Sciences related Otolaryngology

Paper II: Principles and Practices of Otolaryngology

Paper III:Recent advances in Otolaryngology and Head Neck surgery.

Paper IV: General Surgical Principles and Head-Neck Surgery.

Question paper Pattern:

Paper I : Write notes on

i.	Anatomy	4 x 5 = 20
ii.	Physiology	4 x 5 = 20
iii.	Biochemistry	3 x 5 = 15
iv.	Pharmacology	3 x 5 = 15
v.	Pathology	3 x 5 = 15
vi.	Microbiology	3 x 5 = 15
	Total =	**100 marks**

Paper II, III & IV :

i.	Elaborate on :	2 x 15 = 30
ii.	Write notes on	10 x 7 = 70
	Total =	**100 marks**

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