

Academic

**The Tamil Nadu
Dr. M.G.R. Medical University
Chennai - 600 032.**



Regulations For the
Post - Graduate (M.D.) Degree
Clinical Courses

**THE TAMIL NADU Dr. M.G.R. MEDICAL UNIVERSITY,
CHENNAI - 600 032.**

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

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* (As per S.A.B. resolution 28.3.94)

N.B.: - The core-Syllabus furnished in this Book let is only Out-line. The Post - Graduate students should read exhaustively the Text - Books, Reference Books, Journals etc. for a thorough understanding of the Subject.

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

**Regulations of the University
(Modified upto 30th Sept. 1999)**

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

SHORT TITLE AND COMMENCEMENT:-

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

The regulations framed are subject to modifications made by the Standing Academic Board from time to time

REGULATIONS

(Effective from the year 1993-94)

POST- GRADUATE (M.D.) DEGREE CLINICAL COURSES

(Modified upto 30th Sept. 1999)

REGISTRATION

A candidate admitted into Post-Graduate (M.D.) Degree Clinical courses in any of the affiliated Institutions of the Tamil Nadu Dr. M.G.R. Medical University, Chennai 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.

The candidate's name must be registered in the University within 3 months from the date of his/her admission.

ELIGIBILITY

Candidates for admission to the first year of the Post - Graduate (M.D.) 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 thereto by the authority of this University and the Indian Medical council and obtained permanent registration from any of the State Medical councils.

b) The admitting authorities of the affiliated institutions will strictly ensure that every candidate admitted to the Post-Graduate M.D. Degree clinical courses has obtained permanent registration certificate from any one of the State Medical Councils.

RECOGNITION FEE

Candidate 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.

DURATION OF THE COURSE

A) The period of certified study and training for the Post-Graduate (M.D.) Degree clinical courses shall be three Academic Years for the award of the degree.

B) No exemption shall be given from the period of study and training.

COMMENCEMENT OF THE COURSE

The academic year for Post-Graduate (M.D.) Degree clinical courses shall commence from April 1st of the academic year.

CUT-OFF DATES (EXPLANATION VIDE ANNEXURE)

- a) June 30th of the academic year
- b) July 1st to December 31st of the Academic year
- c) January 1st to March 31st of the Academic year.

COMMENCEMENT OF THE EXAMINATION

There shall be two University examinations in an academic year.

March 15th / September 15th. If the date of commencement of the examination falls on Saturdays, 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 EXAMINATIONS

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 produces the necessary certificate of study, attendance and progress from the Head of the Institution.

Students of Post Graduate degree courses and other courses should undergo training for 9 (nine) continuous calendar months in an academic year. Separate attendance for Applied Basic Sciences (Anatomy, Physiology, Bio-Chemistry, Pharmacology, Pathology, Microbiology) to be produced by the HOD. The candidate who do not appear for examinations due to lack of attendance he/she be permitted to appear for the examination in the subsequent examinations if the candidate has satisfied to attendance requirements.

CONDONATION OF ATTENDANCE

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

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 institutions or hospitals.

a) The failed candidates would be permitted to appear for a maximum of 10 attempts within 6 years from the date of completion of the course and shall be discharged from the course if he/she fails to fulfil this provision.

b) A Post Graduate student be given 3 months refresher study after five attempts by posting in the speciality Department before appearing for examination for the sixth time.

MAINTENANCE OF LOG BOOK

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

b) The candidates 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, clinical-pathological conferences.

d) Every 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 candidates 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 at the time of CLINICAL / PRACTICAL EXAMINATION.

b) If the Dissertation is approved but the Examiners suggest minor corrections and resubmission of the dissertation, the candidates' results shall be withheld. 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.

c) 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).

d) 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 resubmit 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

1. 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.

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

RE-ADMISSION AFTER BREAK OF STUDY

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

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

If any candidate who discontinued the course, due to various reasons on the break of study of the candidate is for more than 6 months, the candidate should get prior permission from the University for continuing the course if the vacancy remains unfilled.

A candidate having a break of study shall be re-admitted after satisfactory fulfillment 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 will be permitted to appear for the examinations as prescribed in the regulations.

If the candidate's name is not registered in the University within 3 months from the date of his/her admission, permission for re-admission for such candidate will not be issued from the University.

CONCURRENT STUDY OF POST-GRADUATE DIPLOMA

A candidate admitted to undergo a three year M.D. Post-Graduate Degree clinical course will not be eligible to appear for the Post-Graduate Degree 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 1st year Examination during the March / April of the next year.

The candidates admitted and registered from 1st July upto 31st December shall take up their 1st Year / regular Part-I Examination during the October of the next year.

The candidates who have joined on 1st 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	15X1	Marks each =	15 Marks
2. Physiology, M.C. Qs.	15X1	Marks each =	15 Marks
3. Biochemistry, M.C. Qs.	15X1	Marks each =	15 Marks
4. Pharmacology, M.C.	15X1	Marks each =	15 Marks
5. Pathology, M.C. Qs.	15X1	Marks each =	15 Marks
6. Microbiology, M.C. Qs.	15X1	Marks each =	15 Marks
Total			90 Marks

SECTION-B

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

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)

M.D. BRANCH-I**GENERAL MEDICINE****TRAINING PROGRAMME****FIRST YEAR**

Haematology	...	15 days
Endocrinology	...	15 days
Paediatrics	...	15 days
Psychiatry	...	15 days
Dermatology	...	15 days
Coronary care unit	...	15 days
Intensive Medical care Unit	...	15 days
Thoracic Medicine	...	15 days
Radiology Including imaging techniques & Nuclear Medicine	...	15 days
Clinical Epidemiology	...	15 days
Venereology	...	15 days
Diabetology	...	15 days
Rheumatology	...	15 days
Cancer Chemotherapy	...	15 days
Geriatrics	...	15 days
General Medical Wards	...	4½ Months
Total		12 Months

SECOND YEAR

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

THIRD YEAR

General Medical Wards	...	12	Months
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Note:- The Post-graduate student should attend the regular out patient Departments of their parent Medical Unit and do the Night duties in their parent unit on every admission days. They should make a record of Medical emergencies they have attended in their log books.

Scheme of Examination

Distribution of Marks:

Part-I (At the end of First Year)

Title	Duration in Hours	Maximum Marks
Theory Applied Basic Sciences *	3	180

There would be no Clinical / Practical / Oral Examination at the end of first year.

Part-II (At the end of Third year)

Theory	Title	Duration in Hours	Maximum Marks
Paper-I	Medicine Including Psychiatry	3	100
Paper-III	Tropical Medicine	3	100
Paper-III	Medicine including Children disease	3	100

Clinical Examination:

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

Guidelines for Long Case:

Long Case - 1 Hour - CNS or Multi System involvement including detailed case sheet writing.

Guideline's for Short Cases:

- 1) General Exam & CVS — 15 Mts.
- 2) General Exam & R.S. — 15 Mts.
- 3) General Exam of abdomen — 15 Mts.
No Case sheet writing.

The Candidate should be examined in each of the Systems (viz) C.N.S., C.V.S., R.S. & abdomen.

* Common to M.D. Branch I General Medicine and Branch VII Paediatric Medicine

Oral and Practical:

1. Slide
2. Specimen
3. X-Ray and
C.T. Scans 25 Marks
Ultra Sound
Echo Cardiograph
4. E.C.G.

Orals 75 Marks

Total 100 Marks

Dissertation:

Dissertation Marks : 75 Marks

Oral on Dissertation : 25 Marks

Total 100 Marks

Marks qualifying for a pass

PART-I

50% of Marks in the University Theory
Examination Theory Paper - Applied
Basic Sciences 90/180

PART-II

50% of Marks in the University
Theory Examination 150/300

50% of Marks in the University
Clinical Examination 100/200

50% aggregate in Theory / Clinical
Practical / Oral / Dissertation 350/700

Recommended List of Books and Journals

TEXT BOOKS (Latest Edition)

1. Harrisons Principles of Internal Medicine.
Volume No. 1 & 2.
2. Cecil-Text Book of Medicine Volume 1 & 2.
3. Oxford Text Book of Medicine Volume 1 & 2.
4. Davidsons-Principles & Practice of Medicine.
5. A.P.1. Text Book of Medicine.
6. Text Book of Medicine by Dr. K.V. Krishna Das.
7. Branins's Diseases of the Nervous System-Walton.
8. Crofton and Douglas's respiratory Diseases.
9. Heart Diseases-A Text Book of Cardio Vascular Medicine -
Eugene Braunwald.
10. The Kidney - H.E. De Wardener.
11. De Gruchy's - Clinical Hematology in Medical Practical.
12. Diseases of Liver and Biliary System - Sheila Sherlok.

LIST OF CLINICAL TEXT BOOKS:-

1. Hutchison's Clinical Methods - Micheal Swash
Stuart Mason.
2. Clinical Examination - John Macleod.
3. Clinical Skills - Ian Bouhier & John Morris.
4. Physical Diagnosis - Vakit & Golwalia.
5. Signs & Symptoms in Medicine - Chamberlain.
6. Neurological Differential Diagnosis by John Pattern.
7. Clinical Neurology - De Jong.
8. Neurological Examination - Bicker Staff.
9. Neurological Examination - Mayo Clinic.
10. Bings Local Diagnosis in Neurological disease.

11. Localisation in Clinical Neurology - Paul W. Braziz Joseph
C. Masdev.

REFERENCES:

1. Principles of Neurology by 1. Raymond Adams
2. Maurice Victor.
2. Text Book of Respiratory Medicine - Murray & Adel.
3. Crofton & Douglas's Respiratory Diseases.
4. The Heart Arteries & Veins 0 J. Willis Hurtt.
5. Clinical Heart Diseases - Samuel Oram.
6. Clinical Cardiology - Maurice Sololow.
7. The Kidney - Brenner & Rector.
8. Clinical Hematology - Maxwell M. Wintrobe.
9. Haematology - Williams J. Williams.

JOURNALS:

1. Applied Medicine.
2. I.J.C.P.
3. J.A.P.I.
4. B.M.J. (Indian)
5. B.M.J. (Original)
6. British Journal of Clinical Practices.
7. The Lancet.
8. Mayo Clinic Proceedings.
9. Post-graduate Medicine.
10. Annals of Internal Medicine.
11. Tropical Medicine.
12. Medicine.

SYLLABUS**M.D. Br. I - GENERAL MEDICINE****APPLIED BASIC SCIENCES****ANATOMY INCLUDING HISTOLOGY:**

1. Embryology - Development of Heart and Great Vessels
Foetal Circulations - Development of Brain and Spinal Cord.
2. Anatomy of Brain and Spinal Cord with their Blood Supply and Venous Drainage.
3. Cranial Nervous and Autonomic Nervous System.
4. Nervous Control of Bladder and Rectum.
5. Anatomy including Histopathology of all Endocrine Glands.
6. Anatomy of Liver, Pancreas and Portal Circulation.
7. Anatomy including Histopathology of Kidneys.
8. Anatomy including Histopathology of Spleen.
9. Anatomy of Broncho - Pulmonary Segments, Pleura and Mediastinum.
10. Surface Anatomy of Head and Neck, Thorax and Abdomen.

PHYSIOLOGY INCLUDING BIO-CHEMISTRY:

1. Liver: Functions - Laboratory of Liver Function.
2. Kidney : Laboratory Tests of Kidney Function.
3. Exocrine and Endocrine function of pancreas.
4. Hormones : Pituitary, Adrenal, Thyroid, Parathyroid -
Chemistry of Steroids - Various tests to study function of Endocrine Glands.

5. Pulmonary Function Tests.
6. The mechanism of Deglutition.
7. Digestion : Gastric and Intestinal secretion and their Hormones - Mechanism of absorption of Fat, Proteins and Carbohydrates.
8. Heart : Basic principles of condition system and electro-cardiogram - Circulation - Measurement of cardiac output - Factors controlling arterial blood pressure - Mechanism of production of cardiac failure and syndrome of shock.
9. Blood, Plasma, proteins - Coagulation of blood RBC and WBC development - Platelets - Erythropoiesis and its regulation - Blood groups - Iron Metabolism.
10. Physiology of Micturition and Defaecation.
11. Fluid and electrolyte balance.
12. Calcium and Phosphorous Metabolism.
13. Carbohydrate metabolism.
14. Fat metabolism and disorders of metabolism.
15. Protein metabolism and electrophoresis.
16. Inborn Errors of metabolism.
17. Porphyrins and porphyrias.
18. Jaundice - Types and Diagnosis.
19. Metabolism of Haemoglobin and circulation of Bile pigments.
20. Immunoglobulin and the Mechanism of Immunity.
21. Physiology of consciousness.
22. Physiology of sleep and disorders of sleep.

23. Temperature regulation.

24. Physiology of hunger and its disorders.

PATHOLOGY INCLUDING MICROBIOLOGY:-

1. Central nervous system: Brain and spinal cord Meningitis and Encephalitis - Abscess Tumours - Syphilis of nervous system - Nutritional and metabolic disorders epilepsy - Vascular diseases.
2. Heart : Rheumatic fever and carditis - Coronary artery diseases -Hypertension - Atherosclerosis-Cardiomyopathy - Pericarditis - Specific and non-specific arteritis - Congenital Heart diseases.
3. Kidneys : Nephritis - Nephrosis - Kidney - changes in metabolic and collagen diseases - Acute and chronic renal failure.
4. Lungs : Pulmonary tuberculosis - Atypical mycobacteria - Tumours of lung.
5. Liver : Portal hypertension - Cirrhosis of liver Tumors of liver.
6. Bone : Disorders of Mineral and Bone matrix.
7. Endocrine Glands: Myxoedema and Thyrotoxicosis - Hyper and hypoparathroidism - Pituitary - Adrenal - cortex and medulla.
8. Diabetes Mellitus and its complications - Pathological changes in Viscera.
9. Gastro intestinal disorders : Peptic ulcer - Malabsorption syndrome - Ulcerative colitis - Amoebiasis (Intestinal and extra - intestinal).
10. Lymphomas, Leukemias and Blood dyscrasiasis.

PHARMACOLOGY :

1. Chemotherapy - Antibiotics and antimicrobials.
2. Antimalarial drugs.
3. Antiamoebic drugs.
4. Anthelmintics.
5. Analgesics.
6. Sedatives.
7. Tranquilizers.
8. Antiviral agents.
9. Antimitotics.
10. Drugs acting on Autonomic nervous system.
11. Hormones.
12. Insulin and oral anti diabetic drugs.
13. Drugs for Epilepsy.
14. Diuretics.
15. Cardiac glycosides.
16. Anti-arrhythmic drugs.
17. Coagulants and anticoagulants.
18. Histamine and antihistamine drugs.
19. Alcohol.
20. Vaccines and Immune Sera.
21. Drug abuse - drug tolerance - drug addiction.

SYLLABUS FOR PART - II

(A) TROPICAL MEDICINE:

1. Diseases caused by Protozoae : Malaria - African and American Trypanosomiasis - Leishmaniasis - Toxoplasmosis - Coccidiosis and Pneumocystis infection - Amebiasis - Giardiasis and Balantidiasis.
2. Diseases caused by Helminths : Filariases - Other Nematode infestation - Trematode and Cestode infestation.
3. Diseases caused by Viruses : Arbovirus diseases Pox diseases - Other viruses diseases : Measles, Infective Hepatitis, Serum Hepatitis and poliomyelitis - Rabies.
4. Diseases caused by Bacteria : Leprosy - Tuberculosis Plague - Melioidosis - Brucellosis Tularemia - Cholera - Shigellosis and Diarrhoea - Salmonellosis - Tetanus - Anthrax - Tropical Pyomyositis - Rhinoscleroma - Cerebrospinal Meningitis.
5. Diseases caused by Spirochaetes : Treponematoses Relapsing fever - Rat bite fever - Leptospirosis.
6. Diseases caused by Rickettsiae and Bartonella Rickettsia fevers - Bartonellosis.
7. Tropical Veneral Diseases : Lymphogranuloma Venereum - Granuloma Inguinale.
8. Diseases caused by Fungi : Superficial Mycoses - Systemic Mycoses.
9. Neurological Diseases - Neurasthenia in Tropics - Kuru - Latah - Amok - Koro.
10. Heart Disorders : Heat stroke and heart hyperpyrexia.
11. Nutritional Diseases : Nutritional deficiency syndromes - Malabsorption in the Tropics - Vitamin deficiencies - Nutritional.

12. Poisons : Chiggers, Mites and Animal poisons - plant poisons - leeches and Leech Infestation.

13. Ophthalmology in the Tropics:

B. INTERNAL MEDICINE

1. INTRODUCTION TO CLINICAL MEDICINE : Headache - Pain in the chest Abdominal pain - in the back and neck - Pain in the extramitis - Disturbances of heat regulation - Chills and fever - Nervousness, Anxiety and Depression - Lassitude and Asthenia - Faintness, Syncope and Edisodic weakness - Motor paralysis - Tremor Chorea, Athetosis, Ataxia and other abnormalities of Movement and Posture Dizziness - Vertigo and Disorders of Gait - Common disturbances of Vision, Ocular movement and hearing - Disorders of sensation - Coma and related disturbances of consciousness - Sleep and its abnormalities - The Convulsive state - Affections of Speech - Delirium and other acute confusions states - Derangement of intellect and behaviour due to diffuse and focal cerebral disease - Dyspnoea - Cyanosis Hypoxia and Polycythemia - Oedema Palpitation - Hypotension and the Shock Syndrome - Elevation of Arterial Pressure - Sudden Cardiovascular Collapse and Death - Cough and Hemoptysis - Oral manifestations of disease - Dysphagia - indigestion Anorexia - Nausea and vomiting - Constipation Diarrhes and disturbances of Anorectal function - Hematemesis and Melena - Jaundice and Hepatomegaly - Abdominal swelling and Ascites - Loss of weight - Obesity - Dysuria - Incontinence and Enuresis - Oliguria, Polyuria and Nocturia - Hematuria - Disturbances of Menstruation - Disturbances of sexual function - Infertility - Pallor and Anemia - Bleeding - Enlargement of Lymph Nodes and Spleen - Alteration in Leukocytes.
2. Genetic Factors in Disease : Cell division and reproduction - The nature of genetic material - The pattern of familiar disorders - Visible abnormalities of Chromosomes - Genetic advice.

3. Immunological factors in disease : Components of the Immune System - Mechanism of the Immune Response - Immune deficiency and Lymphoproliferative disorders - Types of Immune reaction and their relation to human disease - Suppression of immune reactions or of their effects.
4. Infections and diseases : Nature of Micro - organism - Epidemiology and spread and infection - Defence of the human host - Diagnosis of infections - disease - Pyrexia of unknown origin.
5. Infectious Diseases : Streptococcal Infection - Staphylococcal Infection - Diphtheria - Typhoid - Bacterial food poisoning - Tetanus - Burcellosia - Gonorrhoe - Syphilis - Measles - Rubella.
6. Chemotherapy of infecons : Sulphonamides and antibiotics - Miscellaneous chemotherapy.
7. Immunisations : Active and passive.
8. Nutritional disorders : Protein - Calorie Malnutrition Kwashicrkor - Marasmus - Nutritional dwarfing - Mineral deficiencies - Vitamin definencies - Obesity.
9. Disturbances in water and electrolyte balance and in hydrogen ion concentration : Sodium depletion - Primary water depletion - Potassium and excess Magnesium deficiency and intoxication water - intoxication - sodium and water accumulation - Disturbances in Hydrogen ion concentration.
10. Diseases of Cardiovascular system : Principles of clinical electrocardiogram - Cardiac dysarrhythmias - Cardiac failure - Rheumatic fever - Valvular diseases - Congential heart diseases. Ishaemic heart disease - Pericardial diseases - Cardiomyo - pathies and Myocarditis - Cardiac tumours - Atherosclerosis Hypertension - Diseases of Aorta - Peripheral vascular diseases - Cardiovascular syphilis.

11. Diseases of the Respiratory system : Disturbances of respiratory functions - diseases of upper respiratory tract - Obstructive Airway Diseases - Bronchiectasis - Lung Abscess - Broncholithiasis - Diffuse - infiltrative diseases of Lung Pulmonary thromboembolism - Hyper sensitivity reactions of Lung - Environmental Lung Diseases - Primary Pulmonary Hypertension - Neoplasms of Lung - Diseases of Pleura, Mediastinum and Diaphragm - Cor pulmonale - Acute Respiratory Failure.
12. DISEASES OF THE DIGESTIVE SYSTEM : Diseases of Oesophagus - Peptic Ulcer - Gastritis and other diseases of Stomach including Carcinoma - Colon and Rectum - diseases of small Intestine - Diseases of Colon and Rectum - Diseases of Peritoneum and Mesentery.
13. DISEASES OF LIVER AND BILIARY TRACT : Diagnostic Procedures in Liver Diseases - Derangement of Hepatic Metabolism - Disturbance of Biliary Metabolism - Active Hepatitis - Chronic Active Hepatitis - Cirrhosis of Liver - Tumours of Liver - Suppurative Diseases of Liver - Infiltrative and Metabolic Diseases affecting the Liver - Diseases of Gall - bladder and Bile - ducts.
14. DISEASES OF PANCREAS:
15. DISEASES OF KIDNEY AND URINARY SYSTEM : Chronic Acute Renal Failure - Glomerulonephritis - Nephrotic - Syndrome - Vascular Diseases of Kidney - Toxemia of Pregnancy - Infections of the Urinary Tract - Obstructive Uropathy - Nephrolithiasis Cystic Diseases of the Kidneys - Other Congenital and Hereditary Disorders of the Kidney and Urinary Tract - Tumours of the Urinary Tract.
16. DISEASES OF THE ENDOCRINE SYSTEM : The Hypothalamus and Pituitary Gland - Diseases of Anterior Lobe of Pituitary + Diseases of Adrenal Cortex and Medulla - Diseases of Testis and Ovaries - Pineal Gland Diabetes

Mellitus Non-diabetic Mellituria - Hyper Insulism - Hypoglycemia - Glucagon Secretion. Diseases of Neuro - hypophysis - Diseases of Thyroid.

17. DISEASES OF THE BLOOD AND BLOOD FORMING ORGANS: Blood Formation Blood Destruction - Anemias - Bone Marrow failure - Blood Groups and Transfusions Polycythemia Rubra Vera - Abnormal Haemoglobins - Disorders of platelets - Haemorrhagic Disorder - Leukemia - Lymphomas Diseases of spleen and Reticulo Endothelial system.
18. DISEASES OF CONNECTIVE TISSUES, JOINT AND BONES: Rheumatoid Arthritis - Ankylosing Spondylitis - Systemic Lupus Erythematosus - Scleroderma - Polymyalgia Rheumatica - Gout - Pseudo Gout - Osteoarthritis - Diseases of Bone - Metabolic and Endocrine Diseases - Tumors of Bone - Metabolic and Endocrine Diseases of Bone - Paget's Diseases.
19. DISEASES OF THE NERVOUS SYSTEM: Diagnostic Methods in Neurology Coma Head Ache - Epilepsy - Diseases of Peripheral Nervous System - Diseases of Cranial Nerves - Diseases of Spinal Cord - Cerebrovascular Diseases - Traumatic Diseases of brain - Neoplasms - Pyogenic Infection of Central Nervous System - Viral Infections - Multiple Sclerosis Demyelinating - Diseases - Metabolic and Nutritional Diseases of Brain Degenerative Diseases of Nervous system - Developmental and other Congenital Anomalies of Nervous System - Narcolepsy and Cataplexy Migraines - Disease of Extrapyramidal System - Muscle Disorders - Disorders of Myoneural Junction.
20. PSYCHIATRY : Neuroses - Antisocial Personality - Grief Reactive Depression, Manic Depressive Psychosis - Involutional Melancholia and Hypochondriasis - Schizophrenic Syndromes and related Psychoses.

21. **ERRORS OF METABOLISM** : Genetic Disorders of Amino-acid Metabolism Disease - Cystinuria - Renal Glycosuria - Renal Tubular Acidosis - Carcinoid - Syndrome - Gout Haemochromatosis - Disorders of Porphyrin Metabolism - Hepatolenticular Degeneration - Disorders of Glycogen Synthesis and Mobilization - Galactosemia - Disorders of Lipid Metabolism - Amyloidosis.
22. **DISORDERS DUE TO CHEMICAL AND PHYSICAL AGENTS INCLUDING NUCLEAR MEDICINE**: Common Poisons - Heavy Metals - Alcohol - Opiates and other Synthetic Analgesic Drugs - Barbiturates Depressants, Stimulants and Psychotogenic Drugs - Disorders Caused by Venoms, Bites and Stings - disorders due to Environmental Temperature - Disorders due to Alterations in Barometric Pressure Problems of Air and Space Travel - Radioactive Isotopes and Radiation injury Electrical Injuries Immersion Injury and Drowning.
23. **GERIATRIC MEDICINE** : Problem of old age and diseases and condition peculiar to the aged.
24. **COMMUNITY MEDICINE** : Psychology of Sex and its aberration Problem of over population - Family Planning Programme - methods and Drugs - Complications of Drug Therapy.
25. **LATROGENIC DISORDERS** : Induced by Drug and Other forms of Therapy.
 - c. **DISEASES OF THE SKIN**: Interpretation of alterations in the Skin - Skin - Lesions of General Medical Significance - Generalized Pruritus - Pigmentation of the Skin and Disorders of Melanin Metabolism - Photo sensitivity and other Reactions to Light Hirsutism and Alopecia - Cutaneous Manifestations of Internal Malignancy Psoriasis Scabies and fungus Infections of the Skin.
 - d. **DISEASES OF CHILDREN** : Chromosomal Abnormalities - Social paediatrics - Preventive Paediatrics - Child Health and

Developing Countries - Neo-natal Care - Nutritional Requirements and Nutritional Disturbances - Parenteral Fluid Therapy Vomiting and Diarrhoeal Disorders - Cardiovascular Respiratory Diseases peculiar to children - Tuberculosis in children - Convulsive disorders Developmental - Psychiatric Disorders in Childhood - Immunodeficiency - Metabolic Disorders - Endocrine Disorders.

HISTORY OF MEDICINE

OCCUPATIONAL HAZARDS

SPACE MEDICINE INCLUDING HIGH ALTITUDE

PROBLEMS IN INDUSTRIAL MEDICINE

ORGAN TRANSPLANTATION

IMAGING TECHNIQUE INCLUDING CT scan and MRD

M.D. Branch-II Obstetrics & Gynaecology
**Post-Graduate Degree Course in Obstetrics &
Gynaecology**
DETAILS OF TRAINING:
THREE YEAR COURSE
FIRST YEAR

Labour Ward	4 Months
Antenatal Ward / OPD	2 Months
Gynaecology Ward / OPD	2 Months
General Medicine Department	2 Months
General Surgery Department	2 Months
Total:	12 Months

SECOND YEAR

Labour Ward	2 Months
Antenatal Ward / OPD	2 Months
Gynaecology Ward / OPD	2 Months
Post Natal Ward	2 Months
Neonatology	1 Month
Department of Oncology	1 Month
Family Welfare	1 Month
Community Obstetrics	1 Month
Total:	12 Months

THIRD YEAR

Labour Ward	3 Months
Antenatal Ward / OPD	2 Months
Gynaecology Ward / OPD	2 Months
Anaesthesia Department	1 Month
Medical Genetics Department	1 Month
Community Obstetrics	1 Month
Sonar	1 Month
Endoscopy	1 Month
Total:	12 Months

M.D. Branch-II**Obstetrics and Gynaecology****Scheme of Examination.****PART-I (At the end of First Year)**

	Theory	Duration in Hours	Maximum Marks
Paper I	Applied Basic Sciences	3	180
Paper II	Medicine and Surgery as applied to Obstetrics & Gynaecology	3	100
	Medicine — Section A		
	Surgery — Section B		

Clinical Examination : (Medicine)

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

Practicals:

Slides / Specimens / Charts	(5 X 2)	10
(2) (1) (2)		

Orals	40
Total	<u>50</u>

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 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).

PART II (At the end of IIIrd year)

Theory	Title	Duration in hours	Maximum Marks
Paper I	Obstetrics including Neonatology	3	100
Paper II	Gynaecology Including Family Welfare	3	100
Paper III	Recent Advances in Obstetrics & Gynaecology	3	100
Total			<u>300</u>

Clinical Examination:

Obstetrics:

Long Case - One - One Hour 75

Short Case - One - 30 Mts. 25

Gynaecology:

Long Case - One - One Hour 75

Short Case - One - 30 Mts. 25

Total 200

Practicals:

Slide / Specimen / Chart / X-ray Scan / Instrument.

(1) (1) (1) (1) (5 X 5) 25

Orals 75

Total 100

Dissertation :

Marks for Dissertation 75

Oral Marks for Dissertation 25

Total 100

Marks qualifying for a pass:

50% of the Marks in the University
Theory Examination 150/30050% of the Marks in the University
Clinical Examination 100/20050% Aggregate in the Theory / Clinical /
Practical / Oral Dissertation 350/700

M.D. Branch—II Obstetrics of Gynaecology**RECOMMENDED LIST OF BOOKS AND JOURNALS****TEXT BOOKS (Latest Editions)**

1. Williams Obstetrics.
2. Jeffcoate's Principles of Gynaecology.
3. Post-graduate Obstetrics & Gynaecology
— edited by Bhaskar Rao.
4. Text book of Obstetrics & Gynaecology for Post-graduates
— Dewhurst.
5. Text book of Gynaecological Pathology - Novak.
6. Operative Gynaecology — Te Linde's / Bonney / Shaw.
7. Progress in Obstetrics & Gynaecology.
8. Recent Advances in Obstetrics & Gynaecology.
9. Year book in Obstetrics & Gynaecology.
10. Diagnostic Ultrasound as applied to Obstetrics & Gynaecology - Sabbhagha.

REFERENCE BOOKS (Latest Editions)

1. Clinical Gynaecologic Endocrinology and Infertility — Speroff, Glass and Kase.
2. Care of the Newborn — Meharban Singh.
3. Harrison's Text book of Medicine (Two Volumes)

JOURNALS:

1. Journal of Obstetrics & Gynaecology of India.
2. British Journal of Obstetrics & Gynaecology.

3. American Journal of Obstetrics & Gynaecology.
4. Obstetrics & Gynaecological Surgery.
5. Contraception.
6. Obstetrics & Gynaecology (Green Journal).
7. Fertility and Sterility.
8. Clinical Obstetrics & Gynaecology.
9. British Medical Journal.
10. Lancet.

REFERENCE BOOKS (Latest Editions)

1. Clinical Gynaecologic Endocrinology and Infertility — Speroff, Glass and Kase.
2. Care of the Newborn — Meharban Singh.
3. Harrison's Text book of Medicine (Two Volumes).

JOURNALS:

1. Journal of Obstetrics & Gynaecology of India.
2. British Journal of Obstetrics & Gynaecology.

M.D. SYLLABUS**BRANCH - II OBSTETRICS & GYNAECOLOGY****Applied Basic Sciences****ANATOMY****I YEAR****1. EMBRYOLOGY**

Development of Foetus and placenta - Various congenital anomalies.

2. ANATOMY

- (i) Anatomy of Hypothalamus - pituitary and relationship with menstrual ovarian cycles.
- (ii) Pelvic Innervation.
- (iii) Anatomy of Abdominal wall.
- (iv) Bony pelvis and pelvic floor.
- (v) Development and Anatomy of female genital organs.
- (vi) Development and Anatomy of urinary tract and abnormal variations.
- (vii) Lymphatic drainage - General & pelvic lymph nodes with special reference to cancer of the female genital tract.
- (viii) Anatomy of lower alimentary tract.
- (ix) Breasts - anatomy, Blood supply, innervation & lymphatic drainage.

3. PHYSIOLOGY

- (i) Fluid Balance.
Body Water and external & internal fluid exchange.

- (ii) Renal function
Causes of Oedema & Composition of oedema fluid.
- (iii) Blood
Erythropoiesis, Iron metabolism, Rh factor Blood groups & coagulation of blood.
- (iv) Heart
Cardial output, Blood Pressure, Reaction of body to haemorrhage.
Shock mechanism & production.
- (v) Foetal Circulation and Respiration
- (vi) Liver function
Hepatic Failure
- (vii) Physiology of pregnancy.
Pregnancy diagnosis Tests.
- (viii) Mammary Glands & Lactation.
- (ix) Uterus
Growth & Contractility of uterus,
- (x) Hormones - Pituitary, Adrenal, Thyroid Ovarian Hormones.
Ovarian & Menstrual cycles.
- (xi) Nutrition
Normal diet.
Nutritional requirements of special groups.

4. BIOCHEMISTRY

- (i) Haemoglobin
Metabolism of Iron, Anemia, Abnormal Haemoglobin.
- (ii) Bile pigments
Circulation of Bile pigments & laboratory investigations for jaundice.
- (iii) Carbohydrate metabolism
Diabetes, G.T.T., & Glycogen storage diseases.

- (iv) Fat metabolism
Disorders of Fat metabolism & Obesity.
- (v) Protein metabolism
Value of plasma proteins & Amino acids.
- (vi) Normal & disorders of hormone metabolism. Ovarian tumours, other steroid Hormones, Insulin, thyroxine, parathormone & posterior pituitary hormones placental Hormones.
- (vii) Fluid & Electrolyte balance.

5. PATHOLOGY

- (i) Menstruation
Normal Histology & ovary & Endometrium Endometrial pathology,
- (ii) Pathology of Abortions.
Genetic factors, Hormonal factors & placental pathology.
- (iii) Aminocentesis
— Significance of Alpha feto proteins.
— Chorion villous sampling.
- (iv) Placenta.
Placental addition in P.P.H., Diseases of Placenta abnormalities of implantation & New growths.
- (v) Trophoblast
Vericular mole, Chorio adenoma destruens, & Chorio carcinoma.
- (vi) Cervix
Histology, Benign, Precancerous & malignant lesions of cervix, & effects of RT.
- (vii) Vaginal Cytology : In Obstetrics & Gynaecology Hormonal pattern & cancer screening.

(viii) Endometrium.

Hyperplasia & Carcinoma.

(ix) Vagina

Inflammation, Benign & Malignant Lesions.

(x) Vulva

Inflammation & Benign & Malignant Lesions.

(xi) Pelvic Endometriosis

(xii) Pelvic Inflammatory Diseases.

(xiii) Ovary

Benign & Malignant tumours.

(xiv) Genetic & Sex Anomalies:

In abortion, Primary Amenorrhoea, congenital anomalies.

MICRO BIOLOGY

(i) Disinfection & Sterilization

(ii) Immunology

- Antigen Antibody reaction.
- Immunity & hypersensitivity.
- Antibiotic Sensitivity.

(iii) Bacteria

- Classification
- Microscopic Examination
- Culture.

(iv) Infections in Obstetrics & Gynaecology

- gram negative Infections
- STD
- Genital TB

(v) Vaginal Infections

- TV
- Monilia

- (vi) **Virus**
 — Specific to Hepatitis
 AIDS — HIV Infection
 — Torch Infection

PHARMACOLOGY

- (i) **Cardinal glycosides and vaso dilatation & Vaso constriction.**
- (ii) **Haematinies: Adjuncts to Iron therapy Role Cyanocobalamine.**
- (iii) **Diuretics**
- (iv) **Hormones: Ovarian & Placental Hormones.
 Male & Female sex Hormones.**
- (v) **Antihyper Tensivea**
- (vi) **Antibiotics**
- (vii) **Oral Pills**
- (ix) **Other Hormones;**
 — Thyroid, Iodine, Parathyroid & Calcium.
 — Insulin & Oral Anti diabetic drugs.
 — Adrenal cortical hormones.
- (x) **Oxytocics:**
 Ergot & Oxytocin
- (xi) **Prosta glandins.**
 - use in induction of Abortion & Labour
- (xii) **Emetics, Antacids, Digestants, Vitamins & Laxatives.**
- (xiii) **Cytotoxic drugs.**
- (xiv) **Heparin & Oral Anticoagulants.**
- (xv) **Teratogenic drugs.**
- (xvi) **Drugs acting on Autonomic Nervous & muscular relevant.**

Applied Medicine & Surgery Pertaining to Obstetrics & Gynaecology

MEDICAL & SURGICAL ILLNESSES COMPLICATING

PREGNANCY

1. HAEMATOLOGICAL DISORDERS

- Anaemia in pregnancy
- Polycythemia
- Coagulation Defects.
- Thrombocytopaemas

2. CARDIOVASCULAR DISEASE

3. PULMONARY DISORDERS

- Pneumonia; Asthma; Tuberculosis; Adult Respiratory Distress Syndrome; other Pulmonary disorders.

4. DISEASES OF KIDNEY & URINARY TRACT

- Urinary Tract Infection
- Calculi
- Acute Renal Failure
- Pregnancy after Renal Transplant
- Other Kidney disorders.

5. ENDOCRINE DISORDERS

- Diabetes Mellitus
- Thyroid Diseases
- Parathyroid Diseases
- Diseases of Adrenal Gland
- Diseases of Pituitary

6. DISEASES OF LIVER & GALL BLADDER

- Intrahepatic Cholestasis of pregnancy,
- Acute fatty liver of pregnancy.

- Hyperemesis Gravidamen
- Viral Hepatitis
- Chronic Active Hepatitis
- Cholelithiasis & Cholecystitis
- Cholecystectomy in Pregnancy.

7. GASTRO INTESTINAL DISORDERS

- Appendicitis
- Peptic Ulcer
- Hital Hernia
- Achalasia
- Pancreatitis
- Intestinal Obstruction
- Inflammatory Bowel disease
- Marked obesity

8. CONNECTIVE TISSUE DISORDERS

9. SKIN DISEASES

Herpes Gestatiouis

Popular Dermatitis of pregnancy & others.

10. NEUROLOGICAL DISORDERS

- Seizure Disorders in pregnancy
- Cerebrovascular diseases; Chorea gravidanum
- other Neurological disorders.

11. INFECTIONS DURING PREGNANCY

- Viral Infection - Rubella & other
- Bacterial Infections
- Protozoal Infections
- Mycotic Infections

12. SEXUALLY TRANSMITTED DISEASES

- Syphollis
- Gononhoea

- Chlamydial Infections
- Herpes simplex virus Infections
- Human Papilloma Virus Infection
- Chancroid
- Granuloma Inguinale
- AIDS
- Other sexually transmitted diseases.

13. NEOPLASTIC DISEASES

- Cancer Breast
- Lymphomas & Lenkamias
- Melanoma
- Other Neoplastic diseases

M.D. Part - II

Final Year

PAPER - I

OBSTETRICS & NEONATOLOGY

1. SPONTANEOUS LABOUR DELIVERY
 - Parturition : Bio molecular & Physiologic processes
 - Mechanism of Normal labour in Occiput presentation
 - Puerperium
2. MANAGEMENT OF NORMAL PREGNANCY
 - Prenatal Care
 - Technics to evaluate Fetal health
 - Conduct of Normal labour & delivery
 - Analgesia & Anaesthesia
3. ABNORMALITIES OF LABOUR & DELIVERY
 - Dystocia due to abnormalities of the expulsive forces
 - Precipitate labour
 - Dystocia due to abnormalities in presentation position & development of Fetus
 - Dystocia due to pelvic contraction
 - Dystocia due to soft tissue abnormalities of the Reproductive tract.
 - Techniques for Breech delivery
 - Injuries to the birth canal
 - Abnormalities of the third stage of labour.
4. OPERATIVE OBSTETRICS
 - Forceps delivery & related techniques
 - Caesarean section & Caesarean hysterectomy
5. ABNORMALITIES OF THE PUERPERIUM
 - Puerperal Infection
 - Other disorders of the puerperium
6. COMPLICATIONS OF PREGNANCY
 - Abortion

- Ectopic pregnancy
 - Diseases & abnormalities of the placenta & fetal membranes.
 - Multiple pregnancy
 - Hypertensive disorders in pregnancy
 - Obstetrical Haemorrhage
 - Abnormalities of the Reproductive tract
 - Preterm & post term pregnancy
 - Intra uterine growth retardation
 - ISOIMMUNIZATION DUE to Rh & Other Blood Group incompatibilities
7. MEDICAL GENETICS IN OBSTETRICS
- Pattern of Inheritance of Genetic disorders
 - Genetic Factors in Recurrent abortions
 - Genetic counselling & preconceptional counselling
 - Congenital Malformations & Inherited disorders
 - Prenatal Diagnosis of Genetic Defects
 - Sex determination & Sex selection - ethical issues
 - Puberty testing
 - Pregnancy in a woman with genetic disorders - investigation - management.
 - Teratogenesis.
8. ENDOCRINOLOGY IN OBSTETRICS
- Pregestational & Gestational Diabetes Mellitus
 - Thyrotoxicosis & Hypothyroidism in pregnancy
 - Placental Hormones
 - Endocrinology of Parturition
 - Endocrine emergencies in Obstetric practice
 - Hormonal abuse in early pregnancy
9. NEONATOLOGY
- DISEASES OF FETUS & NEW BORN
 - Infections of the Fetus & New born
 - Injuries of the Fetus & New born
 - Congenital abnormalities

Gynaecology & Family Planning

PAPER - II

1. BREAST PREVENTION & DISEASES

- Lactation
- Galactorrhoea
- Ovulation & Menstruation in relation to lactation
- Abnormalities in breast development & function

2. GENITAL TRACT

- Malformations & Maldevelopment of Genital track
- Intersex

3. ABORTIONS

- Clinical Types
- Missed Abortion
- Septic Abortion
- Medical Termination of pregnancy

4. ECTOPIC PREGNANCY

- Types
- Conservative management of Tubal pregnancy

5. TROPHOBLASTIC TUMORS

- Vesicular Mole
- Chorioadenoma Deotureus
- Choriocarcuioma
- Chemotherapy

9. INJURIES TO GENITAL TRACT

- Foreign bodies in Genital tract
- Direct trauma
- Burno
- Complete perneal tear
- lacerations of cervix
- Rupture & perforation of uterus
- Haematomas : Vulva, Vagina, Broad ligament
- GENITAL TRACT FISTULAS
- Acquired atresias & Sterrosis of Genital tract

7. UTERINE DISPLACEMENTS

- Utero Vaginal prolapse
- Other displacements
- Retroverted gravid uterus
- Chronic Inversion

8. TORSION OF PELVIC ORGANS

- Uterus
- Myoina
- Hydrosalpix
- Torsion Ovarian Cyst

9. INFECTIONS OF GENITAL TRACT

- Individual organs
- Pelvic Inflammatory disease
- Sexually Transmitted diseases
- Genital Tuberculosis

10. EPITHELIAL ABNORMALITIES OF GENITAL TRACT

Vulva—Dystrophies

Vagina—Basal cell hyperplasia & Ultra epithelial

Neoplasia

Cervix — Erosion

- Basal cell hyperplasia
- Squamous Metaplasia
- Dysplasias
- Cervical Ultra epithelial Neoplasia

Uterine Corpus — Endometrial

- Squamous cell Metaplasia

11. ENDOMETRIOSIS & ADENOMYOSIS

12. VULVA

- Developmental abnormalities
- Injury
- Vascular changes

- Infections
- Retention cyste
- Innocent Neoplasms
- Malignant Neoplasts
- Enlargement of Bartholis Gland
- 13. VAGINA
 - Infections
 - Vaginal cysts
 - Benign & Malignant Neoplasma
- 14. CERVIX
 - Infections
 - Innocent Neoplasma
 - Carcinoma Cervix
- 15. BODY OF UTERUS
 - Dysmennorhoea
 - Innocent Neoplasms — Fibroid Uterus & Others
 - Malignant Neoplasms — Carcinoma of Endometrium
 - Sarcoma etc.
- 16. FALLOPIAN TUBE
 - Innocent Neoplasms & Malignant Neoplasms
- 17. OVARY
 - Cysts
 - Benign Ovarian Tumors
 - Malignant Ovarian Tumors
- 18. CLINICAL ENDOCRINOLOGY
 - Ovary from conception of seuscence
 - Mariopause
 - Amennorhoea
 - Anovulation
 - Hrisutism
 - Dysfunctional uterine bleeding
 - Prostaglandius

- Abnormal Puberty & Growth Problems
- Obesity
- Steroid contraception

19. INFERTILITY

- Sperm & Egg Transport Fertilisation & implantation
- Investigation of the Infertile couple
- Endometriosis & Infertility
- Induction of Ovulation
- Assisted Reproductive techniques

20. MEDICAL GENETICS IN GYNAECOLOGY

Sex determination, sexuality & intersexuality

21. GYNAECOLOGICAL ENDOSCOPY

- Scope of Laparoscopy
- Scope of Hysteroscopy
- Scope of Colposcopy
- Scope of Salpingoscopy
- Scope of Culdoscopy
- Scope of Chorionoscopy & Chorion Villus sampling

22. CONTRACEPTION

- Temporary Methods
- Permanent Methods
- Latest trends in contraception

M.D. Paediatrics (3 Year Course)**TRAINING PROGRAMME****FIRST YEAR (12 Months)**

Departments	Duration
1. General Paediatrics	6 Months
2. Primary Paediatric care at P.H.C. Affiliated to the college	1 Month
3. Pediatrics in Community Hospital	1 Month
4. General Medical Unit (Adult Medicine)	4 Months

SECOND YEAR (12 Months)

1. General Paediatrics	3 Months
2. Paediatric critical Care Unit	2 Months
3. Child Nutrition Clinic	1 Month
4. Paediatric Gastra Enterology	1 Month
5. Paediatric Pulmanology	1 Month
6. Urban Community Paediatric Services in peripheral Paediatric Clinics or M.C.H. centre attached to the college	1 Month
7. Parent Craft, Paediatric Health Education, visits to centres for handicapped children (Social Paediatrics)	1 Month
8. School Health Services	15 Days
9. Child Development Assessment Clinic	15 Days

10. Child Psychiatric Clinic 15 Days

11. Clinical Pathology 15 Days

IIIrd YEAR (12 Months)

Department	Duration
1. Perinatal / Neonatal	4 Months
2. General Paediatric Unit	3 Months
3. Paediatric Nephrology	1 Month
4. Paediatric Hematology	1 Month
5. Paediatric Cardiology	1 Month
6. Paediatric Neurology	1 Month
7. Paediatric Surgery	1 Month

Scheme of Examination

M.D. Paediatrics

Distribution of Marks

PART 1 (At the end of 1st year)

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

Clinical Examination (Medicine)

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

Practicals

Slides / Specimens / Charts (2) (1) (2)	(5 X 2)	10	Marks
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% of Marks aggregate in the Theory / Clinical / Practical / Oral Examinations	150/300

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

PART II (At the end of IIIrd year)

Theory	Title	Duration in Hours	Maximum Marks
Paper I	Clinical Paediatrics	3	100
Paper II	Neonatology, Developmental Paediatrics, Preventive and Social Paediatrics	3	100
Paper III	Specialties of Pediatric Medicine	3	100
Total			<u>300</u>

* Common to M.D. Branch-I General Medicine and Branch VII Paediatric Medicine.

** Common to M.D. Branches
 VII Paediatric Medicine
 XI S.T.D.
 XII Dermatology and
 XVII Tuberculosis and Respiratory Diseases

Clinical Examination

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

Practicals

Slides / Specimens / X-Rays	(5X5)	25
(2) (1) (2)		

Orals	75
Total	<u>100</u>

Dissertation

Dissertation Marks	75
Oral on Dissertation	25
Total	100

Marks qualifying for a pass

50% of Marks in the University Theory Examination	150/300
50% of Marks in the University Clinical Examination	100/200
50% aggregate in the Theory / Clinical / Practical / Oral / Dissertation	350/700
Maximum number of candidate to be examined per day	6

Text Books Recommended : M.D. Pediatrics

1. Text Book of Pediatrics - Nelson.
2. Pathophysiology and Management of the New Born -
Gordon B. Avery M.D. (Third Edition)
J.B. Lippicott company
3. Diseases of the newborn - Swessers.
4. Diseases of Children in the subtropics and tropics - 3rd.
D.B. JELLIFI & T. Stanfield (Ellis) &
Edward Arnold Pub.
5. The Development of the infant and young child
Abnormal and Normal (7th)
Renald S. Illingworth - Churchill Livingstone
6. The Normal child
Some problems of the early years and their treatment.
Ronald J. Illing north (th) Churchill Livingstone.

Journals:

1. Indian Journal of Pediatrics
2. Indian Pediatrics
3. Journal of Pediatrics
4. Pediatrics clinic of North America
5. Lancit
6. British Medical Journal
7. Year Book of Pediatrics
8. Archieves of Pediatrics

Core Syllabus**M.D. PAEDIATRICS****PART - I**

Paper - I Basic Sciences (As furnished under M.D. Branch-1 General Medicine)

Paper - II General Medicine (Refer Standard Text Book)

PART - II

Paper - I Clinical Paediatrics

1. Nutrition and Nutritional disorders.
2. General considerations in the case of sick children.
3. Inborn errors of Metabolism.
4. Immunity, Allergy and Related diseases.
5. Infectious diseases.
6. The Digestive system.

7. The Respiratory system.
8. Metabolic disorders.
9. Paediatric Gynaecology and Adolescent Issues.
10. Convulsive disorders.
11. The Bones and Joints.
12. The Skin.
13. Paediatric Ophthalmology.
14. Unclassified diseases.
15. Radiation Therapy.
16. Poisoning from Food, Drugs and chemicals
Pollutants, Venoms, Bites, Mammalian Bites.

Paper-II Neonatology Development Paediatrics Preventive and Social Pediatrics.

1. Developmental Paediatrics.
2. Preventive Paediatrics and Epidemiology.
3. Prenatal Disturbances.
4. The Fetus and the Neonatal Infant (Neonatology).

Paper-III 1. The Cardiovascular system.

- Specialities**
2. Diseases of the Blood.
 3. Neoplasms and Neoplasm Like Lesions.
 4. The Urinary System.
 5. The Endocrine System.
 6. The Nervous System.

**Post Graduate Degree Course in M.D.
Radio - Diagnosis (Branch VIII)**

TRAINING PROGRAMME

Three Years Course:

First Year:

Basic Physics & Medical Physics & General Radiology - Concurrently	8 Months
General Medicine Department	2 Months
General Surgery Department	2 Months

Second Year:

General Radiology	6 Months
Ultrasonogram	1 Month
C.T. Scan	1 Month
Nuclear Medicine	1 Month
Paediatric & Obst. & Gyn.	1 Month
Cardiology & Vascular	1 Month
Other Contra Study	1 Month

Third Year:

General Radiology	6 Months
Ultrasonogram	1 Month
C.T. Scan	1 Month
Nuclear Medicine	1 Month
Cardiology & Vascular	1 Month
Paediatric & Obst. & Gyn.	1 Month
Endoscopy	1 Month

**Post - Graduate Degree Course in M.D.
Radio Diagnosis Branch VIII**

SCHEME OF EXAMINATION

PART - 1 (at the end of 1st Year)

Theory	Title of the Paper	Duration in hours	Maximum marks
Paper-I	Medicine including related Pathology	3	90
Paper-II	Surgery including related Pathology	3	90
	Clinical Examination (Medicine & Surgery		100

Clinical - I (Medicine)

1. Short Cases - Two - 40 Minutes 15 X 2 = 30 Marks
2. Spotters - Three - 30 Minutes = 20 Marks

Clinical - II (Surgery)

1. Short Cases - Two - 40 Minutes 15 X 2 = 30 Marks
2. Spotters - Three - 30 Minutes = 20 Marks

Practical Examination (Medicine & Surgery)	40 Marks
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Practical - I (Medicine)

Slides / Specimens / Charts
(2) (1) (2) (5 X 2) = 10 Marks

Orals = 10 Marks

Practical - II (Surgery)

Slides / Specimens / Charts
(2) (1) (2) (5 X 2) = 10 Marks

Orals = 10 Marks

Marks Qualifying for a pass:

50% of Marks in the University
Theory Examination

Paper - I & II (Aggregate)	90/180
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50% of Marks in the University Clinical Examination	50/100
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50% of Marks in aggregate in the Theory (Paper I & II Clinical / Practical / Oral Examination	160/320
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Paper-II Preliminary (At the end of Six Months of Second Year)	
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Paper-I Medical Radiation Physics as applied to Radio Diagnosis	3	90
Practical		40
Oral	3	20

Total	<u>150</u>
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Marks Qualifying for a pass:

50% of Marks in the University Theory Examination (Paper - I)	45/90
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50% of Marks in aggregate in the Theory Practical / Oral Examination	75/150
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PART - II (Final) (at the end of 3rd Year)

Theory	Title	Duration in Hours	Maximum marks
Paper I	Radio Diagnosis including Nuclear Medicine	3	100
Paper II	Radio Diagnosis including instrumenta- tion & Contrast Studies	3	100
Paper III	Radio Diagnosis including interventional procedures	3	100

Clinical Examination :

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

Practicals:

Spotters (Skiagrams) (includes X-rays, M.R.I. C.T. Scan, Ultrasonogram, Nuclear Medicine other investigative procedures and recent advances).	25
Orals	75
Total	<u>100</u>

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 Aggregate in Theory / Clinical / Oral / Dissertation	350/700

Maximum number of candidates to be
examined per day

6

**Post Graduate Degree Course in M.D.
Radio Diagnosis (Branch VIII)**

RECOMMENDED LIST OF BOOKS AND JOURNALS

TEXT BOOKS (Latest Editions)

1. Text Book of Radiology & Imaging - Sutton
2. Radionclide section scanning: An atlas of clinical practice - Khan.
3. Alimentary tract Radiology - Abdominal Imaging - Mafgulis
4. Fundamental physics of Radiology - W.J. Meredith & J.B. Massey
5. Diagnostic Ultrasound - Sarti
6. Oral Radiology : Principles & Interpretation - Goaz
7. Radiographic Anatomy - Meschan

REFERENCE BOOK : (Latest Editions)

1. Radiology : Diagnosis Imaging Intervention Physics - Traveras
2. Seminars in Ultrasound
3. Caffey's Pediatric X-Ray Diagnosis - Frederic Silverman
4. Roentgen signs in Diagnostic Imaging - Meschan
5. Diagnostic Radiology - An Anglo American Text Book of Imaging - Grainger & Allison

JOURNALS :

1. British Journal of Radiology
2. Clinical Radiology

3. Radiology
4. American Journal of Roentgenology
5. Radiology Clinics of North America
6. Recent Advances in Radiology and Medical Imaging
7. Year Book of Radiology
8. Indian Journal of Radiology & Imaging
9. British Medical Journal
10. LANCET.

Syllabus for M.D. (Radio - Diagnosis)**PART I**

Fundamentals of applied Medicine and related pathology, and applied surgery and related pathology as related to Radio - Diagnosis and nuclear medicine.

SYLLABUS FOR RADIOLOGY PHYSICS - GENERAL AND APPLIED PRELIMINARY OF PART-II M.D. (RADIO-DIAGNOSIS)

Fundamentals of Electricity: Basic principles of electrostatics - conductor and insulators - Ohm's law - Units of measurement of potential difference, current, resistance and charge - P.D. and E.M.F. cells, primary and secondary.

Resistances in series and parallel - specific resistance - effect of temperature on conductors and insulators.

Capacitors in series and parallel - units of measurement of work, energy, power and heat - mechanical equivalent of heat.

Electromagnetic induction - principles of production of A.C. and D.C. peak value, R.M.S. value and average value of A.C. - self and mutual inductance, impedance (qualitative definitions only) power in A.C.

The ammeter, the voltmeter and the Galvanometer.

Transformers: Step up, step down and auto transformers.

Rectifiers and Rectification: Thermionic valves, diode and triode-metal rectifiers - self, half-wave and full wave rectification - Greinacher and Villard circuit.

Timers.

X-rays: Production and properties of cathoderays the simple Gas X-ray tube - the modern X-ray tube (hot cathode tube) - its parts - choice of target materials - focal spot and its size - shape of filament - rotating anode.

Methods of cooling the target - tube rating.

Electromagnetic radiations - their general properties - wave length, energy and velocity.

The X-ray beam - continuous and characteristic rays - factors which control these.

Quantity of X-rays (intensity) - roentgen, rad, be and rem-the standard ionization chamber - integrating and rate meters.

Interaction of X-rays with matter - linear attenuation coefficient and mass attenuation coefficient photoelectric effect - compton effect - pair production.

Med — 7.

Use of filters in radiology.

Quality of X-rays - half value layer.

Physical principles of X-ray diagnosis : Photographic effect X-ray films - density, definition, contrast and distortion - factors controlling these - gamma and speed of X-ray films.

Fluorescence - fluorescent and intensifying screens.

Scattered radiation and use of cones and grids.

High KV technique.

Basic principles of localisation of foreign bodies, tomography, image intensification and cineradiography.

Physical principles of X-ray therapy; air dose, surface dose and depth dose - factors controlling these phantom materials - isodose - curves and their use in planning of treatment, single and multiple fields, moving beam therapy use of pin and back pointer.

Radioactive Isotopes: Atomic Structure - electrons, protons and neutrons Isotopes - radioactivity, natural and artificial, decay constant, half life and average life-alpha, beta and gamma rays - radioactive - equilibrium principles of radiation detection.

Production of radio-isotopes

CLINICAL APPLICATION OF RADIO NUCLIDE TECHNIQUES

Basic instruments in the use of radioactive isotope - G.M. counters, photomultiplier tubes, scintillation counters and scanners.

Important radioactive Isotopes and their physical properties.

Radium and its use.

Radiation Protection: Effect of over exposure - maximum permissible dose use of film badge - methods of protection - protective barriers - protective measures in diagnostic and therapy departments - safe - handling of radio active isotopes : tracer and large therapy doses, layout of a radioisotope laboratory.

Super voltage Radiations:- Physical principles of linear accelerator and betatron - the cyclotron megavolt radiations and their properties cobalt 60 and cesium 137 teletherapy units.

LIST OF EXPERIMENTS FOR PRACTICAL WORK IN RADIOLOGY PHYSICS

1. Measurement of air dose, surface dose and calculation of back scatter.
2. Measurement of depth dose.
3. H.V.L. measurement.
4. Absorption coefficient.
5. Verification of inverse square law.
6. Measurement of focal spot.

7. Localisation of foreign bodies.
8. Determination of plateau of G.M. counter.
9. Use of spectrometer in counting.
10. Absorption of beta particles.
11. Efficiency of counter and iso-response curve of a scintillation counter.
12. Diffusion experiments (estimation of volume of a liquid, using radio-active isotopes.)
13. Determination of resolving power of a G.M. counter.
14. Counting statistics - determination of standard deviation.
15. Shielding experiments with beta and gamma rays.
16. Medical Applications of Electronics as applied to imaging science.
17. Fundamentals of
 - a) Computer application
 - b) Medical Statistics
 - c) Equipment maintenance.

Post Graduate Degree Course in M.D. Radio Therapy - Branch IX

TRAINING PROGRAMME

The subjects to be covered during the first year are:

1. Medical Radiation Physics related to Radiotherapy.
2. Basic Sciences, including internal medicine, surgery, general pathology, Pathology of tumours, applied anatomy and Bio-Chemistry etc.

The next two years, the candidate should devote in learning the science and art of practice of Radiotherapy and Oncology including Chemotherapy.

WARD POSTINGS

FIRST YEAR

General Medicine	...	2 Months
Surgery	...	2 Months
Pathology	...	15 Days
Biochemistry	...	15 Days
Physics	..	3 Months
Radiation Oncology Op. Ward etc.	...	4 Months
Total		12 Months

SECOND YEAR

Radiation Oncology Op. Wards and Management	...	7 Month
Treatment room	...	1 Month
Imaging Sciences	...	15 Days
Isotopes	...	15 Days
ENT OP	...	15 Days
Institute of Obstetrics & Gynaecology	...	1 Month
Haematology	...	15 Days
Chemotherapy	...	1 Month
Total		12 Months

THIRD YEAR

Radiation Oncology OP and Wards	...	10 Months
Physics	...	1 Month
Chemotherapy	...	1 Month
Total		12 Months

**Post-Graduate Degree Course in M.D. Radio-Therapy
Branch-IX**

SCHEME OF EXAMINATION

Distribution of Marks

PART-I (At the end of First Year)

Theory	Title	Duration in Hours	Maximum Marks
Paper I	Medicine applied to Oncology	3	90
Paper II	Surgery applied to Oncology	3	90
Clinical Examination (Medicine & Surgery)			100
Clinical-I (Medicine)			
1. Short Cases - Two - 40 Minutes 15 X 2 — 30 Marks			
2. Spotters - Three - 30 Minutes — 20 Marks			
Clinical-II (Surgery)			
1. Short Cases - Two - 40 Minutes 15 X 2 — 30 Marks			
2. Spotters - Three - 30 Minutes 20 Marks			
Practical Examination (Medicine & Surgery)			40
Practical - I (Medicine)			
Slides / Specimens / Charts			
(2)	(1)	(2) (5 X 2)	— 10 Marks
Orals			— 10 Marks
Practical - II (Surgery)			
Slides / Specimens / Charts			
(2)	(1)	(2) (5 X 2)	— 10 Marks
Orals			— 10 Marks
Grand Total for Part - I			<u>320</u>

Marks Qualifying for a pass (Part - I):

50% of Marks in the University Theory Examination Paper I & II (Aggregate)	90/180
50% of Marks in the University Clinical Examination	50/100
50% of Marks in Aggregate of Theory / Clinical / Practical / Oral Examination Paper I & II	160/320

Paper II - Preliminary

(At the end of Six Months of Second Year)

Paper I	Medical Radiation Physics as applied to Radiotherapy	3 Hours	90 Marks
	Practical	3 Hours	40 Marks
	Oral		20 Marks
	Total		150 Marks

Marks qualifying for a pass:

50% of Marks in the University Theory Examination (Paper I)	45/90
50% of Marks in Aggregate of Theory Practical / Oral Examination	75/150

PART - II (At the end of 3rd Year)

Theory	Title	Duration in Hours	Maximum Marks
Paper I	General Principles of Radiotherapy including Radiobiology and Oncology	3	100
Paper II	Clinical practice and technique of Radiotherapy	3	100
Paper III	Cancer Chemotherapy & Recent developments in Clinical Oncology & Radio- therapy.	3	100

Clinical Examination:

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

Practicals:

Slides / Specimens / X-Rays		25
(2) (1) (2)		
Orals		75
	Total	<u>100</u>

Part II Practical / Clinical examination should consist of long & short cases, pathology specimens, Radiology, Radio therapy techniques, Branch therapy application and radiation protection computer application in Radiotherapy simulation, mould room technology, Radiotherapy planning etc.

Dissertation:

Dissertation Marks	75
Oral on Dissertation	25
	Total <u>100</u>

Marks qualifying for a pass:

50% of Marks in University Theory Examination	150/300
50% of Mark in the Clinical Examination	100/200
50% of Marks in Aggregate of Theory / Clinical / Practical / Oral Dissertation	350/700

Maximum number of candidates to be examined per day ... 6

Radiation Oncology

LIST OF STANDARD TEXT BOOKS & REFERENCE BOOKS

1. Text book of Radiotherapy by Gilbert Fletcher 3rd - Ed. 1981.
2. Cancer - De Vita and 3rd ed. 1989.
3. Principles and Practice of Radiation Oncology —Carloz Perez and Luther Brady 2nd ed. 1987.
4. Cancer - By K.E Halnan and Karol Sikora and 2nd ed. 1990.
5. Text book of Radiotherapy - Hope stone.
6. Radiation Oncology - Principles - Moss & Cox ed. 1991.
7. Cancer - Diagonsis & Management - 3rd ed. 1989. —Ackermann and Del Regato.
8. Radiobiology for the Radiologist Eric Hall 1989.

JOURNALS

1. Journal Cancer
2. Clinical Oncology—Journal of the Royal College of Radiologists, U.K.
3. International Journal—of Radiation Oncology Biology.
4. Indian Journal of cancer—from the Indian Society of — Oncology (ISO)
5. Journal of Radiotherapy and Oncology—Journal of the Association of Radiation Oncologists of India.
6. The British Journal of Cancer.
7. The British Journal of Radiology.
8. Acta Radiologica Scandinavia.
9. European Journal of Cancer.

Medical Physics Related to Radiation Oncology

1. BASIC CONCEPTS

Units - Rindamental units - Derived units - Electrical Units - Radiation Units. Atoms - Nuclous - Atomic Number - Mass number - Isotope - Nuclear Structure - energe levels Binding energy - eletrio magnotic radiation - Quantum nature of Radiation - Radiation energy from an atom.

2. NUCLEAR PHYSICS

Radio activity - Units of Activity - Experiential decay - half life - transformation constant - disintegration - Bota mirus decay - Bota plus decay - Electron capture - Internal conversion - Auger electronic Isometric transitions - Fission - Fusion - Nuclear - reactors Activation of Isotopes.

3. INTERACTION OF RADIATION WITH MATTER

(1) Photon interaction.

Absorbtion of energy - Linear attenuation - co - efficient - Half value layer - mass, electronic and atomic attenuation co - efficient - energy transfer and energy absorption - Phto electric absorption compton scattering - pair production - total attenuation co- efficient - Relative importance of different types of interactions.

(ii) Particele interaction

Electron interaction - Isonizational losses -

Bremsstrah lung losses - Range of electrons - Electron

— Electron spectro - energy specification - stoping power

— LET particles for radiotherapy.

4. PRODUCTION OF X RAYS

X - ray Production

X - ray circuit Diagnostic X - ray tubes X - ray tubes for Radiotherapy X - rays spectron - interactions of electron with the target Angular distribution of X - rays - quality of X - rays - Eilters - HVL.

5. HIGH ENERGY MACHINES

Isotope machines - cobalt 60 unit source housing - beam Commission - ponumbra coasium 137 - Betatran - Linear accelerator (detailed study) - microtron - Recent development.

6. RADIATION DOSIMETERY

Fluence - kerma and absorbed dose - electronic equilibrium - Bragg Gray cavity principle.

Exposure - Rootegen standard air chamber - Thimble chamber - condenser chamber - Farmer - chamber - Secondary standard desimeter - Inverse square - Thermeluminescent Desimeter - Chemical desemeter film as a desimeter.

7. BEAM THERAPY

Phantoms percentage depth dose - Tissue air radio - Back scatter factor - Tissue Phantom rations - Tissue maximum ratios - equivalent squares for rectangular fields - Isodose curves - Paramelions and Ise Dose energy - Camparism of Ise dose curve of cobalt 60 with high energy beams - wedge filters - integral dose - choice of radiation beam.

8. TREATMENT PLANNING

Patient dose calculation - treatment time calculation - SSD and SAD Technique - Body contours - centours - corrections - for tissue in hemogeneities - corrections for surface obliquities - tissue compsorsators.

Dose distribution - opposing pairs of beams - three field technique - Rotation therapy - Wedge pairs - open and wedge field combinations.

Preparation of mould - shielding blocks - styrofoam cutting machine - simulator and its application - Role of CT and Ultrasound in treatment planning.

9. BRACHYTHERAPY

Brachytherapy sources Radium 226 - cesium 137 - cobalt 70 - Iridium 192 - Gold 198 - Iodine 125 - Physical characteristics - source production - storage and transport facility.

Implant technique - types of implant - patterson - parker system - patterson - parket tables - determination of implant area - radiographic examination of implants - orthogonal imaging methodstereo shift method - After loading technique Iridium 192 implant permanant implants - clinical examiples of dose calculation.

Intracavitary application - paris technique - stockholm technique - Manchester system - Dose specification - Point A and Pint B - leading arrangement - Applications - Manual after leading systems - computer dosimetry - examples of dose calculation. Recent developments in Brachytherapy.

10. RADIATION PROTECTION

Biological effects of radiation - sematic and Genetic effects - immediate and late effects - evaluation of radiation hazards - personnel monitoring - film badge pocket desimeter - TLD - Area monitoring survey meters - survey procedures - quality assurance in radiotherapy.

Maximum permissible dosa - historical review - Radiation protection rules in India - ICRP recommendations - dose equivalent Limits - quality factor - SivertZ.

Planning of Radiotherapy department - worklead - occupancy factor - use factor - protection from primary radiation protection against leakage radiation and scattered radiation - Design considerations for accelerator facility.

Guidelines for safe work practice - recent development in radiation protection.

Physics Practicals

1. Plateau of G.M. tube.
2. Mass absorption coefficient of Beta particles.
3. Range of beta particles.
4. Gamma ray spectrum.
5. Determination of the energy of unknown Isotope.
6. Output measurement in a Telecobalt unit.
7. Determination of % depth dose for cobalt beam.
8. Output measurement in a Linear accelerator.
9. Determination of optical and radiation field congruence:
10. Determination of optical and radiation field congruence:
11. Determination of Timer error in a cobalt unit.
12. Rectal Dose measurement.
13. Verification of Inverse square law.
14. Familiarisation of computerised treatment planning system.
15. Familiarisation of simulator.
16. Radiation survey in a Teletherapy facility.
17. Radiation survey a Branchytherapy facility.
18. Dose simulation in multified with open field and wedge fields.
19. Quality assurance in Radiotherapy.
20. Uptake studies with Gamma camera and scanners.

Clinical Practice of Radiotherapy and Oncology

A. PRINCIPLES OF RADIOTHERAPY

1. Teletherapy

- a. Radiation factors
- b. Megavoltage therapy
- c. Orthovoltage therapy
- d. Electron therapy
- e. Heavy particle therapy (Neutron, Photon, Pimeson).

2. Branchytherapy and Radioactive isotopes

- a. Radium and its substitutes.
- b. Practice of surface, intracavitary and interstitial, etc.
Endoluminal
- c. Clinical application
- d. Rules and techniques
Newer developments after leading — Manual
— Remote

Low medium and high dose rates.

B. TECHNIQUES OF RADIOTHERAPY

1. Small field beam directed therapy.
2. Extended and irregular field therapy.
3. Single, double and multiple field therapy.
4. Beam modification therapy (Wedge filter / compensator etc.
5. Rotation and Arc therapy.
6. Techniques in Branchytherapy.

- a. Intracavitary
- b. Intertitial
- c. Mould application
- d. Modern developments and after loading devices.
- e. Systemic.

D. EFFECTS OF IRRADIATION OF THE LUNG

- 1. Acute clinical effects
- 2. Ultimate effects
- 3. Histological substratus of effects
- 4. Measures to reduce final effects
- 5. Suquelac

E. EFFECTS OF IRRADIATION OF NERVOUS TISSUES

- 1. Effects on the brain
- 2. Effects on spinal core
- 3. Effects on peripheral nerves
- 4. Clinical manifestations
- 5. Histological substratus
- 6. Sequelac

F. EFFECTS OF IRRADIATION OF THE OVERY

- 1. Clinical manifestations
- 2. Histological substratus
- 3. Reversibility of effects
- 4. Therapeutic implications

G. EFFECTS OF IRRADIATION OF THE TESTIS

1. Clinical consequences
2. Histological substrats
3. Reversibility
4. Protective measures

H. EFFECTS OF IRRADIATION OF THE EYE

1. Clinical consequence
2. Histological substratum
3. Protective measures
4. Time does connotations
5. Sequelac therapy

I. EFFECTS OF IRRADIATION OF LYPHEID TISSUE

1. Clinical manifestations
2. Histological substratum
3. Reversibility

J. EFFECTS OF IRRADIATION OF THE BONE MARREW

1. Clinical and laboratory manifestations
2. Chrenelogy of effects
3. Histological substratum
4. Recovery
5. Therapeutic applications

K. EFFECTS OF IRRADIATION OF THE ORAL, PHARYNGOLARYNGEAL AND ESOPHAGEAL MUCOUS MEMBRANE

1. Clinical manifestations
2. Histological substratum
3. Repair
4. Sequelae

L. EFFECTS OF IRRADIATION OF THE SALIVARY GLANDS

1. Acute manifestations
2. Histological substratum
3. Dental consequences
4. Prophylaxis

Radiobiology

RADIOBIOLOGY AND LABORATORY RADIOTHERAPY

1. Mammalian Cell radiosensitivity

A. Interphase and reproductive death

B. Cell Survival curves in vitro

C. Characterization of Cell survival curves

D. Critical sites and target theory

1. DNA

2. Membranes

E. Dose response curves in Vivo

1. Skind clones

2. Surviving Crypts

3. Bone marrow colonies growing in spleen monolayer culture, speroids speroids.

F. Quantitative normal tissue reaction based on systems.

1. Pig Skin,

2. Redent Skin,

3. Lung,

4. Esophagus,

5. Kidney

6. CMS and spinal cord

II. FACTORS THAT MODIFY RADIATION RESPONSE

A. The oxygen effect.

1. Effect of Oxygen concentration
2. Time of action of Oxygen.

2. Mechanism of the Oxygen effect 4. Implications for radio therapy.

3. Methods of overcome problems of hypoxic cells.

B. The age response function

1. The cell cycle 2. Age response for cells cultures **in vitro**
3. Age response for tissues **in vivo** 4. Age response for
neutrons 5. Oxygen effect through the cell cycle.
6. Implications for radiotherapy.

C. Potentially lethal damage

1. Repair **in vitro** 2. Repair **in vivo** 3. **PLD** and high **LET**
radiations 4. Implications in radiotherapy.

D. Sublethal damage

1. Split dose experiments with cells **in vitro**
2. Sublethal damage repaire in normal tissues
3. Sublethal damage repaire in tumors
4. Sublethal damage and hypoxia
5. Sublethal damage and high **LET** radiations
6. Dose a measure of repair

E. Dose - rate

1. Dose rate effect in cell **in vitro**
2. Dose rate effect in normal tissues
3. Dose rate effect in tumors
4. Interstitial therapy
5. Beam therapy at low dose rate

F. Radiosensitizers

1. The halogenated pyrimidines
2. Hypoxic cell radiosensitizers
 - a. Structure and mode of action
 - b. Enhancement ratio
 - c. Metronidazole pmdonidazole
 - d. Pharmacokinetics in the human
 - e. Clinical limitations

C. Radioprotectors

1. Free radical scavenger

III. LINEAR ENERGY TRANSFER

- a. Definition
- b. Track and energy average
- c. LET for different types of radiation
- d. CEF as a function of LET.

IV. RELATIVE BIOLOGICAL EFFECTIVENESS

- a. Definition
- b. RBE for different cells and tissues.
- c. RBE as a function of dose.
- d. RBE and fractionation
- e. RBE as a function of LET
- f. Q. Factor.

V. CELL AND TISSUE KINETICS

- a. The cell cycle
- b. Autoradiography
- c. Constituent parts of the cell cycle
- d. Percent labelled mitoses technique
- e. Growth kinetics of human tumours.

VI. TISSUE RADIOSENSITIVITY

- a. Classification based on radiation pathology
- b. Types of cell populations
 1. Self renewal
 2. Conditional renewal
 3. Stem cell
 4. Differentiated

VII. TIME - DOSE AND FRACTIONATION

- a. The 4R's radiobiology
- b. The basis of fractionation
- c. The strauquist plot
- d. Nominal standard dose
- e. Linear quarete education

12. Hyperthermia

A. Methods of heating

1. RF microwaves
2. Ultrasound
3. Water baths

B. Systemic hyperthermia

C. Localised heating

D. Cellular response to heat

E. Repair of thermal damage

F. Thermotolerance

G. Hyperthermia combined with irradiation (X - rays)

H. Time sequence of heat and irradiation

I. Hypoxic cells and heat

J. Effect of Ph on the response to hyperthermia

K. Response of spontaneous tumours to heat

L. Response of transplanted tumours to heat

M. Response of normal tissues to heat

N. Heat and the therapeutic gain factor

O. Hyperthermia and chemotherapy

XI. TOTAL BODY IRRADIATION - ACUTE EFFECTS

- A. Prodromal radiation Syndrome
- B. Central nervous system / cerebrovascular Syndrome
- C. Gastrointestinal Syndrome
- D. Hematopoietic Syndrome
- E. Mean lethal dose (LD 50)
- F. Treatment of radiation accidents

XII. LATE EFFECTS

- A. Non Specific life shortening
 - 1. Definition
 - 2. In animals
 - 3. In man
- B. Carcinogenesis
 - 1. The latent period
 - 2. Dose response curve in animals
 - 3. Leukemia
 - 4. Breast cancer
 - 5. Thyroid cancer
 - 6. Bone cancer
 - 7. Skin cancer
 - 8. Lung cancer
 - 9. Other tumours
 - 10. Malignancies in prenatally exposed children
 - 11. Mechanisms of radiation carcinogenesis

C. Genetics of irradiation

1. Point mutations
2. Relationship to dose
3. Chromosome aberrations
4. Relationship to dose
5. Doubling dose
6. Genetically significant dose (GSD)
7. Genetic effect in humans
8. Background radiations in relation to the GSD

XIII. RADIATION EFFECTS IN THE DEVELOPING EMBRYOS AND FETUS

- a. Intrauterine death
- b. Congenital abnormalities including neonatal death
- c. Growth retardation
- d. Dependence of the above effects on dose, dose - rate and stage in gestation
- e. Carcinogenesis following in utero exposure
- f. Human experience of pregnant women exposed to therapeutic doses
- g. Occupational exposure of potentially pregnant women
- h. Elective booking of "10 day rule"
- i. The "practical threshold" for therapeutic abortion

XIV. RADIOPHYSIOLOGY OF HUMAN TISSUES

A. Effects of irradiation of the skin

1. Clinical manifestations
2. Histological substratus of effects
3. Repair
4. Degrees of equalac
5. Injuries effects

B. Effects of irradiation of bone and cartilage

1. Effects on growing bones and cartilage
2. Effects on adult bones and cartilage
3. Clinical manifestations
4. Histological substratum of effects
5. Functional consequences and sequelac

C. Effects of irradiation of the kidney

1. Clinical manifestations
2. Histological substratus of effects
3. Acute and chronic functional repercussions
4. Permanent sequelac

**Post - Graduate Degree Course in M.D.
Anaesthesiology Branch X**

TRAINING PROGRAMME

FIRST YEAR

General Surgery	4	Months
Orthopaedic Theatre	1	Month
Cardiothoracic Theatre	1	Month
Neuro Surgical Theatre	1	Month
Urology	1	Month
Medical Ward & O.P. Postings	4	Months
Total	12	Months

SECOND YEAR

Gen. Surgical Theatre (including Geriatric & Endocrinology	4	Months
Plastic & facio - maxillary Theatre	1	Month
Paediatrics Theatre	1	Month
Obstetrics & Gynaecology Theatre	1	Month
E.N.T. Theatre	1	Month
Cardio Thoracic Theatre	2	Months
Neuro Surgery Theatre	2	Months
Total	12	Months

THIRD YEAR

Gen Surgical theatres (including Geriatric & Endocrinology)	5	Months
Paediatric Theatre	1	Month
Obstetrics - Gynaecology Theatre	1	Month
Orthopaedic Theatre	1	Month
Cardio Thoracic Theatre	1	Month
Neuro Surgical Theatre	1	Month
Urology Theatre	1	Month
E.N.T. Theatre	1	Month
Total	12	Months

**Post Graduate Degree Course
in M.D. Anaesthesiology Branch X)**

Scheme of Examination

Distribution of Marks

PART I (At the end of 1st year)

Theory	Title	Duration in Hours	Maximum Marks
Paper - I	Medicine Applied to Anaesthesiology	3	100

Clinical Examination (Medicine)

1. Long case — One - 40 Mts.	100	Marks
2. Short case — One - 15 Mts.	50	Marks
Total	<u>150</u>	Marks

Practicals

X - Ray / E.C.G. / Slides / Specimens	(5x2)	10	Marks
(1) (1) (2) (1)			
Orals		40	Marks
Total		<u>50</u>	Marks

Marks qualifying for a pass

50%	of marks in the University Theory Examination Paper I Medicine	50 / 100
50%	of marks in the University Clinical Examination	75 / 150
50%	aggregate in the Theory Clinical / Practical / Oral Examinations	150 / 300

PART - II (At the end of IIIrd Year)

Theory	Title	Duration in hours	Maximum marks
Paper - I	Applied Basic Sciences related to Anaesthesia including physics in Anaesthesia History of Anaesthesia	3	100
Paper - II	Anaesthesiology	3	100
Paper - III	Anaesthesiology including critical care and recent advances in Anaesthesiology	3	100
Total			<u>300</u>

Clinical Examination

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

Practicals

Instruments / Specimens / X - Rays / E.C.G.	25	Marks
(2) (1) (1) (1)		
Orals	75	Marks
Total	<u>100</u>	Marks

Dissertation

Dissertation Marks	75
Oral on Dissertation	25
Total	100

Marks qualifying for a pass

50%	of marks in the University Theory Examination	150 / 300
50%	of marks in the University Clinical Examination	100 / 200
50%	aggregate in the Theory Clinical / Practical / Oral / Dissertation	350 / 700

Maximum number of candidate of
be examined per day

— 6

**Post Graduate Degree Course in
M D. Anaesthesiology Branch X**

**RECOMMENDED LIST OF BOOKS AND JOURNALS FOR
ALL THE ANAESTHESIOLOGY EXAMINATION**

BOOKS :

1. Practice of Anaesthesiology—Wylie - Churchill Davidson.
2. General Anaesthesiology—Gray, Nunn, Utting.
3. Anaesthesia - Two Volume—Ronald D. Miller.
4. Anatomy for Anaesthetist—Harold Willis.
5. Understanding Anaesthesia Equipments—Dorsh & Dorsh.
6. Emergency Anaesthesia—Thronton.
7. Principles of Obstetric Anaesthesia—J.S. Crawford.
8. Physics for Anaesthetist—Muscini & Mactintosh.
9. Neuro Surgical Anaesthesia—Hunter.
10. Pediatric Anaesthesia—Gregory.
11. Cardiac Anaesthesiology - 2 Volumes - Jonathan Benumft.
12. Anaesthesia & Co - existing Diseases - Stoelting.

JOURNALS AND PERIODICALS :

1. Anaesthesia and Analgesia Journal (States)
2. Anaesthesiology Jr.
3. Anaesthesia Jr.

4. Acta Anaesthesia Scandinavia.
5. Canadian Jr. of anaesthesia.
6. Indian Jr. of Anaesthesia.
7. British Jr. of Anaesthesia.
8. Experta Anaesthesia.
9. Recent advances in Anaesthesiology.
10. Year Book of Anaesthesia.
11. Anaesthesia Clinics.
12. Clinics in North America in Anaesthesiology.

Post - Graduate Courses in Anaesthesiology

Core Syllabus

Basic Sciences related to anaesthesia including anatomy, physiology, Pharmacology and Biochemistry.

Medicine applied to Anaesthesiology. Physics in Anaesthesiology including electronics, computers and lasers.

History of Anaesthesiology.

Pre anaesthetic evaluation and preparation.

Principles and Practice of Anaesthesiology including pre, per and post operative care.

Different methods of Anaesthetic Techniques.

Regional anaesthesia including, spinal, epidural and caudal etc.

Local anaesthesia including nerve blocks, management of chronic pain.

Anaesthesia for Gen. Surgery and specialities like Cardiothoracic, Neurosurgical, Orthopaedics, Geriatrics, Plastic surgery and surgical endocrinology. Paediatric anaesthesiology and Obstetrics and Gynaecological procedures.

Blood transfusion - Fluid and electrolyte balance.

Fires and explosion.

Theatre sterilization procedures.

Oxygen therapy and Management of both acute and chronic respiratory insufficiencies, and ventilator commitments in I.C.U.

Critical care Anaesthesiology.

Anaesthesia in abnormal environments like high altitude anaesthesia etc.

Complication in Anaesthesiology and their management both per and post operatively.

Post - Graduate M.D. Degree in S.T.D.

TRAINING PROGRAMME

FIRST YEAR

Daily O.P. and ward
(Both Male and Female) 6 Months

Peripheral posting
(Attend daily O.P. upto 10 A.M.
at Inst. of Venerology) 3 Months

Break - up details :

Cardiology 2 Weeks

Leprosy 2 Weeks

Gynaecology 2 Weeks

Ophthalmology 2 Weeks

Neurology 2 Weeks

Psychiatry 2 Weeks

Total 12 Weeks

General Medicine
Attend daily O.P. in Venerology
except admission day of General
Medicine Side. 3 Months

Total 12 Months

SECOND YEAR

Daily O.P. and ward (Both
Female and male) including
community oriented work and
serology)

10 Months

Dermatology

1 Month

Proctology

15 Days

Urology

15 Days

Total

12 Months

THIRD YEAR

Daily O.P. and ward (both male
and female) including community
oriented work and
serology

12 Months

**Post - Graduate M.D. Degree in
Sexually Transmitted Disease**

SCHEME OF EXAMINATION

Distribution of Marks :

PART - I

Theory	Title	Duration in Hours	Maximum marks
Paper - I	Applied Basic Sciences	3	180
Paper - II	General Medicine**	3	100

Clinical Examination :- (Medicine)

	No. of cases	Duration	Marks
1. Short Cases - Two	-	40 Minutes	90
2. Spotters - Three	-	30 Minutes	60
Total			<u>150</u>

Practicals :-

Slides (2)	Specimens (1)	Charts (2)	(5x2)	
				10
Oral				40
Total				<u>50</u>

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 Theory Clinical / Practical / Oral Examination

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)

**** Common to M.D. Branches**

VII Paediatric Medicine

XI Venereology XII Dermatology and

XVII Tuberculosis and Respiratory Diseases.

PART - II

Theory	Title	Duration in Hours	Maximum Marks
Paper - I	Clinical Venereology	3	100
Paper - II	Venereology including Public Health cum Social & Laboratory aspects	3	100
Paper - III	Recent Advances in Venereology	3	100
Total			<u>300</u>

Clinical Examination :

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

Practicals :-

Slides (2)	Specimens (1)	X - Rays (2)	25
Oral			75
Total			<u>100</u>

Dissertation :-

Dissertation Marks 75

Oral on Dissertation 25

Total 100

Marks qualifying for a pass

50% of marks in the University Theory Examination 150 / 300

50% of marks in the Clinical Examination 100 / 200

50% aggregate in the Theory
Clinical / Practical / Oral /
Dissertation 350 / 700

Maximum number of candidates to be
examined per day 6

**Post - Graduate M.D. Degree Course in
Sexually Transmitted Disease**

RECOMMENDED LIST OF BOOKS AND JOURNALS

TEXT BOOKS :

1. Venereal Diseases—Ambrose King, Claude Nicol Philip Rodin.
2. Sexually Transmitted Diseases—King K. Holmes et al.
3. Modern Clinical Syphilology by Stokes.

REFERENCE :

1. Donovanosis—Dr. R.V. Rajam & Dr. P. N. Rangiah
Monograph Ser. No. 25.
2. Lymphogranuloma venereum—Dr. R. V. Rajam & Dr. P. N.
Rangiah Monograph - Ser. No. 25.
3. Pocket consultant—Venereology by J. R. Willcox -
infective hepatitis and other viral conditions.
4. Barrison Text Book of Medicine (Two volumes).

JOURNALS :

1. Journal of Genito - Urinary Medicine
2. Journal of Sexually Transmitted Diseases.
3. British Medical Journal.
4. Lancet
5. AIDS.

**Post - Graduate Course in
Sexually Transmitted Disease**

SYLLABUS - APPLIED BASIC SCIENCE

- Historical aspects of Venereal Diseases
- Anatomy of the human body with special reference to Canitalia.
- Histology in relation to Venereology
- Physiology in relation to Venerology
- Microbiology, inclusive of serology in relation to Venereology
- Syphilis and Gonorrhoea & AIDS in all its aspects, Chancroid, granuloma venereum, lympho - granuloma venereum and other minor venereal diseases.
- Common dermatological disorders and diseases
- Hisro-pathology in relation to Venereology
- Allergy in relation to Venereology
- General Immunology with special emphasis on cell mediated immunity.

ANATOMY INCLUDING HISTOLOGY :

- Basic anatomy of all organs, in detail - anatomy reproductory organs (Male & Female)
- Anatomy of the central nervous system and eyes.
- Anatomy of the heart and aorta
- Anatomy of joints and bones
- Anatomy of placenta and the development of foetus
- Development of teeth
- Histology of skin

Brain

Spinal cord

Eye

Blood vessels

Heart and liver - spleen

Genito - urinary system.

Physiology and Biochemistry :

Cerebrospinal fluid :

1. Production, constituents and function of cerebrospinal fluid.

Chemical and immunological changes in diseases.

2. Serum proteins - production and function : immunological and immunochemical changes in serum in diseases.

3. Basic principles in animal experiments.

4. Physiology of coitus.

5. Spermatogenesis.

6. Physiology of semen.

7. Prostaglandins.

Pharmacology :

(a) Fundamental principles in treatment :

Specific therapy

Non - Specific therapy

Adjacent therapy

Drug intolerance

Drug resistance

Drug interaction

Time factor. Age factor

Routine and individualisation of treatment

(b) Antibiotics in details :

Classifications

Structures etc.

Therapy

Side reactions : Pencillin all forms
 Streptomycin and other broad
 spectrum antibiotics, Macrolide
 antibiotic

(c) Chemotherapy of suphonamides - heavy metals

(d) Corticosteroids

(e) Blocking agents

(f) Metronidazole

(g) Antiviral drugs

(h) Interference phenomenon

(i) Podophyllin resin

MICROBIOLOGY :

1. Morphology, cultural characteristics and staining of
 bacteria in general.

2. Detailed study of Gram positive and Gram negative
 coccispirochetes, haemophilus and corynebacterium group of
 organism :-

Characteristics

Survival in culture

Classification

Host parasite relationship

Susceptibility of different host species to
 infection

Host parasite interaction

Persistence of organisms inspite of treatment

3. Trichomonas vaginalis

4. Moniliasis

IMMUNOLOGY

General principles in the development of immunology

Resistance:

Immunopathology

Fluorescent antibody technique

Detection and classification of organisms and antibodies by using immunological principles

Immuno - diagnostic skin tests

Sero - epidemiological studies and its value

PATHOLOGY :

1. Basic pathologic patterns

2. Laboratory methods of fixation and staining

3. Chronic infectious granulomas

4. Non - infectious inflammatory diseases

5. Tumours of the external genitalia

I. DISEASES CAUSED BY THE FOLLOWING PATHOGENS

Bacteria

Neisseria gonorrhoeae

Chlamydia trachomatis

Treponema Pallidum

Haemophilus ducreyi

Calymmatobacterium granulomatis

Mobiluncus curtisii

Viruses

Herpe simplex Virus I & II
 Cytomegalovirus
 Hepatitis virus (A and B)
 Human Immunodeficiency virus
 Human papillomavirus

Protozoans

Trichomonas vaginalis
 Entamoeba histolytica
 Giardia lamblia

Ectoparasites

Sarcoptes scabies
 Pediculus (Phthirus) Pubis

AND

II. SYNDROMES

Vulvitis
 Skenitis
 Bartholinitis
 Proctitis
 Urethritis
 Urethral syndrome
 Vaginitis
 Mucopurulent cervicitis
 Endometritis
 Prostatitis
 Gay bowel syndrome
 Genital Ulcer Disease
 Salpingitis
 Pelvic Inflammatory Disease
 Fitz - Hugh - Curtis syndrome
 Epididymitis
 Epididymo - orchitis
 Venereal Warts
 Cervical intra epithelial neoplasia (CIN)

**Post - Graduate Degree Course in
M.D. Dermatology - Branch XII**

TRAINING PROGRAMME

FIRST YEAR

Skin OP / Ward	8 Months
General Medicine Department	4 Months
Total	12 Months

SECOND YEAR

Skin OP / Ward	10½ Months
Leprosy	1 Month
Dept of Venereology	15 Days
Total	12 Months

THIRD YEAR

Skin OP / Ward	11½ Months
Department of Leprosy	15 Days
Total	12 Months

**Post Graduate Degree Course in
M.D. Dermatology — Branch- XII**

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 Medicine	3	100
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Clinical-I Examination (Medicine)

1. Short Cases - Two - 40 Minutes	90 Marks
2. Spotters - Three - 30 Minutes	60 Marks
Total	<u>150</u> Marks

Practicals

Slides / Specimens / Charts

(2)	(1)	(2)	(5 X 2)	10 Marks
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 Examinations

75 / 150

50% of 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)

** Common to M.D. Branches

Paediatric Medicine

XI Venereology

XII Dermatology and

XVII Tuberculosis and Respiratory Diseases.

PART - II (At the end of 3rd Year)

Theory	Title	Duration in Hours	Maximum Marks
Paper I	General and Tropical Dermatology including Leprosy and Social aspect	3	100
Paper II	Dermatology including skin manifestation of systemic disease and Therapeutics	3	100
Paper III	Recent advances in Dermatology (Basic and Clinical Science)	3	100
Total			<u>300</u>

Clinical Examination:

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

Practicals:

Slides / Specimen / Charts			
(2)	(1)	(2)	25
Orals			75
Total			<u>100</u>

Dissertation

Dissertation Marks

75

Oral on Dissertation

25

Total

100

Marks qualifying for a pass

50%

of marks in the University Theory Examination

150 / 300

50%

of marks in the University Clinical Examination

100 / 200

50%

aggregate in the Theory Clinical / Practical / Oral / Dissertation

350 / 700

Maximum number of candidate of
be examined per day

— 6

**Post - Graduate Degree Course in
M D. Dermatology—Branch - XII**

RECOMMENDED LIST OF BOOKS & JOURNALS

BOOKS RECOMMENDED (Latest Editions) _____

1. Rook et al Text Book of Dermatology 4 Volumes
(Fifth Edition)
2. Andrew's Diseases of the skin - Clinical Dermatology
(Eighth Edition)
3. Fifypatrick TB et al : Dermatology in General Medicine
2 Volumes (Third Edition)
4. Demis DJ: Clinical Dermatology: Five Volumes - (Ed.12)
5. Moschella SL et al : Dermatology (Ed 3)
6. Brycenson et al : Leprosy (Ed. 3)
7. Lever WF & Lever GS : Histopathology of the skin
(Ed. 7)
8. Jopling EH. Hand Book of Leprosy ELBS
9. Maddin S: Current Dermatologic Therapy
10. Dharmendra : Leprosy 2 Volumes
11. Provost TT and Farmer ER : Current Therapy in
Dermatology
12. Shelley WB & Shelley ED: Advances Dermatologic
Therapy
13. Wolverton and Wilkin: Systemic Drugs for Skin Diseases.
14. Thody AZ and Freedmann: Scientific Basis of
Dermatology
15. Braverman: Skin signs Systemic Diseases
16. Rook and Dawber: Diseases of the Hair and scalp.
17. Caterall: Sexually Transmitted Diseases.

JOURNALS

1. Archives of Dermatology
2. British Journal of Dermatology
3. Journal of American Academy of Dermatology
4. International Journal of Dermatology
5. Aeta Dermato - Venereologica
6. Journal of Investigative Dermatology.

Degree of Doctor of Medicine (M.D)**Branch - XII Dermatology****APPLIED BASIC SCIENCES****Syllabus****ANATOMY**

1. Structure and Function of skin - ultrastructure of human epidermis and epidermal appendages.
2. Corium and subcuits.
3. Embryology of skin.

PHYSIOLOGY AND BIOCHEMISTRY

1. Mechanical Properties of skin.
2. Electrical Behaviour of skin.
3. Percutaneous absorption.
4. Cutaneous circulation and Vascular reactions.
5. Cutaneous innervations and sensory functions.
6. Sweat secretion.
7. Role of skin in Termoregulation.
8. Epidermal proteins.
9. Keratinisation.
10. Connective tissue - Collagen, Reticulin, Elastin and ground substances.
11. Mectabilism of Carbohydrates, Proteins and Fats.
12. Pigmentation.

13. Enzymes in the skin.
14. Nutritional influences on skin.
15. Hair growth.

PATHOLOGY

1. Basic pathological patterns.
2. Morphology and functions of mesodermal cells.
3. Pathophysiology of blister formation.
4. Allergy - in all its aspects.

BACTERIOLOGY AND MYCOLOGY AND VIROLOGY

1. Fundamentals of cutaneous bacteriology.
2. Fundamentals of cutaneous mycology.
3. The study of important staining procedures and culture Media.
4. Structure and general information on Viruses.

PHARMACOLOGY

1. Antimitotic drugs.
2. Corticosteroids.
3. Antimalarials
4. Vitamins
5. Hormones
6. Antihistamines
7. Antibiotics inclusive of Sulfanamides and its derivatives
8. Emulsions - oil in water and Water in oil

9. Sulphur

10. Hypoglycemic agents

11. Chelating agents

Radiation

Ionisation

Surgical procedures including electro - surgery

Refrigeration

Psychotherapy

Modern trends in therapy

Dermatologic Formulary

Prevention of Cutaneous diseases and Rehabilitations of patients suffering from cutaneous disease.

Social Aspects of Dermatology.

Practical (including Demonstration) Bacteriology and Parasitology.

(1) Smear examinations with different stains.

(2) Demonstrations of the cultural Characters of different types of infective organisms including fungus.

(3) Examinations of Scales and Crusts for evidence of Fungus.

(4) Demonstrations of animal parasites.

Pathology—

(1) Examinations of body fluids for evident findings.

(2) Examinations of blood for different tests.

(3) Different Skin Tests and readings.

(4) Examination and Demonstration of skin slides.

(5) How to prepare histopathological skin sections and different staining methods for staining skin sections.

Clinical—

- (1) Demonstrations of cases including Syphiloderm
- (2) Demonstrations of Dermographism
- (3) Demonstrations of Nikolsky's sign and Halogen Tests.

Therapeutics—

- (1) Demonstrations of special therapeutic measures adopted in the skin treatment.
- (2) Demonstrations of Special Physio - Therapeutic apparatus used in the skin treatment.
- (3) Demonstrations of Physiotherapy relation to skin diseases.
- (4) Rehabilitation.

M.D. Branch XII Dermatology**Syllabus**

General Medicine in relation to the speciality.

Diseases of Metabolic origin

Diseases of Endocrine system

Avitaminosis

Exanthemata

Blood Dyscrasias

Diseases of Blood Vessels

Diseases of Reticulo - endothelial system

Kala Azar and Tropical fever with rashes

Yaws

Pigmentary disorders

Sarcoidosis

Tuberculosis

Collagen Disorders (Connective Tissue disorders)

Genetic disorders of medicine with cutaneous lesions and other related systemic diseases

Skin Diseases

Introductory:

Skin diseases in relation to Society

Classification of skin diseases

General Symptomatology

General Etiology

General Pathology

General Diagnosis

General Prognosis

General Therapeutics

Anatomy and Histology of the Skin:

Growth and replacement of the skin

Differences in the character of the skin in different regions

Skin Pigmentation

Cutaneous glands

Hair and Nail growth

Blood supply of the skin

Lymphatics of the skin

Structure of the skin

Chemistry, Physiology and Functional Pathology of the skin.

Biochemistry of Components of the skin : Physiology:

Proteins

Fats

Carbohydrates

Electrolytes

Water

Enzymes

Vitamins

Sweat

Permeability

Epidermal secretion

Respiration

Melanin pigmentation

Secretion

Perspiration

Sensation

Heat regulation

Protection

Topography of the skin

Nutrition of the skin.

Hormones**Structural and Functional Pathology**

Inflammation of the skin

Vascular response

Lymphatic reactions

Regenerations

Pathology, Bacteriology, Parasitology, Mycology etc.

Pathological changes of the epidermi

Pathological changes of the corium

Cells of the corium

Pathological changes of dermal appendages

Lesions of the skin associated with bacterial infection

Identification of pathogenic bacteria
 Experimental transmission of skin diseases
 Skin diseases in animals communicable to man
 Host - Parasite relationship
 Influence of bacteria upon healing
 Autogenous disinfection of the skin
 Parasitology in relation to dermatology
 Phylum Protozoa
 Phylum Nemethelminthes
 Phylum Arthropoda
 Order of Anoplura of Lice
 Order of Acarina
 Order of Diptera
 Order Hemiptera
 Order Siphonaptera, etc.,
 Mycology in relation to Dermatology
 Dermatophytes
 Parasitism of Dermatophytes
 Cultivation of the fungus
 Moniliasis
 Systemic Mycosis
 Allergy and dermal hypersensitivity of dermatophytes
 Diseases of the skin, its appendages, muco - outaneous
 surfaces and Mucous membrane:
 Acone and Seborrheic Dermatoses
 Pruritus (Symptomatic and essential, Psychogenic
 implication)
 Eczematous Dermatoses
 Urticaria, Toxic Erythemas and Drug Eruptions
 Collagen - diseases of the skin
 Vesiculo - Bullous disorders
 Occupational dermatoses

Maculo - Papulo - Squamous diseases

Pyodermas

Fungus infections

Tuberculosis of the skin and allied disorders

Syphilis

Virus and other infections including venereal diseases other than syphilis

Diseases due to animal parasites

Hyperpigmentations Depigmentations and Atrophy

Congenital (Nevoid) anomalies

Disorders of the mucous membrane

Diseases of the nails, Hair and other organs relating to the skin

Diseases due to physical agents

Benign tumours of the skin

Metabolic disorders

Premalignant and malignant tumours

Tropical Dermatology including Deficiency Dermatoses :-

Yaws

Leprosy

Oriental Sore

Veldts Sore, Naga Sore

Ulcus Tropicus

Dermal Leishmaniasis

Prickly Heat

Dermatoses due to vitamin and Nutritional deficiency

and excesses

Vitamin A

Vitamin B Complex

Vitamin C

Vitamin D

Vitamin K

Vitamin E

Treatment

Topical medications

Systematic medications

Physical agents

Heliotherapy

M.D. Br. XVI - GERIATRIC MEDICINE**Duration of Course - Three years**

1. I year - Candidates will be posted in Geriatric Medicine and Specialities for a period of 12 months Which is as follows:

- | | | | | |
|----|--------------------|---|---|--------|
| a) | Geriatric Medicine | — | 6 | Months |
| b) | Specialities | — | 6 | Months |

Cardiology, Nephrology, Neurology, Gastroenterology, Haematology, Psychiatry, Dermatology, Intensive Medical Care, Thoracic Medicine, Diabetology, Rheumatology, Cancer Chemotherapy.	15 days in each of the speciality.
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II Year - GENERAL MEDICINE

III Year - GWRIATRIC MEDICINE

M.D. - GERIATRIC MEDICINE**Scheme of Examination**

Distribution of marks :

Part I (at the end of First Year)

	Title	Duration in hours	Maximum marks
Theory	Applied Basic Science	3	150

There would be no clinical / practical / oral examination in the end of first year.

Part II (At the end of Third year)

Theory	Title	Duration in hours	Maximum marks
Paper I	General Medicine Including Psycho-Geriatrics	3	100
Part II	Geriatrics	3	100
Part III	Social & Preventive Geriatric including rehabilitation	3	100

Clinical examination	No. of Cases	Duration	Marks
Long case (Total assessment & Management of Medical and social Problems with stress on multiple pathology including detailed case sheet writing)	1	1 hr.	80
Short cases (Gen. Exam & Exam. of one Specific system - No case sheet writing)			
1) Cardio vascular			
2) Respiratory			
3) Abdomen	3	45 mts.	120

Total: 200

Oral & Practicals

1.	Specimen	
2.	Biochemical / Blood Gas Analysis / Pulmonary Function test	25
3.	X - ray (Plain & contrast)	
4.	E.C.G	75
	Total	100

Dissertation

Dissertation marks	-	75
Oral on dissertation	-	25
		100

Marks qualifying for a pass

Part I

50% of marks in the university	
Theory examination -	
Theory paper - Applied Basic Sciences.	90 / 180

Part II

50% of marks in the university	
theory examination	150 / 300
50% of marks in the university	
clinical examination	100 / 200
50% aggregate in theory / clinical	
practical / oral / dissertation	350 / 700

Examiners: 4 Nos.

Geriatrician - 2 Nos.	1) Professor of Geriatric Medicine
	2) Professor of Internal Medicine until another qualified Professor in Geriatric Medicine is available.
Physician - 2 Nos.	(one internal and one external)

M.D. - GERIATRIC MEDICINE**PAPER I****SYLLABUS IN GENERAL MEDICINE & PSYCHO GERIATRICS****INTRODUCTION TO CLINICAL MEDICINE :**

- Headache
- Pain in the chest
- Chills and fever
- Lassitude and Asthenia
- Weakness - Motor paralysis - Tremor, Chorea, Athetosis
- Dizziness, Disorders of sensation, Convulsive state
- Dyspnoea & Palpitation
- Nausea and vomiting
- Jaundice and vomiting
- Ascites

IMMUNOLOGICAL FACTORS IN DISEASE :

Components of Immune system - Mechanism of the Immune response - Immune deficiency and Lymphoproliferative disorder, Types of Immune reaction and their relation to disease - Suppression of Immune reactions or of effects.

INFECTIONS AND DISEASE :

Nature of Micro - Organism - Epidemiology and spread of infection. Defence of human host - Diagnosis of infections - Pyrexia of unknown origin.

INFECTIOUS DISEASE :

Streptococcal infection Staphylococcal infection, Diphtheria, Typhoid Bacterial poisoning, Tetanus, Brucellosis, Gonorrhoea - Measles - Rubella.

CHEMOTHERAPY OF INFECTIONS :

Sulphonamides and antibiotics
Miscellaneous chemotherapy.

DISTURBANCES IN WATER AND ELECTROLYTE BALANCE AND HYDROGEN ION CONCENTRATION :

Sodium depletion - potassium and excess magnesium deficiency and intoxication / water - intoxication - Sodium and water accumulation - Disturbances in Hydrogen ion concentration.

DISEASES OF CARDIOVASCULAR SYSTEM :

Cardio dysarrhythmias, Cardiac failure, Rheumatic fever, Valvular diseases, Congenital heart diseases, Ischemic heart disease - pericardial diseases - Cardiomyopathics, and myocarditis - Cardiac tumours - Artherosclerosis, hypertension - Diseases to Aorta - Peripheral vascular diseases - cardiovascular syphilis.

DISEASES OF THE RESPIRATORY SYSTEM:

Disturbances of respiratory functions - disease of upper respiratory tract obstructive - airway diseases. Neoplasms of lung - diseases of pleura, Mediastinum and Diaphragm - Cor pulmonale - Acute Respiratory failure.

DISEASES OF THE DIGESTIVE SYSTEM:

Diseases of Oesophagus - Peptic ulcer - Gastritis and other diseases of stomach including carcinoma - Colon and rectum - Diseases of peritoneum and Mesentery.

DISEASES OF LIVER AND BILIARY TRACT:

Diagnostic procedures in liver diseases -
Derangement of Hepatic metabolism
Disturbance of biliary metabolism -
Acute Hepatitis - chronic active hepatitis -
Cirrhosis of liver - Tumours of liver -

Suppurative diseases of liver - Infiltrative and metabolic diseases affecting the liver - Diseases of Gall Bladder and bile - duet.

DISEASES OF PANCREAS:

DISEASES OF KIDNEY AND URINARY SYSTEM:

Acute renal failure
Glomerulonephritis
Nephrotic syndrome - Vascular diseases of kidney - Infections of the urinary tract - Obstructive Uropathy
Nephrolithiasis.

DISEASES OF THE ENDOCRINE SYSTEM: The thalamus and pituitary gland - diseases of anterior pituitary - diseases of adrenal cortex and Medulla - diseases of testis and ovaries - pineal gland - Diabetes mellitus - non diabetic mellituria - hyper insulinism - Glucogan secretion. Diseases of Neuro hypophysis - diseases of thyroid.

DISEASES OF THE BLOOD AND BLOOD FORMING ORGANS:

Blood formation - Blood destruction - Anaemia Bore Marrow failure - Blood groups and transfusion - Polycythemia rubra - vera - abnormal haemoglobin - Diseases of platelets - Haemorrhagic disorder - Leukomin lymphomas - Diseases of spleen and reticulo endothelial system.

DISEASES OF CONNECTIVE TISSUES, JOINT AND BONES:

Rheumatoid arthritis - Ankylosing spondylitis - Syst Lupus Erythematosus - Scleroderma - Polymyalgia Rheumatica - Gout - pseudo Gout - Ostocarthritis - Diseases of bone - Metabolic and Endocrine Diseases - Tumours of Bone.

DISEASES OF THE NERVOUS SYSTEM:

Diagnosis - Methods in Neurology - Coma - Headache - Epilepsy - Diseases of Peripheral nervous system - Diseases of Cranial Nerves - Diseases of spinal cord - Cerebro vascular diseases - Pyogenic infections of Central Nervous system - Viral infection - Multiple Sclerosis / Demyellinating - Diseases / Metabolic and Nutritional diseases of brain / degenerative diseases of Nervous system.

Injuries / Immersion injury and drowning.

DISEASES OF THE SKIN

Interpretation of alteration in the skin - Skin lesions of general medical significant - Generalised Pruritus - Pigmentation of the skin - Disorders of Melanin - Metabolism - Photo sensitivity - Other reactions to light Hirsutism and Alopecia - Cutaneous Manifestations of Internal malignancy, psoriasis, Scabies and fungus infections of the skin.

SYLLABUS FOR PSYCHO GERIATRICS

- Epidemiology of Mental Disorders in elderly
- Definition and Classification of Psychiatric disorders
- Delirium (Acute, confusional state)
- Demential, Treatable dementia
- Concepts of Depression in old age
- Menia - Paranoid state
- Functional psychiatric disorders in old age
- Personality and behaviour disorders
- Psycho Geriatric service - Principles of treatment
- Management of psychiatric illness
- Alcoholism and the elderly patient
- Problems of carers.

M.D. GERIATRIC MEDICINE
PAPER II
SYLLABUS IN GERIATRIC MEDICINE

GENERAL	The ageing population - world trends, Trends in India and developing Countries. The aged and society - past and present. The evolution of Geriatric Medicine.
GERONTOLOGY	Normal and abnormal aging Theories of aging Metabolic and structural aspects of aging. Biochemical changes in the normal aging brain Aging in tissues and cells Atherosclerosis and aging Ecology of human senses The million interior and aging
GERIATRIC MEDICINE	How elderly patients are different Common patterns of disease in old age - alteration in pain and temperature response - Missing symptoms. Complications of illness. Non specific presentations - marking by known disease. History taking in the elderly, Physical examination of the old patient.
INVESTIGATIONS OF THE ELDERLY	Policy - interpretation - Radiological investigation, Haematological investigation. Biochemical investigation - Electro cardiography urinalysis Radio Istotope tests, Bone biopsy, Ultraonograms - C.T. scan. How much to investigate, Concept of normal range.
IMMUNOLOGY	Genetic aspects of immunity and immunological diseases, Mutation alternative theorics of aging, Cancer. immunological surveillance.

NUTRITION

Nutritional requirement - changes in total body mass and body composition - Nutritional assessment - Nutritional deficiency in old age - Mainutrition in the elderly. Inadequacy of protein calcium and osinteoporosis - Osteomalacia and Vit. D - Iron the Vitamins - Recommended intake of Nutrients - Prevention of Nutritional deficiency.

CARDIO VASCULAR SYSTEM

The cardiovascular system - physiology and pathology of cadiovascular system in old age. Investigation of heart diseases in old age. Cardiac arrhythmias, Ischaemic heart diseases and acute cardiac infarction.

Hypertension, hypertensive heart disease, postural hypotension.

Valvular heart disease - pulmonary heart disease.

Miscellaneous cardiac ailments

Cardiac decompensation

Aortic Anaeurysm

Bacterial endocarditis

Peripheral vascular disease, deep venous thrombosis.

ENDOCRINE AND METABOLIC DISORDERS

Changes with aging - Diabetes Mellitus Disease of the Pituitary, thyroid, parathyroid and adrenal gland - Obesity - sexuality of the elderly.

Disorders of calcium, potassium, sodium and Magnesium.

Zinc in the elderly.

Disturbances of fluid and electrlyte balance.

Hyper pyrexia - Heatstroke.

THE CENTRAL NERVOUS SYSTEM

The aging brain - vascular lesions of the central nervous system - Dementia - Degenrative disorders, parkinsonism, infections of nervous system, Neoplasm - stroke - Fits.

GENITO URINARY SYSTEM

Structural changes with age - acute and achronic renal failure, infections of the genite urinary tract - diseases of the bladder and prestate - Urinary Incontinence - Age changes in the Genital tract - Post menopausal Bleeding Gynaecological disorders in the elderly.

DISORDERS OF THE SPECIAL SENSE

Disorders of eye and auditory system Disturbance of taste and smell Dental problems

INFECTIONS OF THE ELDERLY

Significance of bacterial infection Host defences - Natural barriers, Nutrition, white cell reponse, immune mechanism - Diagnosis of fevers - urinary infection - Diagnosis and treatment. Pneumonia - cause, diagnosis treatment. Septicaemia - Bacterial endocarditis - antibiotic treatment, rational use of anti-biotics. Toxic effects of antibiotics.

THE GASTRO INTESTINAL SYSTEM

Changes with age - investigation of the gastro intestinal tract disorders of the mouth, and upper G.I. tract - disease of the pancreas - Diseases of small intestine - Disease of the large intestine - Faecal incontinence - Disease of the liver and biliary system. Introgenic disorders of G.I. Tract. Constipation: Prevention, Management.

THE RESPIRATORY SYSTEM

Changes with age - Infections of the respiratory system - Chronic obstructive airway diseases - bronchial carcinoma - Respiratory abnormalities in extra pulmonary conditions, Respiratory failure.

THE MUSCULO SKELETAL SYSTEM

The aging of joints, degenerative joint disease - Govt. Psedugout Rheumatic arthritis infective arthritis Myopathy - Myosistis, Polymalgia Rheumatica -

THE HAEMOPOTETIC SYSTEM

Temporal arteritis, Osteoporosis, Osteomalacia Rheumatoid Arthritis.

Changes with aging - Anaemia in the elderly - The Leukaemias - tumours of lymphoid tissues - Paraproteinemia - Polychthaemia - Disorders of haemostasis.

DERMATOLOGICAL PROBLEMS

The aging skin - Pruritus in the skin - cancers - benign lesions, pamphiges, pemphigeld, senile purpura, herpas zoster, intertrige, leg ulcers, hansena disease.

CANCER IN THE AGED

Incidence - clinical significances - PRESENTATION - investigation & management of malignant diseases in the old age.

PHARMACOLOGICAL ASPECTS OF AGEING

- Pharmacokinetics in the aged
Absorption, metabolism, distribution, Renal and hepatic clearance.

- Pharmacodynamics - Hemostasis, Receptors & target sites,
- Drug selection and dosage in elderly
- Durg interactions
- Adverse drug reaction
- Drug compliance in elderly
- Drug misuse in elderly.

SURGERY IN THE OLD

Assesment for fitness.
Priorities for surgery - Preparation for operation - Surgical emergences fractures - Pathological frcancers - benign lesions, pamphiges, acture - Amputation - Gangrene - Elective Surgery - Post operative problems and management, Anaesthesia in old age.

SPECIAL PROBLEMS

Pressure sore - Care of the Chronically ill - Care of the patients with terminal illness - Religion and illness - Incontinence in old age falls - Gangrene Nursing Care.

**M.D. - GERIATRIC MEDICINE
PART II - PAPER III -SYLLABUS
SOCIAL & PREVENTIVE GERIATRICS
INCLUDING REHABILITATION**

Social Geriatrics:

- Types of family - Joint family systems - Promotion of Joint family system - Role of Elders and younger generation.
- Isolation, loneliness and dependency - Dependency ratio - Generational equality.
- Social changes due to urbanisation and industrialisation in respect to Elders.
- Financial aspects - income, sources old age pension - Role of Govt. and non Government organisations in Socio - Economic status of the Elderly.
- Geriatric service for the Elderly in Western countries and in India - structure of Geriatric service - Family as basic unit - Models of Geriatric service.
- Day hospital, Day Care centre, Long stay care institution, Home for the aged. Functions of Day hospital - staff and patients of Day hospital
- Nursing home in Western Countries - Goals of Geriatric care - Need of similar services in India.
- Psychogeriatric services - structure and facility - Domestically assessment and community care.
- Terminal care services - Social and spiritual problems in Terminal care.
- Ethical issues in Geriatric Medicine - Self determination and decision making in treatment option - informed consent - quality of life. Age limits on health care.
- Life sustaining measures - Euthanasia, Acts of Omission and Commission.

PREVENTIVE GERIATRICS

- Preventing diseases and promoting health in old age - Types of preventive activities - Risk factor management in elderly - screening.

- Health belief model - General Health practices in elderly.
- Exercise in the aged - Physical and Mental domain - benefits of exercise.
- Development of Anticipatory care and its Rationlae. Methods of anticipatory care.
- Health promotion and health education in elderly.

Rehabilitation:

The concepts of history of Rehabilitation.

The goals of Rehabilitation

Rehabilitation in old age - Special feature in relation to - ageing, multiple pathology, policies, expectation, carers, acute illness, social and financial support:

- Clinical evaluation of Rehabilitation impairment, Disability and handicap.

Prevalence of disability, Types of disability, Principle of Rehabilitation - Assessment, Goals, Priorities, and monitoring progress.

Rehabilitation as team work - Team leadership, Therapist, physiotherapy, occupational therapy, social worker, physician, and nursing personnel.

- Self care evaluation and management activities of daily living and instrumental activities of daily living (ADL & IADL) - Self care assessment tools.

Aids and application - tools for living

Role of physiotherapy in the elderly.

- Contractive and other deleterious effect of Immobility
- Pressure ulcer - Factors, Prevention and Management
- Rehabilitation of stroke in Elderly.

Rehabilitation of specific diseases - parkinsonism, Paraplegia, fracture neck of femur, acute and chronic arthirtis, lower limb amputation, low back pain.

Organisation and effectiveness of Rehabilitation services - community services.

Geriatric unit, Day hospital, Day care Centre, Long stay care institution - Role of rehabilitation in the above services.

**Post - Graduate Degree Course in M D. Tuberculosis
And Respiratory Diseases—Branch XVII**

TRAINING PROGRAMME

FIRST YEAR

T.B. and Chest Ward	—	3	Months
Intensive Care Ward	—	2	Months
General Medicine Ward	—	2	Months
Thoracic Surgical Ward	—	6	Weeks
Cardiology Ward	—	2	Months
Infectious Diseases & S.T.D. Ward	—	15	Days
Radiology Unit	—	15	Days
Skin & Hansen Ward	—	15	Days
Total		12	Months

SECOND YEAR

T.B. & Chest Ward	—	6	Months
Thoracic Medicine Ward	—	3	Months
General Medicine Ward	—	3	Months
Total		12	Months

THIRD YEAR

T.B. & Chest Ward	—	2	Months
Thoracic Medicine Ward	—	2	Months
Intensive Care Ward & General Medicine Ward	—	2	Months
Post Operative Ward	—	2	Months
Total		12	Months

**Post Graduate Degree Course in
M.D. Tuberculosis And Respiratory
Diseases—Branch - XVII**

SCHEME OF EXAMINATION

Distribution of Marks:

PART - I (At the end of First Year)

Theory	Title	Duration in Hours	Maximum marks
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Paper - I	Applied Basic Sciences (as application to pulmonary Medicine)	3	180
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Paper - II	General Medicine**	3	100
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Clinical Examination :- (Medicine)

1. Short Cases - Two - 40 Minutes	90	Marks
2. Spotters - Three - 30 Minutes	60	Marks
Total	<u>150</u>	Marks

Practicals

Slides / Specimens / Charts

(2)	(1)	(2)	(5 X 2)	10 Marks
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Orals	40 Marks
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Total	<u>50</u> Marks
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Marks Qualifying for a pass:

50% of Marks in the University
Theory Examination.
Paper - I (Applied Basic Science) 90 / 180

50% of Marks in the University
Clinical Examinations 75 / 150

50% of 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.D. Branches
- VII Paediatric Medicine
- XI Venereology
- XII Dermatology and
- XVII Tuberculosis and Respiratory Diseases.

PART-I (At the end of IIIrd Year)

Theory	Title	Duration in Hours	Maximum Marks
Paper-I	Tuberculosis (Pulmonary and Extrapulmonary)	3	100
Paper-II	Non-Tuberculosis Chest Diseases	3	100
Paper-III	Recent advances in Tuberculosis and Chest Diseases	3	100
Total			<u>300</u>

Clinical Examination:

	No. of. Cases	Duration	Marks
1. Long Cases	One	One Hour	80
2. Short Cases	Three	45 Mts.	120
Total			<u>200</u>

Practicals:-

Slides / Specimens X-Rays / Charts Scan			
(2)	(1)	(1)	
ABG / PFT E.C.G. (Any Two)			25
Orals			75
Total			<u>100</u>

Dissertation:

Dissertation Marks	75
Oral on Dissertation	25
Total	100

Marks Qualifying for a pass:

50% of Marks in the University Theory Examination	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

1. Long Cases	80
2. Short Cases	120
Total	200

Practicals:-	
Slides / Specimens X-Rays / Charts	200
ABG / PFT	25
E.C.G.	25
(Any Two)	75
Total	100

**Post-Graduate Degree Course in M.D. Tuberculosis &
Respiratory Diseases - Branch - XVII**

RECOMMENDED BOOKS AND JOURNALS

TEXT BOOKS

1. AP Fishman Pulmonary Diseases and Disorders
II nd Edition Magnabull Book Company, New York.
2. Hand Book of Physiology.
Respiratory System Volume - 1. American Physiology
Society 1985.
3. Baits DV Maclon PT Dchristee
Respiratory Function and Diseases, III Edition,
Sandoz & Company, Philedelphia.
4. Hand Book of Physiology.
Respiratory System Volume III
American Physiological Society 1986.
5. Regulation of Breathing Part - and II
M. Decker & Co. 1981.
6. Sleep and Breathing.
M. Decker & Co. 1984.
7. Hand Book of Physiology
Respiratory System Volume IV.
American Physiological Society 1987.
8. Pathology for Oxygen
Hardward University, U.S.A. 1984.
9. Clinical Examination Testing.

- IIIrd Edition, Sandoz, Philadelphia.
10. Physiology and Medicine of Diving
IIIrd Edition
Best Book Binder, California, 1982.
 11. Hand Book of Physiology.
Respiratory System Volume II.
American Physiological Society.
 12. Acid Base - Little Brown & Co.
Frazer and Boston, 1983.
 13. Frazer and Perry, Diagnosis of Diseases of Chest
II dn Edition. W.B. Sandoz, Philadelphia.
 14. Clinical Epidamology - A Basic Science for Clinical
Medicine, Little Brown & Co., Toronto, 1985.
 15. Morphegenesis of Lung Cancer.
C.R.C. Press, Florida, Vol. I & Vol. II, 1983.
 16. Principles of Chest X-Ray Diagnosis.
C. Simon Ampletender Centry Crafts, 1971.
 17. Pathology of the Lung.
Spencer, Oxford Personal Press, 1977.
 18. Computer Tomography of Thorax
Roman Press - 1984.
 19. Advanced Imaging Techniques
Volume II, Claredel Press, California - 1983.
 20. Text Book of Work Physiology
Niagra Hills, New York, 1977.

21. The Eoesonophil in Health and Diseases.
Grunec and Streton, New York - 1980.
22. Intestinal Lung Diseases.
Bercker - Philedelphia - 1988.
23. Respiratory Diseases - by Crafton & Dulgus - Blackwell.
24. The Lung Structure and Function.
G.E. Costs - Blackwell
25. Work related Lung Disorders., G.E. Costs.

JOURNALS:

1. Lung India.
2. Indian Journal of Chest Diseases and Allied Sciences.
3. Indian Journal of Tuberculosis.
4. Thorax.
5. Bulletin of IUAT & LD.
6. Chest.
7. American Review of Respiratory Diseases.
8. European Journals of Respiratory Diseases.
9. Journals of Infectious Diseases.
10. Lancet.

11. Journals of Indian Medical Association.
12. New England Journal of Medicine.
13. Journal of Association of Physicians of India.
14. Nature.
15. Science.
16. Cancer
17. Cancer Research
18. Journal of Thoracic and Cardiovascular Surgery.

**P.G. M.D. Degree Course in Tuberculosis And
Respiratory Diseases Branch-XVII**

Syllabus

Lung Anatomy (Development, macro and microanatomy and electron microscopy). Lung Physiology (Respiratory Physiology) Ventilation, lung mechanics, gas exchange, blood gas transport, control of respiration.

Lung function assessment : Volume indices, airway (Spirometry), Diffusion, Compliance, airway resistance, blood gas and PH estimation, measurement of functional residual capacity with Plethysmography, control of Respiration, Drugs and mediators in Respiratory control. Integration and adaption of Respiratory track. Diagnostic procedures in Respiratory medicine, Immunologic disorders of Respiratory system, Interstitial Diseases; Non infectious disorders of the pulmonary parenchyma; Pulmonary circulatory disorders; Obstructive Disease of the Airways. Hypoxemic syndromes and sleep disorders: Non tuberculous infections of the lungs - General aspects; specific disorders. Mycobacterial diseases of the lungs; Cancer of the lungs, Diseases of the mediastinum. Disorders of the pleura. Acute Respiratory failure; Special therapeutic interventions; Surgical aspects of Chest medicine; Practical assessment of pulmonary performance.

TUBERCULOSIS: Historical aspects, epidemiology, primary reaction, immunity diagnostic criterion, therapy, Methods of therapy and merits, Field and mass surveys. Surgery in Tuberculosis, Design and execution of prevention trials, Mantoux and BCG. Bacteriology of mycobacterium.

NON-TUBERCULOSIS CHEST DISEASES: Common symptoms and their analysis.

Physical signs and their correlation to diseases.

Respiratory failure and management principles of O_2 Therapy and dangers.

Artificial ventilation - methods.

General

1. Development of Respiratory Tract.
2. Structure and Function of Respiratory tract.
3. Control of Ventilation, Control of Respiration during sleep.
4. Balance of Ventilation Perfusion.
5. Transport of Blood Gases and Tissue Respiration.
6. Non-Respiratory Function including Endocrine function of Lung.
7. Fundamentals of Acid base balance and Adaptation to high altitude and abnormal Respiratory Movements.
8. Basic Symptomatology in Chest Diseases and Clinical Approach to Respiratory Diseases.
9. Diagnostic Procedures.
 - Sputum Examination including Cytology.
 - Bronchoscopy and related procedures.
 - Lung and Pleural Biopsy.
 - Radiology and Imaging of Lungs including CAT SCAN Ultrasound and MRI.
10. Assessment of Lung disfunction.
11. Immunology as applied to lung.
12. Intestinal Lung Diseases including disorders induced by Radiation and Occupational Exposure.

13. Occupational Lung Disease.
Diagnosis, Prevention and rehabilitation.
14. Pulmonary circulation, Pulmonary Hypertension and Car -
pulmonae.
15. Obstructive Airway Diseases including Asthma, Bronchitis
empysoma, Cystic Fibrosis and Management for chronic
Respiratory failure.
16. Sleep and disordered ventilations
17. Pleurasis including pneumonia, including narconical
Pneumonia.
18. Diseases caused by Virus.
Fungus
Protogoon.
19. HIV. Diseases in Lung and Lung in Immunocompromise
Diseases.
20. Myobacterial Diseases including a typical microbacteria with
full emphasis on epidamology a typical case detection case
holding and relapse management.
21. Microbiology of Tuberculosis modern Drug Therapy to
Tuberculosis.

Rapid methods of diagnosis of Tuberculosis including DNA
amplification technique.
22. Assessment of Drug resistance and methods to overcome
it.
23. Biology and Clinical Feature of Lung Cancer.

24. International Classification and Staging of Lung Cancer.
25. Medical, Surgical, Radiation Management of Lung Cancer.
26. Diseases of Mediastinum and pleura.
27. Pattern of acute respiratory failure, including ARDS with Management of acute Respiratory Failure.
28. Role of Mechanical Ventilator and setting up of I.R.C.U.
29. Major indications of Surgery in Lung Diseases.
30. Modern concepts of Heart Lung Transplantation.
31. Promotion of Lung Function through exercise and Oxygen Supplementation.

**Post-Graduate Degree Course in
M.D. (Psychiatry) Branch XVIII**

TRAINING PROGRAMME

FIRST YEAR

Anatomy, Psychology	3 Months
Physiology, Psychology	3 Months
Applied Bio-chemistry Genetics, Psychology	3 Months
General Medicine, Psychology	3 Months
Total	12 Months

SECOND YEAR

Basic Principles of E.E.G. Neurology, Statistics	3 Months
Neurology	3 Months
Psychiatry	6 Months
Total	12 Months

THIRD YEAR

Psychiatry	12 Months
(throughout the year)	

M.D. (Psychiatry) - Branch - XVIII**SCHEME OF EXAMINATION****Distribution of Marks:****PART-I (At the end of 1st Year)**

Theory	Title	Duration in Hours	Maximum Marks
Paper - I	General Psychology	3	80 + (No M.C.O. pattern Only essay type ques- tions and 5 short Notes)
Paper-II	Social and Abnormal Psychology including Psychodiagnostics	3	80 + -do-
Paper-III	Neuroanatomy Neurophysiology and Genetics	3	90 + -do-
Psychodiagnositc Record work and Oral.			30 + Marks

Marks qualifying for a pass:

50% of Marks in the University
Theory Examination in each of the papers.

50% of Marks in the Psychodiagnostic Record work and
oral.

Psychodiagnostic Record work will consist of 5 (five) clinical
Psychological test profiles of major Psychosis, including organic
psychosis, mental sub-normality, and other related illnesses given
in I.C.D. 10.

The oral will be conducted by the following:

1. Clinical Psychologist 1 No.
2. Neuro Anatomist / Neuro Physiologist 1 No.
3. Psychiatrist as Moderator 1 No.

Part - II (At the end of Second Year)

Theory	Title	Duration in hours	Maximum Marks
Paper-I	Neurology including Neuropathology & General Medicine in relation to Psychiatry	3	100 +
Clinicals:			
1. a)	Long Case (Neurology)	One Hour	60
b)	Short Case (Medicine)	30 Mts.	40
Total			100 +

Practicals:

Neuro Imaging techniques including
ECG/X Ray / Scan.

Oral:	20
	40 +

Clinicals and Practicals including oral will be conducted
by the following:

1. Neuro Physician 1 No.
2. Physician General Medicine 1 No.
3. Psychiatrist as Moderator 1 No.
| Total | 3 Nos. |

PART - III (At the end of IIIrd Year)

Paper - I	Psychiatry	3 Hours	100
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Paper - II	Psychiatry	3 Hours	100
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Total	<u>200</u>
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Clinical Examination:

1. a)	Long Case	One case (Psychiatry)	One Hour	60
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b)	Short Case	Two cases	30 Mts. each (z X 20)	40
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Total	<u>100</u>
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Practicals:

Oral	50 Marks
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Total	<u>50</u>
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Dissertation:

Dissertation Marks	75
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Oral on Dissertation	25
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Total	<u>100</u>
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The following will form, the examiners for the clinicals, practicals and oral on Dissertation:

1. Psychiatrist	2 Nos.
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2. Psychiatrist	
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Physiologist	1 No. as Chairman
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Total	3 Nos.
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Marks qualifying for a pass:

50% of Marks in the University
Theory ExaminationPaper - I (at the end of IInd Year) 50/100Paper - I (at the end of IIIrd Year) 50/100Paper - II (at the end of IIIrd Year) 50/10050% of Marks in the University
Clinical ExaminationsAt the end of IInd Year 50/100At the end of IIIrd Year 50/10050% aggregate in Theory / Clinical /
Practical / Oral / DissertationAt the end of IInd Year 120/240At the end of IIIrd Year 225/450
(including Dissertation)Maximum number of candidates to be
examined per day

6

Recommended List of Books / Journals**Neurology**

1. Adams, (Raymond D) & Victor (Maurice) Ed.
"Principles of Neurology", 3rd edition - 1995 Mcgron Hill
Book Company, Newyork.
2. Bickerstaff (Edwin R)
"Neurological Examination in clinical practice" 4th Ed;
1983, P.G. Publishing Pt. Ltd., Singapore.
3. Bannister, (Sr):
"Brain's Clinical Neurology": 5th Edition; 1978 ELBS,
United Kingdom.
4. Walton, (John):
Brain's Diseases of the Nervous system; 9th Edition;
1985 - Oxford University Press, Delhi.

PSYCHIATRY

5. Mayorgross:
"Clinical Psychiatry" - 3rd Edition; 1979 (Reprint) Bailliere
Tindall, London.
6. Noves & Kolb:
Modern Clinical Psychiatry: 9th Edition; 1977
W.B. Sanders Company, Philadelhpia, U.S.A.
7. Kalinowsky (Lothar) & Hoch (Paul H)
"Somatic Treatments in Psychiatry", 1961 Grune &
Stratton, Newyork, U.S.A.
8. Batchelor (Ivor R):
"Henderson and Gillespie's Text Book Psychiatry" 10th
Edition, 1969 Oxford University Press, Newyork, U.S.A.

9. Sargant (William) & Stater (Eliot):
"An introduction to physical methods of treatment in Psychiatry": 5th Edition, 1972 Churchill Livingstone, United Kingdom.
10. Sim (Myre)
Guide to Psychiatry: 4th Edition, 1981: Churchill Livingstone, United Kingdom.
11. Kendell, R.E. & Zealley (A.K.) Ed.
Companion to Psychiatric Studies: 4th Edition - 1988; Churchill Livingstone, United Kingdom.
12. Kaplar, (Harold) & Sadock (Benjamin) Ed:
Comprehensive Text Book of Psychiatry, 2 Vols., 5th Ed., 1985, William Wilkins, Baltimore, U.S.A.
13. Gelder, (Michael) et al:
"Oxford Text Book of Psychiatry", 1983 Oxford University Press, United Kingdom.

MENTAL DEFICIENCY

14. Tredgold & Soddy:
Tredgold's Mental Deficiency; 11th Edition 1971 Bailliere Tindell, London.
15. Zilboorg (Gregory)
"A History of Medical Psychology", 1941, W.W. Norton & Company Inc., Newyork.
- 15.(a) Pennose (Lionel. S)
Biology of Mental Defect. Reg. Ed. London 1954

CHILD PSYCHIATRY

16. Rutter (Michael) & Hersove (Lionel)
"Child and Adolescent Psychiatry" 2nd Edition; 1985
Blackwell Scientific Publications, Oxford, Britain.
17. Kanner, (Leo)
"Child Psychiatry"; 4th Edition, 1972: Charles Thomas,
Springfield, U.S.A.
18. Barker, Philip
"Basic Child Psychiatry", 3rd Edition, 1979, Granda
Publishing Ltd., United Kingdom.

FORENSIC PSYCHIATRY

19. East, (Norwood)
"Society and the Criminal" Her Majesty's Stationary Office,
1960 East. (Norwood)
"The adolescent criminal"; 1942; J.A. Churchill Ltd.

ANATOMY

20. Gray's Anatomy; 35th Edition
1973, Longman, U.K.
21. 'Cunnighan's Manual of Practical Anatomy'; 13th Edition
1971, ELBS. U.K.

NEUROANATOMY

1. Chusid, (Joseph G)
"Correlative Neuroanatomy & Functional Neurology" 10th
Edition; 1985
Longs Publications, U.S.A.
2. Kuntz:
Neuroanatomy; 1950
Truex, (Raymond):
3. Strong & Elwyns
Human Neuroanatomy 5th Edition 1964, Oxford Book
Company, U.K.

4. Ranson & Clark:
Anatomy of the Nervous System 9th Edition; 1953
Saunders & Co., U.S.A.
5. Hall (J H.) & Humbertson, A.O.)
"A Correlative Study Guide to Neuroanatomy" 2nd Edition
1970, Harper & Row.
6. Matzke, (H.A.) & Foltz (F.M.)
"Synopsis of Neuroanatomy"; 2nd Edition 1972; Oxford
University Press.

E.E.G.

1. Hill, (Denis) & Parr, (Geoffery):
"EEG"; A Symposium on its various aspects. Macmillan
Co., 1963.
2. Kiloh:
"Clinical EEG" 3rd Edition, 1972, Butterworths, London.
3. Kooi:
Fundamentals of EEG 1971, Harper Row, London.

NEUROPHYSIOLOGY

1. Neuro-Physiology Vol. 2 - Ruck & Patton.
2. Review of Medical Physiology - Ganong. 14th Edition.
3. Sampson - Wright's Applied Physiology - 14th Edition.
4. Text book of Neuro - Physiology - by
Dr. Harihara Subramanian.
Aravind Publications, Printed at Raj Publication 1990.
5. Nervous system by Nobec.

Post-Graduate Courses in Psychiatry**Syllabus**

1. General Psychiatry including History of Psychiatry, Classification and Adult Psychiatry.
2. Theories of Personality and Psychopathology.
3. Social Psychiatry.
4. Child and adolescent psychiatry including mental subnormality.
5. Organic mental syndromes and disorders.
6. Administrative and Forensic Psychiatry.
7. Psychopharmacology.
8. Biological Psychiatry.
9. Psychophysiological Disorders.
10. Therapies in Psychiatry.
11. Consultation - Liaison Psychiatry.
12. Community Psychiatry.
13. Geriatric Psychiatry.
14. Ethics in Psychiatry.
15. Research methods and new frontiers in Psychiatry.

16. Systematic Psychiatry.
17. Psychopathology.
18. Psychotherapy.
19. Social Psychiatry.
20. Child Psychiatry.
21. Mental Deficiency.
22. Epileptic disorders and other organic states.
23. Mental Health.
24. Administration and Forensic Psychiatry.
25. Therapeutics.
26. Neuropsychiatric genetics.
27. Psychosomatics.
28. Psychological aspects of general medical surgical and public health. Moral and educational problems.

B. NEUROLOGY:

1. Fundamentals of clinical Neurology.
2. Diagnostic Techniques.
3. Electro Physiological techniques and research.
4. Psychosurgery, streoencephalotomy.

C. GENERAL MEDICINE:

1. Fundamentals of General Medicine.
2. General Medical and Surgical Pathology.
3. Diagnostic Procedures.

D. PSYCHOLOGY:

1. General Psychology
2. Social Psychology
3. Abnormal Psychology
4. Developmental Psychology
5. Psychodiagnostics

E. ELEMENTARY STATISTICS - RESEARCH METHODS**F. Applied Sociology and Anthropology.****G. Anatomy of Nervous System.****H. Physiology of Nervous System.****I. General Biochemistry.****J. Applied Biochemistry.****K. E.E.G.**