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The Tamil Nadu
Dr. M.G.R. Medical University
Madras

Regulations For The
~~M.D.~~/M.S. Post-Graduate Degree
Clinical Courses

Books printed 500 copies

M.S. Clinical Courses

Rs. 15/-

The Tamil Nadu Dr. M. G. R. Medical University

MADRAS

Regulations of the University

In exercise of the powers conferred by Section 44 of the Tamil Nadu Dr. M. G. R. Medical University, Madras, Act, 1987 (Tamil Nadu Act 37 of 1987), the Standing Academic Board of the Tamil Nadu Dr. M. G. R. Medical University, hereby makes the following regulations :—

SHORT TITLE AND COMMENCEMENT :—

These regulations shall be called "THE REGULATIONS FOR THE M.D /M.S. POST GRADUATE DEGREE CLINICAL COURSES" OF THE TAMIL NADU DR. M. G. R. MEDICAL UNIVERSITY, MADRAS".

They shall come into force from the academic year 1993-94.

The regulations framed are subject to modification by the Standing Academic Board from time to time.

THE TAMILNADU Dr. M.G.R. MEDICAL UNIVERSITY
MADRAS - 7

Post-Graduate (M.S.) Degree Clinical Courses

N.B. :—The core-syllabus furnished in this Book-let is only an **"Out - line"** The Post-Graduate students should read exhaustively the Standard Text - Books, Reference Books, Journals etc. for a thorough understanding of the subject.

REGULATIONS

(EFFECTIVE FROM THE ACADEMIC YEAR 1993—94)

M.D./M.S. Post-Graduate Degree Clinical Courses

REGISTRATION

A candidate admitted into M.D./M.S Post-graduate Degree Clinical Courses in any of the affiliated institutions of The Tamil Nadu Dr. M. G. R. Medical University, Madras, shall register with the University by remitting the prescribed fees along with the application form for registration duly filled in and forwarded to the Controller of Examinations of this University through the Head of the affiliated Institution within the stipulated date.

ELIGIBILITY

Candidates for admission to the first year of the M.D /M.S. Post-graduate Degree Clinical Courses shall be required to possess the following qualifications :

a) He/She having qualified for the M.B.B S. degree of this University or any other University recognised as equivalent there to by the authority of this University and the Medical Council of India and obtained permanent registration from any of the State Medical Councils.

b) The admitting authorities of the Institutions will strictly ensure that every candidate admitted to the M.D./M.S. Post-graduate Clinical Courses has obtained permanent registration certificate from any one of the State Medical Councils.

RECOGNITION FEE

Candidates who have passed the M.B.B.S. Degree from any other University shall remit a recognition fee as prescribed along with the stipulated registration fees.

DURAT ON OF THE COURSE

a) The period of certified study and training for the M.D./ M.S. Post - graduate Clinical Course shall be three academic years for the award of the degree.

b) No exemption shall be given for the period of study and training.

COMMENCEMENT OF THE COURSE

The academic year for M D / M.S. Post - Graduate Clinical Courses shall commence from' April 1st of the every year.

CUT OFF DATES

(EXPLANATION VIDE ANNEXURE)

June 30th of the academic year.

July 1st to December 31st of the academic year.

January 1st to March 31st of the academic year.

COMMENCEMENT OF EXAMINATIONS

There shall be two University examinations in an academic year.

March 15th / September 15th. If the date of commencement of the examination falls on Staurdays, Sundays or declared Public Holidays, the examination shall begin on the next working day.

WORKING DAYS IN AN ACADEMIC YEAR

Each academic year shall consist of not less than 200 working days.

ATTENDANCE REQUIREMENTS FOR ADMISSION TO EXAMINATION

No candidate shall be permitted to appear for the examination unless he / she has put in 80% attendance during his / her period

of study and training in the affiliated institution recognised by this University and produce the necessary certificate of study, attendance and progress from the Head of the Institution.

CONDONATION OF ATTENDANCE

There shall be no condonation of attendance for Post - Graduate courses.

REVALUATION OF ANSWER PAPERS

There shall be no revaluation of answer papers in any Post-Graduate examination.

TRAINING IN OUTSIDE CENTRES

The Head of the Post-Graduate Departments shall make necessary arrangements for their Post-Graduate candidates to undergo training in various skills in other centres within and outside the State if facilities are not available in their own institution or hospitals.

NUMBER OF APPEARANCE (S)

a) A candidate registered for Three years M.D. / M.S. Post-Graduate Clinical Courses must qualify in the Examinations within five years of the date of his / her admission.

b) However, a candidate may be permitted to undergo a further period of study and training of minimum **Six months** duration in a recognised Post-Graduate Department in the speciality in an Institution approved by Medical Council of India for every subsequent appearances upto a maximum of two appearances.

c) The candidate should submit a certificate of study and training from the Head of the Institution to Controller of Examinations of this University along with his / her application for admission to every subsequent examinations (applicable for candidates who have failed more than 3 times in total.

d) The candidates will not be, however, permitted to appear for more than **7 attempts** in the final examination and shall be discharged from the course if he / she fails to fulfil this provision.

MAINTENANCE OF LOG BOOK

a) Every Post - Graduate candidate shall maintain a record of skills he has acquired during the three year training period certified by the various Heads of Departments he has undergone training.

b) The candidate should also be required to participate in the teaching and training programme of under graduate students.

c) In addition, the Head of the Department shall involve their Post-graduate Candidates in Seminars, Journal Clubs, Group Discussions and participation in clinical, clinico-pathological conferences.

d) Eevry Post-graduate candidate should be encouraged to present short title papers in conferences and to make improvements on it and submit them for publication in reputed medical journals. Motivation by the Heads of Departments is essential in this area to sharpen the research skills of the post-graduate candidates.

e) The Head of the Department shall scrutinise the Log Book once in every three months.

f) At the end of the course, the candidate should summarise the contents and get the Log Book certified by the Head of the Department.

g) The Log Book should be submitted at the time of practical examination for the scrutiny of the Board of Examiners.

DISSERTATION

a) All candidates registered to undergo post-graduate degree clinical courses shall be assigned a topic for dissertation/ Thesis within 4 months of his/her admission to the course and title of the topics assigned to the cadidates be intimated to the controller of Examinations of this University.

b) The candidate shall have the option in lieu of Dissertation/Thesis to submit a monograph on any topic pertaining to his/her speciality. The Head of the Department shall assign the topic of the monograph to the candidates.

c) The candidate shall have the option in lieu of Dissertation/Thesis or monograph to submit proof of publication or acceptance of a paper as a principal author in a reputed medical journal.

d) The Dissertation/Thesis shall be a bound volume of minimum 50 pages and not exceeding 75 pages of typed matter (Double line spacing and on one side only) excluding certification, acknowledgements annexures and Bibliography.

e) 4 copies of Dissertation shall be submitted 4 months prior to the commencement of the examinations on the prescribed date to the Controller of Examinations of this University.

EVALUATION OF DISSERTATION

a) The Dissertation shall be evaluated by four examiners prior to the commencement of the University theory examinations.

b) Two copies of statement of marks for dissertation shall be sent by the Examiners to the Controller of Examinations of this University. The Controller of Examinations shall forward a copy of the statement of marks to the Chairman of the Board of Examiners who will consolidate the marks at the time of clinical examinations.

c) If the Dissertation is approved but the Examiners suggest minor corrections and resubmission of the dissertation, the candidate's results shall be with held. The Chairman, Board of Examiners, shall submit a detailed report to the Controller of Examinations of this University the corrections that the candidate has to carry-out and the dissertation shall be resubmitted by the candidate within a month from the date of publication of the results. The Dissertation shall be revalued by the same set of 4 examiners and on receipt of approval, the results of the candidate shall be declared.

d) If the candidate fails in the written / practical examination but his dissertation is approved the marks awarded for Dissertation shall be carried over for the subsequent examination (s).

e) If the Dissertation is rejected by two or more Examiners, the candidate is permitted to appear for the written / practical examinations and he shall not be declared to have passed. The results shall be withheld. The candidate shall re submit a fresh Dissertation one month prior to the commencement of the subsequent theory examination and only on approval of Dissertation he / she shall be declared to have passed the examinations.

MIGRATION / TRANSFER OF CANDIDATES

a) Migration / Transfer of candidates from one recognised Medical College to another recognised Medical College of this University or from another University shall not be granted unless a "NO OBJECTION CERTIFICATE" is obtained from the Medical Council of India.

b) The provision of combination of attendance shall be granted to a transferee for admission to the examinations of this University on satisfactory fulfilment of the regulations of this University.

RE - ADMISSION AFTER BREAK OF STUDY

a) Candidates having a break of study of 5 years and above from the date of admission and more than two spells of break will not be considered for re-admission.

b) The five years period of break of study shall be calculated from the date of first admission of the candidate to the course for the subsequent spells of break of studies.

c) A candidate having a break of study shall be re-admitted after satisfactory fulfilment of the regulations of the University at the commencement of an academic year only and shall undergo the full duration of the course with no exemption in the period of study and examinations (including already passed) and will be permitted to appear for the examinations as prescribed in the regulations.

CONCURRENT STUDY OF POST-GRADUATE DIPLOMA

A candidate admitted to undergo a Three year M.D. / M.S. Post-Graduate Degree Clinical Course will not be eligible to appear for the Post - Graduate Diploma Course while undergoing the degree course at the end of two years period.

ANNEXURE

CUT-OFF DATES - EXPLANATION

The candidates admitted and registered from 1st April to 30th June shall take up their regular Part I of Ist year examination during the March/April of the next year.

The candidates admitted and registered from Ist July to 31st December shall take up their Ist year/regular Part I Examination during the October of the subsequent year.

The candidates who have joined on Ist January to 31st March shall register for the year of the selection, but they shall undergo the course along with the subsequent year batch of students. They shall be eligible to appear for Part II or final examination two years after the Part I examination.

MODEL QUESTION PAPER

M.D./M.S. POST-GRADUATE DEGREE CLINICAL EXAMINATION

PART–I

Paper-I : APPLIED BASIC SCIENCES

Time : 3 Hours Maximum : 180 Marks

SECTION - A

1.	Anatomy, M.C. Questions	15 × 1 Marks each =	15 Marks
2.	Physiology, M C. Qs.	15 × 1 Marks each =	15 ,,
3.	Biochemistry, M.C. Qs.	15 × 1 Marks each =	15 ,,
4.	Pharmacology, M.C. Qs.	15 × 1 Marks each =	15 ,,
5.	Pathology, M.C. Qs.	15 × 1 Marks each =	15 ,,
6.	Microbiology, M.C. Qs.	15 × 1 Marks each =	15 ,,
		Total	90 ,,

SECTION - B

1.	Anatomy Short Notes	3 × 5 Marks each =	15 Marks
2.	Physiology Short Notes	3 × 5 Marks each =	15 ,,
3.	Biochemistry Short Notes	3 × 5 Marks each =	15 ,,
4.	Pharmacology Short Notes	3 × 5 Marks each =	15 ,,
5.	Pathology Short Notes	3 × 5 Marks each =	15 ,,
6.	Microbiology Short Notes	3 × 5 Marks each =	15 ,,
		Total	90

MODEL QUESTION PAPER

TIME : 3 Hours MAXIMUM : 100 Marks

1. Essay Question .... 25 Marks

2. Essay Question .... 25 Marks

3. WRITE BRIEFLY ON :

A.

B.

C.

D.

E.

(5 x 10 = 50 Marks)

POST GRADUATE M S. DEGREE COURSE IN GENERAL SURGERY - BRANCH-I

TRAINING PROGRAMME

FIRST YEAR

(a)	General Surgery	....	7 Months
(b)	Anaesthesia	...	1 Month
(c)	Radiology and Radio-therapy	....	1 Month
(d)	Ortho and Traumatology i. Ortho 1 Month ii. Traumatology 2 Months	....	3 Months
		Total	12 Months

SECOND YEAR

(a)	General Surgery	....	7 Months
(b)	Neuro Surgery	....	1 Month
(c)	Plastic Surgery	....	1 Month
(d)	Paediatric Surgery	....	1 Month
(e)	Cardio Thoracic	....	1 Month
(f)	Urology	....	1 Month
		Total	12 Months

THIRD YEAR

(a)	General Surgery	....	9 Months
(b)	Intensive Coaching	....	3 Months
		Total	12 Months

POST GRADUATE M.S. DEGREE COURSE IN GENERAL SURGERY - BRANCH-I

SCHEME OF EXAMINATION

Distribution of marks :

Part I (At the end of First year)

Theory	Title	Duration in hours	Maximum marks
Paper - I	Applied Basic Sciences ***	3	180
Paper - II	Surgery including Surgical Pathology.	3	100
	There would be No Clinical / Practical Examination under Part I at the end of First year.		

Marks qualifying for a pass :-

50% of marks in the University Theory Examination - (Paper-I Applied Basic Sciences)	90/180
Paper-II	50/100

The applied Basic Science Paper will be evaluated separately and marks qualifying for a pass shall be 50% of the total prescribed. (90 / 180)

*** Common to M.S. Branches

I General Surgery

II Orthopaedic Surgery

Part II (At the end of IIIrd year)

Theory	Title	Duration in Hours	Maximum marks
Paper I	Surgery	3	100
Paper II	Surgery including Traumatology	3	100
Paper III	Recent Advances	3	100
		Total	300

Clinical Examination :-

	No. of cases	Duration	Marks
Long case	One	One hour	80
Short cases	Three	45 Minutes	120
		Total	200

Practicals :-

Slides	Specimens	X-Rays		
(2)	(1)	(2)	....	25
Orals			....	75
			Total	100

Dissertation :-

Dissertation Marks		75
Oral on Dissertation		25
	Total	100

Marks qualifying for a Pass :-

50% of marks in the University Theory Examinations.	150 / 300
50% of marks in the University Clinical Examinations.	100 / 200
50% aggregate in Theory / Clinical / Practical / Oral / Dissertation.	350 / 700
Maximum number of candidates to be examined per day ...	6

POST GRADUATE M S. DEGREE IN GENERAL SURGERY - BRANCH-I

RECOMMENDED LIST OF TEXTBOOKS & JOURNALS

TEXT BOOKS (Latest Edition)

1. Bailey and Love's Short practice of Surgery.
2. Book of Surgery (SABISTON) Volume I and II.
3. Principles of Surgery by SCHWARTZ.
4. Abdominal Surgery by MainGOT.
5. Operative Surgery charles rob.
6. Farquharson's Text book of Operative Surgery.
7. New Airds companion to Surgical Studies.
8. Jamieson and Kay's Text book of surgical Physiology
9. Surgical Pathology by Boyd.
10. General Pathology by Waltair Israel.
11. Last's Anatomy.
12. Clinical Pharmacology by Laurence.
13. Clinical Pharmacology by Satoskar.
14. Mastery of Surgery.
15. Ackerman's Surgical Pathology.
16. Wilson: Watson - Jones Fractures and Joint injuries.
17. Surgical Pathology - By Illing worth and Dick.

JOURNALS

1. British Journal of Surgery.
2. Annals of Surgery.
3. American Journal of Surgery.
4. Surgical Clinics of North America.
5. Diseases of Colon and Rectum.
6. Annals of Royal College of Surgeons.
7. Indian Journal of Surgery.

SYLLABUS

POST GRADUATE M.S. DEGREE COURSE IN GENERAL SURGERY - BRANCH-I

ANAESTHESIA

1. Premedication.
2. Cardio pulmonary resuscitation.
3. Various types of regional anaesthesia.
4. General anaesthesia - Intubution, maintenance and extubation.
5. Anaesthesia in special circumstances like emergency, surgery in metabolic derangements, Trauma etc.
6. Management of Intractable pain.

RADIOLOGY AND RADIO THERAPY

1. Technique of commonly done investigations in the Radiology department like plane x-ray both for bone and soft tissue.
2. Technique of contrast x-rays in various systems in the body and their interpretation.
3. Ultrasonogram.
4. C. T. Scan.
5. Practical knowledge of Radio therapy.
6. Practical knowledge of telecobalt and other Linear accelerator and other types of irradiation.

ORTHO AND TRAUMA

(One month in Ortho and two months in Trauma Ward under Orthopaedic Surgeon.)

1. Principles and management of common fracture.
2. Immobilization and plaster Technique.
3. Correction of deformities of limbs.
4. Diseases of bone and joints including tumours.
5. Management, nerve, tendon and vascular injury.
6. Management of polytrauma.

CARDIO THORACIC

1. Thoraco abdominal injuries.
2. Intercostal drain.
3. Thoracotomy and closure.
4. Surgery of oesophagus, lung and pericardium.
5. Management of emphyema.
6. Fundamentals of open heart surgery and Byepass surgery.

NEURO SURGERY

1. Management of head in injury.
2. Diagnosis and management of intra craneal tension.
3. Practical experience in burrhole and craniotomy.

UROLOGY

1. Basic knowledge of endourology.
2. Trauma related to Urology.
3. Basic investigative aspects of uro-dynamics.

PLASTIC SURGERY

1. Facio Maxillary injuries.
2. Verious methods of Raw area coverage' including Myocutaneous flap.
3. Reconstructive surgery for Breast and head and neck cancer.
4. Cosmetic reconstructive surgery.
5. Management of Burns.
6. Bed sore - prevention and management.

PAEDIATRIC SURGERY

1. Congenital anamalies - gastro intestinal, ano-rectal genito urinary tract etc.
2. Management of intestinal obstruction in new born.
3. Childhood malignancies.

GENERAL SURGERY

All facets of General Surgery including Endocrine Surgery (Viz. Thyroids, Adrenals etc. breast surgery, surgical Castro - enterology.

General Surgery including Surgical pathology and applied aspects and Basic Medical Sciences.

POST GRADUATE M.S. DEGREE IN ORTHOPAEDIC SURGERY BRANCH-II

DETAILS OF TRAINING :

FIRST YEAR :

General Surgery	—	3 Months
Hand and Plastic Surgery Unit	—	1 Month
Total	—	4 Months

SECOND YEAR :

1. Anasthesia — 1 Months

   Intubation Technique should be known to surgeons dealing with traumatology.

   Regional anasthesia and intensive respiratory care will be an essential knowledge for trauma surgeons.

2. Medical Oncology — 1 Month

3. Plastic Surgery — 1 Month

4. Hand Surgery — 1 Mogth

   X ray Studies

   Scan, M.R I.

   Irradiation etc.

THIRD YEAR :

Neurology and Neuro Surgery — 1 Month

Where department of Physiotherapy and Artificial limb centres are functioning separately the students should be posted for these sections for one month in each section.

POST GRADUATE M.S. DEGREE IN ORTHOPAEDIC SURGERY BRANCH—II SCHEME OF EXAMINATION

Distribution of Marks :-

Part—I (At the end of First year)

Theory	Title	Duration in Hours	Maximum Marks
Paper - I	Applied Basic Sciences***	3	180
Paper - II	General Surgery +	3	100

Clinical Examination : -

	No. of Cases	Duration	Marks
1. Short Cases	Two	40 Mts.	90
2. Spotters	Three	30 Mts.	60
		Total	150

Practicals :-

Slides / Specimens / Charts			(5×2)	10
(2)	(1)	(2)		
Orals				40
			Total	50

Marks qualifying for a pass :-

50% of Marks in the University Theory Examination —Paper I (Applied Basic Science)	}	90/180
—Paper II	....	50/100
50% of Marks in the University Clinical Examination	}	75/150
50% of Marks aggregate in the Thoory/Clinical/Practical/Oral Examinations	}	150 300

The Applied Basic Scince paper will be evaluated separately and marks qualifying for a pass shall be 50% of the total prescribed. (90/180)

*** Common to M.S. Branches — I General Surgery, II Orthopaedic Surgery

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+ Common to M.S. Branches — II Orthopaedic Surgery, III Ophthalmology, IV Oto-Rhino Laryngology

Part—II (At the end of IIIrd year)

Theory	Title	Duration in Hours	Maximum Marks
Paper-I	Traumatology	3	100
Paper-II	Orthopaedics	3	100
Paper-III	Rehabilitation	3	100
		Total	300

Clinical Examination :-

	No. of Cases	Duration	Marks
Long Case	One	One Hour	80
Short Cases	Three	45 Mts.	120
		Total	200

Practical Examination :-

Slides / Specimens / X-Rays / Instruments / Operative Procedures / Prosthetics / Orthotics

(1) (1) (1) (1) (Any One)

(5 × 5) 25

Orals 75

Total 100

Dissertation :-

Dissertation Marks		75
Oral on Dissertation		25
	Total	100

Marks qualifying for a pass :-

50% of Marks in the University Theory Examinations	150	300
50% of Marks in the University Clinical Examinations	100	/ 200
50% of Marks aggregate in Theory Clinical / Practical / Oral Dissertation	350	/ 700
Maximum Number of Candidates to be Examined per day	....	6

POST GRADUATE M.S. DEGREE IN ORTHOPAEDIC SURGERY BRANCH-II

RECOMMENDED LIST OF TEXT BOOKS AND JOURNALS

TEXT BOOKS :

1.	Systems of Orthopaedics and Fractures	— G. Apley
2.	Outline of Orthopaedics	— C. Adams
3.	Text book of Orthopedics and Transmatology	— M. Natarajan
4.	Fractures and Joint Injuries Watson Jones	— Wilson
5.	Marcers Orthopaedic Surgoen	— Duthiea Bently
6.	Orthopaedics	— S. Turek
7.	Operative Orthopaedics	— Campbell
8.	Orthopaedic diseases	— Aegertera Kirkpatrick
9.	Bone Tumours	— Andrew G. Huros
10.	Spine	— James Cyriax
11.	Fractures	— Watson Jones
12.	Orthopaedics	— Mercer

Journal of Bone and Joint Surgery Orthopaedic Clinics of North America ACTA Orthopaedics Scandinavia Clinical Orthopaedics (Kulkarni) Indian Journal of Orthopaedics.

SYLLABUS

Post Graduate M.S. Degree Course in Orthopeadic Surgery - Branch-II

Part - I Paper - I Applied Basic Sciences

Cell Biology, Genetics, elementary embryology. Physiology of electrolyte and water metabolism acid base regulation, renal and hepatic functions: Cardiovascular system control of blood pressure, heart rate and regional blood flow and shock - Respiratory system, oxygen and Co^2 transport mechanism, assessment of lung function : Somatic and autonomic nervous system, chemical transmission, Somatic and autonomic nervous system. chemical transmission of nerve impulses; Endocrine and Reticulo andothelial system Metabolism of Calcium; Phosphorus, Protoins, fat and carbohydrates Haemorrage and thrombosis : General Pathology related to inflammation, infections. tissue response to injury, wound heading and neoplasia; Principles of action of drugs and principles governing the use of commonly administered anaesthetic analgesics, antibiotics antimitotic agents etc. General Principles of Immunology Principles of dietetics and nutrition: Principles of Microbiology and control of infection Elementary Biostatistics and Epidemiology: History of Burgey and allied discipline Psycho-social problems in Surgery and General Principles of Basic sciences as applied to the Speciality including regional anatomy of the concerned area.

Part I : Paper II - General Surgery :

Part - II examination is to asses the sound knowledge of principles and practice of the concerned discipline. Special emphasis would be on the understanding of diseases prevalent in our country. Adequate knowledge, skill and competence of the diagnosis, treatment and prognosis of surgical and other emergencies would be expected.

The candidate would be expected to have a thorough knowledge of all the operative procedures, both emergency and elective well within the realms of general surgery-Adequate proficiency would be expected in the re-operative and post operative and post operative management of patients.

Knowledge of basic priniples, management of common conditions and emergency of other specialities like Neuro-Surgery, Orthopaedic Surgery, Cardio - thoracic Surgery, Urology would be expected.

Sound understanding of the various laboratory investigation including diagnostic procedures, as used in clinical - Surgery would be expected. Should be conversant with basic principles of anaesthesology and resusciative measures.

Clinical / Practical; To adequately assess the clinical and practical knowledge, the candidate would be shown a wide spectrum of clinical situation for diagnosis and treatment; would be expected to demonstrate proficiency in the physical examination clinical judgement, operative and post - operative management of clinical patients. Should be able to scientifically evaluate the various radiological and laboratory parameters in arriving at the diagnosis.

Viva - voce Surgical anatomy. Surgical pathology operative surgery and instruments, Radiology.

SYLLABUS FOR PART II

Aim is to test knowledge skill and competence in all areas in Orthopaedic Pathology, hand Surgery. A student should show interest in academic activities and should be conversant with latest developments and advances.

1. Traumatology :

Fractures and Dislocations; This shall include the machanism of violence causing injury, Pathology of fracture healing the signs and symptoms, of displacement of fragments - reduction, main-

tenance of reduction of fractures and disolocations by various methods including internal fixation mothods and current concepts of metals in relation to human body study of complication or osteo - articular injuries and their treatment and rehabilitation of all bones.

They - shall work in the orthopaedic out - patient department and 24 hours fracture service and obtain proficiency in first aid emergency management of fractures and dislocations-resuscitation and management of multiple injuries They also be made conversent with various splints and their uses.

II. CONTUSIONS AND OTHER SOFT TISSUE INJURIES

Sprains of ligaments of various joints mechanism of production, their pathology symptomatology and management.

III. PERIPHERAL NERVE INJURIES AND SPINAL CORD INJURIES

Mechanism of production symptomatology - patho physiology investigation including electrodiagnosis - Physiotherapeutic management-surgical treatment-splinting and braceing-rehabilitation.

General Orthopaedics :

The study of general Orthopaedics shall include all the diseases that affect the locomotor system including :

a. Deformities - Congenital and acquired - Pathomechanics - clinical features - manipuiative treatment surgical correction by braces and splints-rehabilitation.

b. Osteoarticular tuberculosis - incidence Bactoriology Pathology Symptomatology - investigations and management both conservative and surgical.

c. Infections : Bacteriology-Pathology-Clinical features and management in acute, subacute and chronic Infectiods of bones.

d. Arthritis : Includes the study of various types of arthritis including infective, rheumatoid, metabolic and degenerative pathophysiology investigations and management.

e. Tumours : Include the study of benign and malignant osseous and soft tissue tumours-pathogenesis-invetsigation histopathology-management.

f. Neuromuscular disorders : Include the study of Anterior Poliomyelitis, Cerebral Palsy, obstetrical palsies, muscular dystrophies-incidence Bacteriology-pathophysiology-cerebral palsy-incidence etiology-Pathophysiology-various clinical types-Physiotherapy splinting and bracing surgical management-rehabilitation-obstetrical paralyis incidence-pathomechanics-clinical electro diagnosis-Splinting, and bracing Physiotherapy and management.

g. Metabolic Disorders: Involving the skeletal system. The course requires the candidates to attend the Orthopaedic Wards and out-patient department and shall have performed the common Orthopaedic operations independently and assisted all major operations during the period of study and learn the principles of all traction procedures.

II. Physical Medicine and Rehabilitation :

a. Principles of Physical therapy including exercise therapy and electrotherapy, examination and prescription for splints and braces :

b. Principles of Occupational Therapy :

and

c. Principles of electro - diagnosis

IV. Prosthetics and Orthotics :

Principles of amputation surgery - rehabilitation of the ampute examination and prescription for Orthosis and Prosthesis - check up of fittings.

V. The concept of total rehabilitation - including medical educational, vocational and Social Rehabilitation.

Post Graduate M.S. Degree Course in Ophthalmology - Branch-III

TRAINING PROGRAMME

FIRST YEAR

Out Patient and Casualty	....	2 Months
Inpatient and O. T.	....	6 Months
G.H. Posting	....	4 Months ***
Total		12 Months

****Break - up Details :-

General Surgery	....	15 Days
Plastic Surgery	....	15 Days
E.N.T. Dept.	....	15 Days
Neurology and Neuro Surgery	....	45 Days
Diabetology	....	15 Days
Rheumatology	....	15 Days

SECOND YEAR

Cornea Clinic	....	1 Month
Glaucoma Clinic	....	1 Month
Neuro Ophthalmology Clinic	....	1 Month
Orbit Clinic	....	15 Days
Orthoptic Clinic	....	1 Month

Retina Clinic	---	1 Month
Uvea Clinic	---	15 Days
Refraction Room	---	2 Months
Eye Camps and Community Ophthalmology	---	4 Months
Total		12 Months

THIRD YEAR

Inpatient and O T.	---	12 Months

Post Graduate M.S. Degree Course in Ophthalmology - Branch III

Scheme of Examination

Distribution of Marks :-

Part—I (At the end of First year)

Theory	Title	Duration in Hours	Maximum Marks
Paper-I	Applied Basic Sciences (relating to Ophthalmology)	3	180
Paper-II	General Surgery*	3	100

Clinical Examination :-

(For Paper II only - General Surgical Cases will be diagnosed and discussed)

1. Short Cases	— Two	— 40 Mts.	...	90 Marks
2. Spotters	— Three	— 30 Mts.	...	60 Marks
		Total		150 Marks

Practicals :-

Slides / Specimens / Charts			(5 × 2)	10 Marks
(2)	(1)	(2)		
Orals				40 Marks
		Total		50 Marks

Marks qualifying for a pass :-

50% of marks in the University Theory Examination —Paper-I (Applied Basic Science)	}	90 / 180
Paper-II	....	50 / 100
50% of marks in the University Clinical Examination	}	75 / 150
50% Aggregate in the Theory / Clinical Practical / Oral Examinations	}	150 / 300

The Applied Basic Science paper will be evaluated separately and marks qualifying for a pass shall be 50% of the total prescribed. (90 / 180)

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* Common to M.S. Branches.

II Orthopaedic Surgery

III Ophthalmology and

IV Oto - Rhino Laryngology.

Part—II (At the end of IIIrd year)

Theory	Title	Duration in Hours	Maximum Marks
Paper-I	Ophthalmology including community Ophthalmology & Refraction	3	100
Paper-II	Ophthalmology including Neuro Ophthalmology	3	100
Paper-III	Ophthalmology including investigative Ophthalmology and Surgery	3	100
		Total	300

Clinical Examination :-

	No. of Cases	Duration	Marks
Long Cases	One	45 Mts.	80
Short Cases	Two	30 Mts.	40
Retinoscopy	One	30 Mts.	40
Funduscopy	Two	30 Mts.	40
		Total	200

Practicals :-

Slides	Specimen	X-Rays	Field Chart Scan Charts FFA Chart Instruments
(1)	(1)	(1)	(Any Two)

	(5 × 5)	25
Orals		75
	Total	100

Disertation :-

Dissertation Marks	.....	75
Oral on Dissertation	.....	25
	Total	100

Marks qualifying for a pass :-

50% of marks in the University Theory Examinations	150 / 300
50% of marks in the University Clinical Examinations	100 / 200
50% Aggregate in Theory / Clinical / Practical / Oral / Dissertation	350 / 700
Maximum number of candidates to be examined per day ...	6

Post Graduate M.S. Degree Course in Ophthalmology - Branch-III

RECOMMENDED LIST OF TEXT BOOKS & JOURNALS

TEXT BOOKS

1. Arnold Sorsby - Modern Ophthalmology
2. Principles and Practice of Ophthalmology by peymar.
3. Prasons diseases of the Eye.
4. Clinical Ophthalmology - Kenski.
5. Becker - shaeffer's Diagnosis of Therapy of the Glaucoma.
6. Clinical methods of Neuro-Ophthalmologic Exam. A. Kestenbaum.
7. Diseases of the Eye-May and worth's.
8. Cattract Surgery & its Complications by Jaffe.
9. Stallard's Eye Surgery.
10. Practical orthoptics in the treatment of squint-Kieth lyle.

REFERENCE BOOKS

1. The Cornea - H. E. Kaufman.
2. Retina-Stephan. J. Ryan.
3. Clinical Neuro-Ophthalmology-Walsh and Hoyt's.
4. System of Ophthalmology-Duke-Elder (15 Volumes),

JOURNALS

1. British Journal of Ophthalmology.
2. American Journal of Ophthalmology.

3. Indian Journal of Ophthalmology.

4. Eye Journal Ophthalmology.

5. Survey of Ophthalmology.

6. IOC

7. Archives of Ophthalmology.

8. Ophthalmol.

Up-Dated Core Syllabus

M.S. Ophthalmology (Basic Sciences-Applied)

ANATOMY :

Anatomy of lids, Lacrimal passage, extra ocular muscles, Cornea, Angle of Anterior chamber, uveal tract, Lens, Vitreous, Retina, Optic nerve and visul pathway.

Developmental Anatomy of the Eye.

Bony orbit spaces of orbit and cranial fossa, cavernous sinus-paranasal sinuses, Blood suply to eye and Adnexa; blood supply of visual pathway-circle of willis.

Cranial nerves, parasympathetic and sympathetic supply to the Eye-ventricles of the Brain.

Physiology :

Maintenance of corneal transparency.

Lacrimal secretion and tear film layer.

Formation and circulation of Intra ocular fluids.

Maintenance of Intra ocular tension.

Pupillary reaction and their pathway.

Pupillary reflexes.

Theroies of Accommadation.

Accommation-convergence-relationship.

Blood Aqneous Barrier.

Physiology of vision.

Theories of colour vision.

Binocular vision.

Blood Retinal Barrier.

electrophysiology.

Axonual transmission of impulses.

Visual perception of cerebral certex.

Biochemistry :

Carbohydrate metabolism.

Metabolic disorders of lipids.

Aminoacid-normal and Abnormal Metabolism.

Metabolism of cornea.

Metabolism of crystathine lens.

Biochemical changes of lens leading auto cataract.

Matabolism of Retina.

Photochemistry of vision.

Structure and Metabolism of vitreous.

Pharmacology :-

Miotics, Mydriatics - Cyclopleqics.

Parasympatholytic drugs.

Cholinergic drugs.

Sympathomimetic drugs.

Sympatholytic drugs

Penetration of topically applied drugs.

Tear replacement substances.

Drug Penetration of blood aqneaus barrier.

Principles of Cortisone and Acth therapy.

Principles of Antibiotic Tnerapy.

Fluroscein Dye.

Anticoagulents.

Antiviral drugs.

Antifungal drugs.

Immuno **suppresive** drugs.

Vasodilators.

Drugs used in Glaucoma.

Antineoplastic agents.

Preanaesthetic medication.

Topical Anaesthesia.

Local Anaesthesia.

Anti Diabetic drugs.

Anti hypertensive drugs.

Shock therapy.

Vitreous sulostitutes and acqeous sulostitute

Pathology :-

General consideration of Inflammation of the Eye and Adnexa.

Vascular changes in Age, hypertension and Diabetes Behign and Malignant Tumours of the Eye and Adnexa.

Dystrophy and Degeneration of the Conjunctiva.

Cornea and Retina.

Matabolic Diseases.

Fungal Gramuloma.

AIDS.

Microbiology :-

General Microbiological characters of Bacteria viruses and fungi and parasites.

Resistance and Immunity, Antigen antibody reactions.

Toxigenicity and hypersensitivity reaction.

GM Positive Group :-

Staphylococci, Streptococci, Pheumococci Corynebacterium Diphtheria, C. Xerosis.

GM Negative Group :-

Neisseria, Moraxella, Kock Weeks Bacillus Brucella, Pseudomonas.

Mycobacteria and Micrococcacia.

Viruses :-

Trachoma an Inclusion Conjunctivitis adenoviruses.

Herpes Simplex.

Herpes Zoster.

AIDS Viruses.

Fungi :-

Aspergillus.

Fusarium.

Candida.

Dismented fungus.

Parasites :-

—Cysticercus.

—Hydatid cyst.

—Loa loa.

—Microfilaria.

—Intestinal nematodes.

Post Graduate M.S. Degree Course in Oto-Rhino Laryngology - Branch-IV

TRAINING PROGRAMME

FIRST YEAR

ENT		Ist	6 Months
General Surgery	In rotation for the next 6 months	....	2 Months
Plastic Surgery		....	1 Month
Cardio Thoracic Surgery		....	1 Month
Neuro Surgery		....	1 Month
Oral & Facio-Maxillary Surgery		....	1 Month
		Total	12 Months

SECOND YEAR

Audiology and Neurotology	....	2 Months
Paediatric Otolaryngology	....	2 Months
Anaesthesia	....	1 Month
Radiology and Radiotherapy	....	1 Month
ENT including upper aero-digestive tract endoscopy	....	6 Months
	Total	12 Months

THIRD YEAR

ENT	....	12 Months

Post Graduate M S. Degree Course in Oto-Rhino Laryngology - Branch IV

SCHEME OF EXAMINATION

Distribution of Marks :

Part—I (at the end of First year)

Theory	Title	Duration in Hours	Maximum Marks
Paper—I	Applied Basic Sciences (relating to ENT)	3	180
Paper—II	General Surgery	3	100

Clinical Examination :

1. Short Cases — Two — 40 Mts. .... 90 Marks
2. Spotters — Three — 30 Mts. .... 60 Marks

Total 150 Marks

General Surgery — 3 Cases — Short Case — 1
Spotters — 2

Neck — 2 Cases — Short Case — 1
Spotters — 1

Practicals :-

Slides / Specimens / Charts (5 × 2) 10 Marks
(2) (1) (2)

Orals 40 Marks

Total 50 Marks

Marks qualifying for a pass :—

50% of marks in the University Theory Examination Paper-I (Applied Basic Science)	}	90 / 180
Paper-II	—	50 / 100
50% of Marks in the University Clinical Examination	}	75 / 150
50% aggregate in the Theory/Clinical/ Oral/Examinations	}	150 / 300

The Applied Basic Science paper wiil be evaluated separately and marks qualifying for a pass shall be 50% of the total prescribed. (90/180)

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* Common to M.S. Branches

II Orthopaedic Surgery

III Opthalmology &

IV Oto - Rhino Laryngology.

Part—II (At the end of 3rd year)

Theory	Title	Duration in Hours	Maximum Marks
Paper-I	E.N.T Including Audiology and Neurotology	3	100
Paper-II	E.N.T. Including Head and Neck Oncology	3	100
Paper-III	Recent Advances in ENT and Medicine and Surgery as applied to ENT	3	100
		Total	300

Clinical Examination :-

	No. of Cases	Duration	Marks
Long Case	One	One Hour	80
Short Case	Three	45 Mts.	
	1. Nose & Sinuses		40
	2. Larynx & Pharynx		40
	3. Head & Neck		40
		Total	200

Practicals :-

Slides / Specimens / X-Rays (2) (1) (2)	(5 × 5)	25
Orals (Instruments, Operative Surgery and Viva Voce)		75
	Total	100

Dissertation :-

Dissertation Marks		75
Oral on Dissertation		25
	Total	100

Marks qualifying for a pass : -

50% of marks in the University Theory Examinations	150 / 300
50% of marks in the University Clinical Examinations	100 / 200
50% Aggregate in Theory / Clinical/ Practical / Oral / Dissertation	350 / 700
Maximum number of candidates to be Examined per day. ...	6

Post Graduate M.S. Degree Course In Oto - Rhino Laryngology - Branch – IV

RECOMMENDED LIST OF BOOKS AND JOURNALS

1. Scott Brown's Otolaryngology - Five Volumes.
2. Otolaryngology Volumes I to IV Edited by Paperella, Shumrick, Gluckman and Meyerhoff.
3. Ballenger - Diseases of the Nose, Throat, Ear, Head and Neck.
4. Mawson's Diseases of the Ear
5. Glasscock and Shambaugh - Surgery of the Ear.
6. Learning Ear Surgery by Temporal Bone Dissection by Dr. K.K. Ramalingam and Dr. B. Sreeramamoorthy.
7. Year Book of Otolaryngology, Head and Neck Surgery Edited by Michael M. Paperella and Byron J. Bailey.
8. Tumors of the Head and Neck - Clinical and Pathological Considerations by John. G. Batsakis.
9. Rob and Smith - Operative Surgery - Three Volumes.
10. Recent Advances in Otolaryngoloy.
11. Jacksons Textbook of Broncho - Oesophagology.
12. Radiology of Head and Neck by Valvassori.

REFERENCES

Lore's Atlas of Head and Neck Surgery.
Microsurgery of the skull base by Ugo Fisch and Doughlas Matto.

Textbook of Operative Surgery by Lee.

JOURNALS

1. Indian Journal of Otolaryngology.
2. British Journal of Otolaryngology.
3. Laryngoscope.
4. North American Clinics of Otolaryngology.
5. Annals of Otology, Rhinology and Laryngology.
6. Acta Otolaryngologica.
7. Archives of Otolaryngology, Head and Neck Surgery.
8. Journal of Paediatric Otolaryngology.

Degree of Master of Surgery (M.S)

Branch IV – Oto - Rhino - Laryngology

Applied Basic Sciences

Syllabus

Anatomy, Physiology, Biochemistry, Pathology and Bacteriology related to E. N. Speciality :

Anatomy

1. Pre - natal and post - natal development of the ear :
   - Internal ear
   - Fistula ante fencestrum
   - Air spaces and lining membrane
   - The Ossicles
   - Stapes
   - External ear
   - Pneumatisation of the mastoid process

2. Anatomy of temporal bone :
   - Squamous portion
   - Mastoid portion
   - Petrous portion
   - Tympanic portion

3. Anatomy of ear
   - External ear
   - Middle ear
   - Internal ear

4. Anatomy of pranial nerves :

With particular reference to facial and auditory nerves.

5. Osteology of the cranial bones .

Venous sinuses

The brain

Anatomy of nose and paransal sinuses :

Prenatal and post - natal

The external nose

The nasal cavity

The paranasal sinuses

Nasal Mucous membrane

Blood supply and nerve supply

Anatomy of the Pharynx and Nose :

Development

The tonsils

The lymphoid

Functions

Anatomy of the larynx :

Prenatal and postnatal development of the larynx.

Difference between child and adult larynx.

Muscles and cartilages of larynx.

Anatomy of trachea, bronchi and Oesophagus.

The lung and broncho - pulmonary segments.

The Mediastinum.

The visceral arches, their derivatives developmental defects.

Development of face.

Bacteriology Syllabus :

1. Elementary Bacteriology pertaining to :
    1. Cornye Bacterium Diphtheria.
    2. Staphylo, Strepto, Paeumo.
    3. Neisseria group.
    4. Proteus group.
    5. Vincents and Fusiform Bacillus.
2. Fungus : Aspergillus group Rhinosporidiosis etc.
3. Viruses : Adeno virus, Cosake virus.
4. Immunology.

Biochemistry Syllabus :

1. Biochemistry of body fluids and C. S. F.
2. Electrolyte balance and maintenance of PH of Blood.
3. Biochemical changes in - upper airway obstruction and after tracheostomy.
4. Biochemistry of labyrinthine fluids and its variations in diseases.

Pharmacology Syllabus :

1. Pharmacology of Sympathomimetic and their uses in Otolaryngology.
2. Local anaesthetics and anagesics : Merits and demerits.
3. Chemotherapy of malignant conditions.
4. Cortico Steroids and its usage in Otolaryngology.
5. Antibiotics - recent trends.

Pathology Syllabus :

General Pathology - Inflammations, Necrosis, Gangrene Repair of wounds.

Shock - Pathology.

Granulomas including midline granulomas.

Thrombosis and Embolism.

Tumours - Aetiology, Classification, Pathology & Histo-pathology.

Special Pathology :

Surgical pathology of Mouth, Jaw, Neck Salivary glands and Oesophagus.

Ear :

Pathology of the external ear.

Histopathology of the drum membrane.

Inflammations of the middle ear.

Inflammation of Mastoid.

Inflammation of the Petross.

Histopathology of the inner ear.

Chronic inflammatory changes in the temporal bone.

Neoplasms of the ear.

Nose :

Pathology of the Nose.

Chronic specific infections of the Nose and accesory sinuses. (Para Nasal)

Cysts and tumours of the nose and accessary sinuses.

Pharynx and Larynx :

Oral and Pharyngeal pathology as manifestations of constitutional diseases.

Pathology of the Nasopharynx larynx.

Lungs swellings of tumifactions of the neck.

Clinical Pathology in its relationship to otolaryngology.

Physiology Syllabus :

Regulation of water balance and composition of body fluids by the kidney.

Coagulation of blood.

Physiology of special senses :

Taste.

Smell.

Hearing.

Physiology of respiration including its mechanism and regulation.

Physiology of deglutition.

Maintenance of balance of body.

Physiology of nose and paranasal sinuses.

Carriage of Oxygen by the blood.

Carbondioxide transport in the body.

Audiology Syllabus :

Physiology of hearing and balance :

Hearing including physics of sound.

Sound production.

Physics of sound.

The vibration.

The decibel.

The material source.

Wave motion in a material medium.

Propagation.

Complex sound various and phase difference.

Sound conduction.

Vestibular function.

Semicircular canals.

The otolith organs.