

II YEAR SYLLABUS

PATHOLOGY

Theory

General Pathology

1 History and Scope of Pathology-

- 1 Definition and various branches in Pathology.
- 2 Scientific study of disease and methodology.

2 The cell and the reaction of cell, tissue and organ to injury.

- 1 Structure of cell and its function.
- 2 Causes and nature of cell injury.

3 Reaction of cell to Injurious agents.

- 1 Lethal injury- Necrosis and gangrene.
- 2 Cloudy swelling.
 - iv) Fatty changes in Liver, heart and kidney.
 - v) Glycogen infiltration and hyaline degeneration.
 - iii) Lipoid degeneration.
 - i) Mucoid degeneration.
 - c) Pathological Calcification-

8. Inflammation and Repair :-

- a) Definition, Classification and nomenclature.
- b) Acute Inflammation.

Vascular and cellular phenomenon, cell of exudate chemical mediators and tissue changes in acute inflammation Cardinal signs of acute inflammation, Fat, types and systemic effects of acute Inflammation.

9. Chronic Inflammation :-

- a) Difference between acute and chronic inflammation.
- b) Definition of Granuloma.

10. Wound healing :-

- a) Regeneration and Repair.
- b) Repair of epithelial and mesenchymal tissue.
- c) Primary union and secondary union.
- d) Mechanism involved and factors modifying repair process.

1 Gangrene - Causes, Dry Gangrene, Moist gangrene, Gas gangrene.

f) Granulomas :-

- a) Classification of granulomas.
- b) Tuberculosis- Genesis and fate of tubercle, primary and secondary tuberculosis.
- c) Definition, Classification and Pathology of Leprosy.
- d) Acquired, Primary, Secondary and Tertiary stages of syphilis.
- e) C.N.S.syphilis, C.V.S.syphilis and Gumma, congenital syphilis.
- a) Actinomycosis, maduramycosis and rhinosporidiosis.

10. Fluid and Hemodynamic Changes (circulatory disturbances):-

- a) Hyperemia, congestion and hemorrhage.
- b) Thrombosis, embolism, DIC.
- c) Ischemia, infarction and shock
- d) Edema..

1 Growth and its disorders :-

- a) Definition of agenesis, aplasia, atrophy, hyperplasia , hypertrophy, hypoplasia , metaplasia.
- a) Concept of dysplasia, anaplasia and carcinoma-in-situ.

1. Neoplasia :-

- a) Definition, Classification and Nomenclature.
- b) Characteristic features of benign and malignant tumours.
- c) Route of spread of malignant tumors.
- d) Grading and staging of cancers and pre-cancerous conditions.
- e) Carcinogenesis and carcinogens.
- f) Laboratory diagnosis of cancer-Biopsy, exfoliative cytology and prognostic prediction in cancer.
- g) Description of common tumours like-Fibroma, Lymphoma, Angioma, Liomyoma and Fibrosarcoma, Lymphosarcoma, Angiosarcoma and Leiomyosarcoma. .
- h) Tumours of infancy and childhood.

2. Mineral and pigment metabolism :-

- a) Pathology of melanin pigment
- b) Pathology of hemoglobin and its derivatives
- c) Hemosiderosis and hemochromatosis

3. Genetic disorders :-

Klinefelter's syndrome, turner's syndrome, Down's syndrome.

SYSTEMIC PATHOLOGY

1 Disorders of RBC-

- a) Definition, morphologic and etio-pathologic classification of anemias.
Iron deficiency anemia-B12 and folate deficiency anemia, sideroblastic anemia, post-hemorrhagic anemia.
- b) Concept and classification of hemolytic anemias.
- c) Laboratory investigations in anemia.

2. Disorders of WBC-

- a) Leukopenia & Leukocytosis.
- b) Agranulocytosis and Tropical Eosinophilia.

a) Coagulation and bleeding disorders-

- Structure, function and pathology of platelets.
- Definition and classification of blood dyscrasias.
- Laboratory investigations in bleeding disorders.

4. Diseases of Cardiovascular System-

- 1 Arteriosclerosis and Atherosclerosis.
- 2 Aneurysm.
- 3 Rheumatic heart disease, Endocarditis, Myocardial Infarction.
- 4 Congenital heart diseases.
- 5 Congestive cardiac failure.

5. **Diseases of Respiratory System-**

- a) Lobar Pneumonia, bronchopneumonia, pulmonary Tuberculosis.
- b) Bronchiectasis and Pneumoconiosis.
- c) Tumors of lung.

7. **Diseases of Gastro-intestinal system-**

- d) Pleomorphic adenoma of salivary gland.
- e) Barrett's Oesophagus.
- f) Gastritis and peptic ulcer and tumors of stomach.
- g) Inflammatory bowel diseases- Crohn's disease, ulcerative colitis, typhoid ulcer.
- h) Megacolon and Tumors of colon.
- i) Malabsorption syndrome, tropical sprue and Coeliac disease.
- j) Amoebiasis, bacillary dysentery and intestinal tuberculosis.

1. **Diseases of liver, biliary tract and pancreas:-**

- a) Liver function tests and hepatic failure, viral hepatitis.
- b) Cirrhosis of liver. Tumors of liver.
- c) Alcoholic liver diseases.
- d) Indian childhood cirrhosis.
- e) Cholecystitis and Gallstones.
- f) Pancreatitis and Diabetes Mellitus.

2. **Diseases of Kidney:-**

- a) Renal function tests, Renal failure, Polycystic kidney.
- b) Acute glomerulonephritis, Crescentic glomerulonephritis, Membranous glomerulonephritis, Nephrotic syndrome.
- c) Chronic glomerulonephritis, acute tubular necrosis.
- d) Pyelonephritis, Kidney in hypertension.
- e) Tumors of Kidney.

3. **Diseases of Male Genital system-**

- a) Orchitis and testicular tumors.
- b) Nodular hyperplasia of prostate, carcinoma of prostate.
- c) Carcinoma of penis.

4. **Diseases of Female Reproductive Systems-**

- a) Endometrial hyperplasia, adenomyosis and endometriosis.
- b) Carcinoma of cervix, tumors of ovary.
- c) Carcinoma and other diseases of vulva and uterus.

5. **Diseases of Breast –**

- a) Fibrocystic disease and tumors of breast.
- b) Gynaecomastia,

6. **Endocrine Pathology-**

- b) Endocrinal lesion in brief mainly stressing on thyroid and Pheochromocytoma.

7. **Musculo-skeletal Pathology-**

- a) Osteomyelitis and Osteoporosis.
- b) Rickets and Osteoporosis.

- c) Tumors of Bone.
 - d) Rheumatoid Arthritis, Gout.
 - e) Myasthenia gravis and Progressive muscular dystrophy.
- 8. Diseases of Nervous System-**
- a) Meningitis, tumors of CNS.
 - b) Tumors of Peripheral Nerves.
 - c) Encephalitis
- 9. Diseases of Lymph nodes and Spleen-**
- a) Lymphadenopathy.
 - b) Malignant Lymphoma, basal cell carcinoma.
- 10. Pathology of Skin-**
- a) Squamous cell carcinoma, Basal cell carcinoma.
 - b) Malignant melanoma.
 - c) Warts, Molluscum contagiosum.
 - a. Fungal diseases.
- 11. Pathology of Eye.**
- 12. Pathology of ENT.**
- 13. Clinical Pathology Including Clinical Hematology & Clinical Bio-Chemistry.**
- a) Sample Collections for various hematological and clinical pathological investigations and anticoagulants used.
 - b) Theoretical aspects of HB estimation; hematocrit, blood indices, ESR and normal values in Hematology.
 - c) Blood grouping concept of blood groups.
 - I. Selection of donor, major and minor-cross-matching.
 - J. Blood transfusion, diseases transmitted by transfusions.
 - K. Coombs' test.
 - d) CSF Analysis.
 - e) Semen Analysis.
 - f) Urine analysis and microscopy.
 - g) Liver Function tests.
 - h) Renal function tests.
 - i) Glucose tolerance test.
 - j) Exfoliative cytology

PRACTICALS

4. Hematology:-

- a) Blood groups (A.B.O. System)
- b) Estimation of hemoglobin.
- 3; Enumeration of RBCs (R.B.C. Count)
 - 1 Total leucocyte count (total count)
 - 2 Differential leucocyte count (D.L.C.)
 - 3 Peripheral Smear staining and reporting
 - 4 Absolute eosinophil count.
- 5 Demonstration of -
 - a Hemograms in anemia
 - i) Iron deficiency anemia
 - a Macrocytic anemia
 - a Hemograms in Leukaemias-
 - i Acute types
 - ii Chronic types

II. Slide study of:-

- A.Acute myeloid leukaemia
- B.Chronic myeloid leukaemia
- C.Chronic lymphatic leukaemia

A SPOTTERS:

A HAEMATOLOGY SLIDES

- 1 Microcytic Hypochromic Anaemia.
- 2 Macrocytic Anaemia.
- 3 Dimorphic Anaemia.
- 4 Acute Leukemia.
- 5 Chronic Myeloid and Chronic Lymphatic Leukemia.
- 6 Eosinophilia.

B HISTO- PATHOLOGY SLIDES FOR DISCUSSION

- 1 Acute Appendicitis.
- 2 Lobar Pneumonia.
- 3 T. B. Lymphadenitis.
- 4 Lipoma, Fibroma, Squamous Papilloma.
- 5 Squamous Cell Carcinoma.
- 6 Adenocarcinoma,
- 7 Osteosarcoma, Osteoclastoma.
- 8 Pleomorphic Adenoma.
- 9 Teratoma, Seminoma of Dysgerminoma.
- 10 Cystoglandular Hyperplasia.
- 11 Proliferative Hyperplasia.
- 12 Secretory Endometrium.

C INSTRUMENTS FOR SPOTTING

4. Wintrob's Tube.
5. Westergren.
- 1 RBC pipette.
- 2 WBC Pipette. .
- 3 Lumbar Puncture Needle.
6. Liver biopsy Needle

B MORBID ANATOMY

4. Acute Appendicitis.
5. Lobar Pneumonia.
6. TB Lung.
Gastric Ulcer.
Carcinoma Stomach.
Carcinoma Breast
Atherosclerosis.
Dermoid Cyst of Ovary
1. Seminoma Testis.
2. Chronic Pyelonephritis

IV. CLINICAL PATHOLOGY

1. Examination of urine for :
 - a) Sugar, Ketone Bodies.
Protein and Blood.
2. Semen Analysis
3. Pregnancy Tests.
4. Liver Functions Test.
5. Fractional Test meal.
6. Glucose tolerance Test.

Recommended Text books for Pathology-

1. Pathological Basis of Disease - By Robbins, Cotran and Kumar
2. Text Book of Pathology - By N.C. Dey
3. Text Book of Pathology - By Harsh Mohan

Reference Books -

1. Text Book of Pathology - By Anderson
2. Systemic Pathology - By Symmers
3. Medical Laboratory Technology - By Ramnik Sood
4. Pathology - By Boyd
5. Oxford Text Book of Pathology
6. The science and fine art of Disease Process (Orthopathy)- Herbert M. Shelton

MICROBIOLOGY

Theory

1. General Bacteriology :-

- a. Historical Introduction
- b. Morphology and Physiology of Bacteria.
- c. Sterilisation and Disinfection
- d. Cultivation of Bacteria
- e. Bacterial Growth and Multiplication
- f. Basic Principles of Bacterial Genetics

2. Immunology-

- a. Infection and Immunity
- b. Immunoglobulins and Immune Response
- c. Immune System and Antigen-Antibody Response
- d. Complement and other Serological Tests
- e. Hypersensitivity
- f. Basic Principles of Auto-Immunity.
- g. Immunodeficiency disorders
- h. Transplantation Immunology
- i. Immunity in AIDS

3. Systemic Bacteriology-

Streptococcus, Staphylococcus and Pneumococcus, Gonococcus, Meningococcus, Corynebacterium, Clostridium, Hemophilus, Bordetella, Mycobacterium, Spirochaetes, Yersinia, Chlamydia.

4. Virology-

- a. General properties- of Virus and their diagnosis.
- b. Herpes, Adenovirus, Picorna, Hepatitis Virus
- c. Poxvirus, Rabies Virus, Poliovirus, HIV, Bacteriophage

5. Parasitology

- a. Protozoology - Entamoeba and Plasmodium
- b. Helminthology-. Ankylostoma. Ascariasis, Taenia, Wucheraria.

7. Mycology-

- a. General Characters and methods used of study and diagnosis of fungal infections.
- b. Superficial mycoses, systemic mycoses, Candidiasis, Aspergillosis, Mycetoma, Rhinosporidiosis.

8. Applied Microbiology-

- a) Normal bacterial flora of human body.
- b) Diagnostic methods in common diseases-
 - i) Meningitis, UTI, PID. Gastroenteritis, Respiratory Infection.
 - ii) Urogenital Infections, Pyogenic Infections, Nosocomial Infections, Infections of Ear, Eye and Oral Cavity.
- c) Bacteriology of Water.

PRACTICALS

1. Microscopes & Microscopy
2. Sterilization & Disinfection
3. Morphology of Bacteria
4. Culture media
5. Culture methods
6. Staining of Bacteria
 - a. Grams staining
 - b. Albers staining
 - c. Z-N staining
7. Stools Examination
8. Identification of Bacteria
9. Demonstration of V.D.R.L. test
10. Demonstration of Widal test

Text Books

1. Text Book of Microbiology - By R. Anantha Narayana & C.K. Jayaram Paniker
2. Parasitology - By Jayaram Paniker
3. Bacteriology - By Dey
4. Text Book of Microbiology - By Chakravarthy

Reference Books

1. Parasitology - By Chattarjee
2. Practical Microbiology - By R. Cruick Shank
3. Clinical Microbiology - By Bailey & Scott
4. Medical Laboratory Manual - By Monica Cheesbrough
For Tropical Countries Vol. I & II

COMMUNITY MEDICINE

Theory

1. **Evolution of Medicine Ancient Medicine, Scientific Medicine, Modern Medicine, Medical Evolution.**
2. **Concepts in Community Health**
Concepts of Health, Health & Development, Indicators of Health, Concepts of Disease, Concepts of Prevention, Disease Control & Eradication, Public Health, Social Medicine, Community Medicine, Health Services, Planning & Management, Risk Approach, Evaluation of Health Services.
3. **General Epidemiology -**
Introduction, Measurement of Mortality & Morbidity, Epidemiologic Methods Descriptive Studies, Analytical Studies, Intervention studies, Association & Causation, Uses of Epidemiology, Infection Diseases Epidemiology, Disease Transmission, Immunity, Immunizing Agents, Disease Preventions & Control, Disinfection, Investigation of an Epidemic.
4. **Genetics.**
5. **Screening of Diseases -**
Concepts, uses, criteria for screening, sensitivity & specificity
6. **Epidemiology of communicable Diseases –**
 - a. Respiratory infections- small pox, varicella, measles, rubella, Mumps, influenza, Diphtheria, Pertusis, Tuberculosis.
 - b. Intestinal Infections - Polio, Viral hepatitis, Cholera, Acute Diarrhoeal Diseases, Typhoid, Food Poisoning, Ameobiasis, Ascariasis, Ancylostomiasis, Taeniasis
 - c. Arthropod - borne infections - Yellow fever, Japanese Encephalitis, Malaria, Filaria.
 - d. Surface Infections- Rabies, Trachoma, Tetanus, Leprosy, STD, AIDS.
7. **Epidemiology of non-communicable diseases –**
Cancer, Cardio-Vascular Diseases, Diabetes, Obesity, Blindness, Accidents, Hypertension, Stroke, Rheumatic Heart Disease.

8. Demography & Family Planning –

Demographic cycle, Population trends, Fertility related Statistics, Health aspects of Family planning, Contraceptive methods and Delivery System, National Family Welfare Programme.

9. Preventive Medicine in Obstetrics, Paediatrics & Geriatrics -

Antenatal, Intranatal, Postnatal Care, Low Birth Weight, Infant Feeding, Growth & Development, Growth Chart, Under fives clinic, National Health Policy, Indicators of MCH care, School Health Services, Behavioral Problems, Geriatrics.

10. Environment & Health and Occupational Health-

Purification of water & water Quality Standards, Air, Ventilation, Lighting, Noise, Radiation, Air Temperature & Humidity, Housing, Solid Wastes Disposal & Control, Excreta Disposal, Water Carriage System, Modern Sewage Treatment, Entomology Mosquito, Housefly, Lice, Itch mite, Cyclopes, Rat Flea, Rodents, Insecticides - Hazards, Diseases, Pre-placement Examination, Measures for General Health, Protection of Workers, Prevention of Occupational Diseases, Legislation.

11. Basic Medical Statistics -

Censes, Vital Events, Legislation, SRS, Notification of Diseases, Measures of Dispersion & Centring, Sampling, Tests of Significance, Correlation & Regression.

12. Health Educations and Communication -

Objectives, Principles, Aids, Practice of Health Education, Planning and Evaluation.

13. Health Planning - Management - International Health Organizations.

Planning Cycle, Management Methods & Techniques, National Health Policy, Health Planning in India, Five Year Plans, Health Systems in India-at Centre, State and District Levels, Panchayat Raj, Rural Development Schemes.

14. Health care of Community - Health Systems and National Health Programmes.

Levels of Health care, Health for All, Primary Health Care, Health Care Delivery, Health Problems, Health Care Services and Systems, Voluntary Agencies, National Health Programmes.

PRACTICALS

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| 1. Insecticides | - | 10 + Models. |
| 2. Universal Immunization Programme | - | 10 + Models. |
| 3. Communicable Diseases | - | 10 + Models. |
| 4. Insect Borne Diseases | - | 10 + Models. |
| 5. Microscope Slides | - | 10 + Models. |
| 6. Environment and Sanitation | - | 10 + Models. |
| 7. Statistical Charts | | |
| 9. Field Visits | | |
| a. Rural Health Centres. | | |
| b. Sewage Disposal Plant. | | |
| c. Water Filtration Plant. | | |
| d. Nature Cure Hospitals. | | |
| e. Yoga Institutes etc. | | |

TEXT BOOKS:-

1. Text Book of preventive and Social Medicine-By J.E. Park & K. Park.
2. Text Book of preventive and Social Medicine-By B.K. Mahajan & M.C. Gupta

REFERENCE BOOKS :-

1. Preventive Medicine by Dr. Ghosh.
2. Preventive Medicine by Dr. Yashpal Bedi.

REFERENCE PAPERS:-

1. World Health Organization Programmes papers.
2. National Health Programmes papers.
3. Voluntary Health Programmes Papers.
4. Red Cross Programmes Papers.
5. UNICEF Programmes papers.

YOGA PHILOSOPHY

Theory

- I. Yoga, its definition, its basis, purpose, its relation to philosophy.
- II. Historical highlights of Yoga- Practices and literature from the ancient to modern times with special reference to nature of yoga upanishads, smritis & puranas.
- III. The philosophical Nature of Man and his essence, destiny in concept of Yoga.
- IV. The theory of Body, Mind, Life and Nature of soul, and evidence for the existence of soul in Indian Philosophy.
- V.
 - 1) Vaisheshika – Category of substance – Nava Dravyas, Category of quality- 24 gunas
 - 2) Vedanta – Concept of Atman, Brahma, Maya, Universe, God, the self & Human Life, Liberation and means of attaining it.
 - 3) Mimamsa- Major teaching of Mimamsa System
- VI. Basic concepts of Indian Psychology-definition a brief history of psychology, contemporary psychology according to Freud, Mr.Woodsworth and various psychologists, yogic science in relation to Psychology.
- VII. Sankhya- Theory of cause and effect, Prakriti, purusa, Process of evolution of universe, Practical teaching of Sankhya
- VIII. Streams of Yoga in detail -Jnana Yoga, Karma Yoga, Raja Yoga and Bhakti yoga.
- IX. Spiritual values of pranyama & kriyas, their methods, importance, rules and regulations, difference between breathing exercises & Pranayama.

PRACTICALS

Loosening exercises (Shitikarana Vyayama) & Breathing exercises- all exercises from “Asanas” pranayama Kriya.- Vivekananda Kendra Publication.

- **Yogasana:** Siddhasana, Padmasana, Bhadrasana, Samasana, Swastikasana, Vajrasana, Ustrasana, Uttitapadasana, Shalabhasana, Pavanmuktasana, Viparitarani Asana, Sarvangasana, Virasana, Ardha Matsyendrasana, Vakrasana, Paschimottasana, Kurmasana, Kukkutasana, Mayurasana, Sirsasana, Trikonasana, Ardha Katichakrasana, Parshava Konasana, Katichakrasana, Padhastasna, Savasna, Makarasna, Baddhapadmasana, Naukasana, Chakrasana, Garudasana, AkarnaDhanurasana, Janusirshasana, Suptavajrasana, Padangusthasana, Karnapidasana, Tolangulasana, Garbhasana, Yoganidhrasana.

II. **Pranayama:** Anuloma Viloma, Nadi Shuddhi, Ujjayi, Sheetal, Shitakari, Bhastrika, Bhramari, Suryabhedana, Chandrabhedana, Sadanta.

III. Kriyas:

- Neti: Jal and Sutrane
- Dhouti – Vamana and Danda
- Trataka –Jyoti, Bindu
- Kapalabhati

I. Meditation (Dhyana)

- Cyclic Meditation
- Omkara Meditation

Books Recommended:-

1. The History of Yoga-Vivian Worthinton
2. The psychology of yoga -Taimini
3. The Science of Yoga- Taimni

4. Yoga & Indian Philosophy-Karel Werner
5. The Basis and application of Yoga Dr. Nagendra (Vivekananda Kendra Publication)
6. Jnana Yoga, Bhakti Yoga, Karma yoga, Rajaj Yoga - By Swami Vivekananda (Vivekananda Kendra Publication)
7. Narada Bhakti Sutras.
8. Asanas, Pranyama (Kaivalyadhama Lonavala Publications)
9. Asana, Pranayama, Kriyas ,Pranayama- Vivekananda Kendra Publication
10. Yoga philosophy in relation to other system of philosophy - S.N. Das Gupta
11. Yoga Deepika -B.K.S.Iyengar.
12. Psychology-Florance C. Kerip
13. Asana why and how - O.P. Tiwari (Kaivalyadham)
14. Yogank - Kalyan - Gita Press, Gorakhpur
15. Light on The Yoga Sutras of Patanjali - B.K.S. Iyenger
16. Light on Yoga - B.K.S. Iyenger
17. Light on Pranayama - B.K.S. Iyenger
18. Hatha Yoga Pradipika - Swami Muktibodhananda
19. Asana , Pranayama, Mudra , Bandha - Swami Satyananda Saraswati Bihar School of Yoga

MPMSU-BNYS SYLLABUS

BASIC PHARMACOLOGY

THEORY

- **GENERAL PHARMACOLOGY**
 - Introduction, Absorption, Distribution, Metabolism & Elimination of drugs
 - Route of Administration of Drugs
 - Pharmacokinetics and Pharmacodynamics
 - Adverse effects of drugs
 - Factors modifying drug action

- **AUTONOMIC & PERIPHERAL NERVOUS SYSTEM**
 - Neurohumoral transmission
 - Sympathetic Nervous system- sympathomimetics, sympatholytics
 - Parasympathetic- Cholinergics, Anticholinergics, Ganglion Stimulants & Blockers
 - Local Anaesthetics

- **AUTOCOIDS**
 - Histamines and Antihistamines
 - Prostaglandins, Leukotrienes, thromboxane, PAF
 - NSAIDS
 - Substance P, Bradykinin

- **DRUGS AFFECTING RENAL SYSTEM**
 - Diuretics and Antidiuretics
 - Uricosoric drugs

- **DRUGS AFFECTING CARDIOVASCULAR SYSTEM & BLOOD FUNCTION.**
 - Drug Therapy of Hypertension, Shock, Angina
 - Diuretics
 - Coagulants, Anticoagulants, Antiplatelet drugs
 - Hypo-lipidemics

- **DRUGS AFFECTING GASTROINTESTINAL SYSTEM**
 - Diarrhoea, Constipation, IBS,IBD
 - Emetics & Antiemetics
 - Drugs – Acid Peptic Disorders

- **DRUGS AFFECTING RESPIRATORY SYSTEM**
 - Pharmacotherapy of Cough

- Bronchial Asthma
- **DRUGS AFFECTING CENTRAL NERVOUS SYSTEM**
 - Sedatives, Hypnotics
 - Antiepileptics
 - Opioid Analgesic
 - CNS Stimulants
 - Psychopharmacology
 - Neurogenic Disorder

CHEMOTHERAPY

- Sulphonamides, Fluoroquinolones & urinary antiseptic
- B. Lactum Antibiotics – Pen, Cephalosporius & other
- Macrolide Antibiotics
- Aminoglycosides
- Drugs in TB & Leprosy
- Antimalarial drugs
- Amoebicidal & Antiprotozoal drugs
- Antifungal drugs
- Antiviral drugs – AIDS
- Anticancer drugs
- HPA & Corticosteroid
- Pancreatic Hormones – Diabetes
- Thyrotropin and Antithyroid drugs
- Vitamins and Antioxidants
- Immunomodulators
- Treatment of Poisoning

TEXTBOOKS RECOMMENDED

1. Goodman & Gilman's - The Pharmacological Basis of Therapeutics
2. Basic & Clinical Pharmacology by Bertram G, Katzung
3. Clinical Pharmacology by DR Lawrence, PN Bennett & MJ Brown
4. Essentials of Medical Pharmacology by K.D. Tripathi
5. Pharmacology and Pharmacotherapeutics by RS Satoskar, SD Bhandarkar, SS Ainapure
6. Fundamental of Experimental Pharmacology by MN Ghosh

FORENSIC MEDICINE & TOXICOLOGY

THEORY

1. FORENSIC MEDICINE:

1. Definition of Forensic medicine and its scope.
2. Procedure of giving medical evidence with reference to Indian evidence act.
3. Methods of identification of living and dead body, race, age, sex etc.
4. Death:- Types of death-Somatic/Clinical/Cellular, Molecular & Brain death including cortical and brainstem death, sudden death, Medico- legal importance, Sign of death, Post-mortem changes after death and calculating time of death.
5. Medico legal autopsy.
6. Medico-legal wounds, their classification and study and medico-legal aspects.
7. Examination of blood stains, hairs and seminal stains.
8. Miscellaneous causes of death including Physical agents- Heat, cold, electricity, Lightning, Radiation, Starvation etc.,
9. Violent asphyxia deaths:- Hanging, Strangulation, Suffocation and drowning.
10. Sexual Offences: - Impotency and sterility, Virginity, legitimacy, un-natural Offences, Medico-legal aspects, Anesthetic death.
11. Infanticide.
12. Forensic Psychiatry.
13. Police inquest, difficulties in detection of crime, legal procedure in Criminal courts and their powers, oath, medical evidence, medical certificate, Dying declaration.
14. Rules of giving evidence, professional confidentiality.
16. Post mortem examinations.
17. Death from asphyxia, differences between hanging and strangulation, suffocation and Drowning.
19. Death from burns and scalds and lightning.

20. Law in relation to a medical man, medical ethics, duties, professional privilege and responsibilities.

B. TOXICOLOGY:

1. General considerations of poisoning and classification.
 - a) Actions of poisons, factors modifying their action.
 - b) Diagnosis of poisoning.
 - c) Treatment of poisoning in General.
2. Poisons:
 - a) Corrosives
 - b) Nonmetallic poisons
 - c) Insecticides and weed killers
 - d) Metallic poisons
 - e) Organic Irritant poisons
 - f) Somniferous poisons
 - g) Inebriant poisons
 - h) Delibriant poisons
 - i) Drug Dependence
 - j) Food poisoning
 - k) Spinal poisons
 - m) Asphyxiants
3. Definition of food adulteration. Names of common adulterants and general methods of detection for food adulterants, Common food poisonings- Botulism, Chemical Poisoning, Poisonous Mushrooms and epidemic dropsy
4. Responsibilities and duties of the medical practitioners to the state, Professional secrecy and privileged communication.
5. Un-professional conduct and malpractice.
6. The rights and privilege and duties of medical practitioners. 1) Cardiac poisons n) Miscellaneous
7. The functions of state-medical council and its relationship to Indian Medical Council.

PRACTICALS

1. Age estimation.
2. Autopsies
3. Examination & drawing opinion from examination of Skeleton remains.
4. Identification & drawing medico-legal inference from examination of injuries- contusion, abrasion, laceration, firearm wound, burns, head injury, bone fracture.
5. Identification ABO & RH blood groups of a person
6. Identification & drawing of medico-legal inference from common poisons.

TEXT BOOKS:

1. Dr.K.S.N.Reddy- The essential of Forensic Medicine & Toxicology 21st Edition 2002. Published by- K.Saguna Devi, H,No. 16-11-15/2/2, Saleem nagar Colony, No.1, malapet, Hyderabad-500036.
2. Modi's Textbook of Medical Jurisprudence and toxicology- Edited by BV Subramanyam,Butterworths India, New Delhi.22nd edition, 2001.
3. Dr. C.K.Parikh- A text book of Medical Jurisprudence, Forensic Medicine & Toxicology, CBSPublishers, Delhi, Sixth Edition 1999.
4. Dr. Apurba Nandy- Principles of Forensic Medicine, 3rd Edition 2000, New Central Book Agency(P) ltd. Calcutta.
5. Dr. Krishan Vij- Text book of Forensic Medicine & Toxicology- Principles and Practice, BI Churchill Livingston, New Delhi, 2nd edition, 2002.

REFERENCE BOOKS:

1. The essential of forensic medicine - By Dr. C.J. Polson,D.J. Gee and B. Knight
2. Forensic Medicine - By Corden and Shapiro
3. Principles and practice of Medical jurisprudence - By Taylor's
4. Legal Boundaries of Nature Cure- By Advocate (Dr.) Ashok Kumar Sharma

MAGNETO THERAPY

Theory

- I. **Introduction -**
 - Definition of Magneto therapy
 - Historical highlights
 - Biomagnetism – Effects on Plants, Birds, Animal, Mankind.
 - Technical terms related to Magnetotherapy
- II. **Magnetism in the Universe-**
 - Earth a huge natural magnet
 - Nature of Earth Magnetism.
 - Earth magnetic effects on the human beings.
- III. **Principles of Electromagnetism**
- IV. **Types of Magnets** – Natural, Artificial, Permanent, Electromagnets
Physical Properties of Magnets, Properties effects & corresponding features of North and South pole.
- V. **Mechanism of action of magnets in body**
- VI. **Magnets and their composition-**
 - a. Natural magnets and artificial magnets.
 - b. Permanent magnets - classification of magnetic materials , Power of magnets- various qualities of magnets- low, medium and high power magnets and magnetic belts etc.
 - c. Electro magnets - electro magnetic field on human behaviour, Electro magnets- for medical purpose -Electro magnetic treatment, bed and hand Magnetiser, foot magnetiser, vibroelectro massager, electro-magnetic chair etc. Non Pulsating clinical Electro magnet.
- VII. **Technique of application of magnets** - North and South pole, local & general treatment and the Technique of application of Magnets in treatment of various common diseases.
- VIII. **Magnetised water and Magnetised oils-**
Magnetised water in Nature, influence of magnetic field on the properties of water, method and preparation of magnetised water, dosage and therapeutic effect of magnetised Water . Method of preparation of magnetised oils and their application and therapeutic effects.
- IX. **Advantages of Magneto Therapy , Magnetotherapy is a natural treatment - Use of Magnets as a preventive device.**
- X. **Medical influence of magnetic field**
Rheumatoid arthritis, hemiplegias, arthralgia, Neuralgias, Stimulation of nervous system, endocrine glands etc..
Magnetotherapy, symptomatic relief , Integrative Naturopathy

treatments

- XI. **Clinical Reports from Indian and Foreign Magneto Therapists.**
- XII. **Magneto therapy and Acupressure-** Acupuncture Points- Certain clinical case reports Utilisation of Acupuncture points in Magneto therapy
- XIII. **Contraindications, Complications and Limitations of Magnetotherapy**
- XIV. **Magnetic Therapy through Shad Chakras**
- XV. **Recent developments in Magnetotherapy.**

PRACTICALS

Students should have demonstration classes in various types of Magnets, equipment and their clinical application.

1. Case Studies with record
2. Cases with bio-chemical reports

Text Books -

1. Magneto therapy - Dr. H.L. Bansal
2. Magnetic cure for common diseases - Dr. R.S. Bansal, Dr. H.L. Bansal
3. The text book on Magneto therapy - by Dr. Nanubhai Painter
4. Magneto therapy and Acupuncture - Dr.A.K.Mehta

Reference Books—

1. Electromagnetic treatment - Dr. H.L. Bansal
2. Magnetic fields or healing by magnets - Dr. A.R. Davis and Dr. A.K. Bhattacharya of Naihati of West Bengal

CHROMOTHERAPY

Theory

- I. **Introduction -**
 - Historical Highlights- Ghadiyali's Principle, Babbitt postulates, Modern History
 - Harmonic laws of the universe
 - Solar Family
- II. **Theory of light and force**
- III. Classification Of colors, Physics of light, Electromagnetic Spectrum, Pathways of vision & color Sensing, Heliotherapy.
- IV. **Chromophilosophy-** Reflection, Refraction, Absorption
- V. **The Source of light-** the sun forming sources, the solar atmosphere- sun power- how the colour effects are produced - influence of sun light on skin, muscles, digestive organs, Bones.
- VI. **Chromo-chemistry** - character of spectrum analysis, materials discovered by the spectroscope , the spectrum - spectrum of grey and natural colour elements- spectra of elements of positive colours, chromatic repulsion and attraction.
- VII. Chromo-diagnosis and chromo-hygiene.
- VIII. Chromo - therapeutics - the healing power of colour, healing power of red, yellow, orange, blue, Green and Violet, non-spectral colours, sun stroke action of sun light on micro-Organisms.
- IX. Practical Instruments for Colour healing- Blue, Green and Violet, Red, Pink, Yellow, Orange glasses- the solar thermoleum- the electro thermoleum, chromodisc, the chromolens- chromo light radiator. Directions to be followed during treatment with light.
- X. Healing by means of substances charged with different coloured light- method of solarization of water, oils and food substances etc.
- XI. Chromo therapy prescriptions for different diseases.
- XII. Limitations and contraindications and Advanced color therapy.
- XIII. Chromo – Mentalism
- XIV. Bordeaux medicine.

Practicals

- Students should, have demonstration classes in various chromotherapeutic devices and their clinical application.
1. Case studies with record
 2. Cases with bio-chemical reports
 3. Demonstration of colour glasses & bottles.
 4. Demonstration of instruments and equipments.

Text Books-

1. The principles of light and colour - By Dr. E.D. Babbit
2. Human Culture and Cure in five parts - By Dr. E.D. Babbit
3. Colour therapy . - By R.S. Amber
4. Healing through Colour - By Thea-Gimbel

REFERENCE BOOKS-

1. The power of the rays - By S.G.J. Oseley
2. Colour Meditations - By S.G.J. Oseley
3. Colour and healing - By Gladya Mayer
- By Health Reserch Foundation (USA)
4. Colour healing(Chromotherapy)
5. Practical colour Magic - By Raymond Buckland

AIR THERAPY

1. Composition of Air -Night and Day composition.
2. Ozone in the atmosphere.
3. Air Pollutants, their acceptable values
4. Physiology of Respiratory system.
5. Air baths (Cold and Hot)
6. Theory of Panchapranas and Nadis.

SUN THERAPY (HelioTherapy)

1. History
2. Physiological and Chemical properties of Sunlight.
3. Effect of sunlight on vegetation and Micro-organism.
4. Rejuvenation during diseases.
5. General Sun Bath.
6. Dr. Rikli's method of Sun Bath.
7. Dr. Kuhne's method of Sun Bath.
8. Sun Bath through wet pack.
9. Sun bath of children and aged persons.
10. Sunbath with leaves-Atapasnana.
11. Oil sun bath (Abhyanga snana)
12. Sun Stroke.
13. Practice of Exercise in Sunlight.

Reference Books:-

- All You Wanted to Know About Sun
1. Therapy
 2. Colour Therapy-Miracle of Sunrays
 3. Science of Natural Life
 4. Prakratik Chikitsa Sagar
 5. Dhanwantari-prakrtik Chikitsank

- Vijaya Kumar
- Rashmi Sharma and Maharaj Krishan Sharma
- Rakesh Jindal
- Dr.Gaurishankar Mishra
- Ganga Prasad Gaud
- “Nahar”

MPMSU-BNYS SYLLABUS