

**COURSE :- P.G. DIPLOMA IN INTEGRATED  
SYSTEM OF MEDICINE (PGDISM)  
(HONOURS IN MEDICINE)**

**DURATION:- ONE YEAR**

**ELIGIBILITY:- BAMS/BUMS/BPT/BHMS/BNYS/MBBS**

## **SYLLABUS OF**

**P.G. DIPLOMA IN INTEGRATED SYSTEM OF MEDICINE  
(PGDISM) (HONOURS IN MEDICINE)**

1. Modern Medicine (Allopathic) & Community Medicine.
2. Pathology & Forensic Medicine.
3. Obstetrics & Gynecology.
4. Pharmacology & Fundamental of Ayurveda.
5. Pediatrics & Physical Exercise, Fitness.

# MEDICINE

## COURSE CONTENT

### General

- The 'art' and 'science' of Medicine
- Principles of medical ethics
- Clinical diagnostic reasoning
  
- Principles of prevention of disease
- Clinical genetics - common types, clinical presentation, investigation and prevention of genetic diseases and genetic counseling
- Medical disorders during pregnancy
- Principles of Geriatric Medicine
  - Normal ageing
  - Clinical assessment of frail elderly,
  - Decisions about investigations and rehabilitation
  - Major manifestations of disease in elderly
- Care of terminally ill/dying patient

### Clinical Pharmacology

- Principles of drug therapy
- Adverse drug reactions
- Drug interactions
- Monitoring drug therapy
- Writing a drug prescription

### Nutritional and metabolic disorders

- Nutritional assessment & needs
- Nutritional & metabolic disorders
  - Protein energy malnutrition
  - Obesity
- Vitamin and mineral deficiency & excess
- Diet therapy including parenteral nutrition therapy

### Water, electrolyte and acid-base imbalance

- Water and electrolyte physiology
- Acid-base disorders
- Fluid and electrolyte disturbances

## **Critical care Medicine**

- Physiology of the critically ill patient
- Major manifestations of critical illness
  - Circulatory failure: shock
  - Respiratory failure
  - Renal failure
    - Coma
    - Sepsis
    - Disseminated intravascular coagulation
- General principles of critical care management
- Scoring systems in critical care
- Outcome and costs of intensive care

## **Pain management and palliative care**

- General principles of pain
- Assessment and treatment of pain
- Palliative care

## **Medical Psychiatry**

- Classification of psychiatric disorders
- Aetiological factors in psychiatric disorders
- The clinical interview and mental state examination
- Major manifestations of psychiatric illness
  - Disturbed and aggressive behavior
  - Delusions and hallucinations
  - Depressive Symptoms
  - Anxiety symptoms
  - Deliberate self-harm and suicidal ideation
  - Alcohol misuse and withdrawal
  - Misuse of drugs other than alcohol
  - Medically unexplained physical symptoms and functional somatic syndromes
  - Psychiatric and psychological aspects of chronic and progressive disease
- Clinical syndromes
  - Organic brain syndromes
  - Substance abuse
    - Alcohol
    - Drugs
  - Bipolar disorders
  - Depressive disorders
  - Schizophrenia

- Treatments used in psychiatry
  - Psychological treatments
  - Physical treatments
- Neurotic, stress-related and somatoform disorders
  - Anxiety
  - Obsessive compulsive disorders
  - Dissociative disorders
- Sleep disorders
- Legal aspects of psychiatry

## **Poisonings**

- General approach to the poisoned patient
- Poisoning by specific pharmaceutical agents
- Drugs of misuse
- Chemicals and pesticides
- Snake bite and Envenomation
- Other bites and stings - scorpion, spider

## **Specific environmental and occupational hazards**

- Heatstroke and hypothermia
- Drowning and near drowning
- Electrical injuries
- Radiation injury
- Heavy metal poisoning

## **Immune response and Infections**

- Basic considerations
  - Patterns of infection
  - Laboratory diagnosis of infections
  - Principles of immunization and vaccine use
- Clinical syndromes
  - The febrile patient
  - Fever and rash
  - Fever of unknown origin
  - Infective endocarditis
  - Intra-abdominal infections and abscesses
  - Acute infectious diarrhoeal diseases and food poisoning
  - Sexually transmitted diseases - overview & clinical approach
  - Infections of skin, muscle & soft tissues
  - Osteomyelitis

- Hospital acquired infections
- Infections in immuno-compromised hosts

**Specific Infections - Epidemiology, clinical features, laboratory diagnosis, treatment and prevention of :**

■ Protozoal infections

- Amobiasis
- Malaria
- Leishmaniasis
- Toxoplasmosis
- Giardiasis
- Trichomoniasis
- Trypanosomiasis

■ Bacterial infections

- Streptococcal infections
- Pneumococcal infections
- Staphylococcal infections
- Meningococcal infections
- Gonococcal infections
- Legionella infections
- Pertussis and Diphtheria
- Tetanus
- Botulism
- Gas gangrene, other clostridial infections
- Cholera
- Salmonellosis - Typhoid and paratyphoid fevers
- Shigellosis and bacillary dysentery
- Brucellosis
- Plague
- Donovanosis (Granuloma inguinale)
- Helicobacter Pylori
- Infections due to pseudomonas & other gram - negative bacteria
- Anaerobic infections

■ Mycobacterial diseases

- Tuberculosis
- Leprosy

- Viral infections
  - Common exanthemata
    - Measles
    - Mumps
    - Rubella
    - Varicella
  - Common viral respiratory infections
  - Human immunodeficiency virus (HIV)
  - Viral gastroenteritis
  - Dengue fever
  - Rabies
- Rickettsia, Mycoplasma & Chlamydial diseases
- Fungal infections
  - Candidiasis
  - Aspergillosis
  - Histoplasmosis
  - Cryptococcosis
  - Mucormycosis
  - Pneumocystis carinii
- Helminthic infections
  - Nematodes
    - Tissue
    - Intestinal
  - Cestodes
    - Tissue
    - Intestinal

## **System-Based diseases**

### **Cardiovascular system**

- Clinical examination of the cardiovascular system
- Functional anatomy, physiology and investigations
- Major manifestations of cardiovascular disease
  - Chest pain
  - Breathlessness
  - Palpitation
  - Acute circulatory failure (cardiogenic shock)

- Heart failure
- Hypertension
- Presyncope and syncope
- Cardiac arrest and sudden cardiac death
- Abnormal heart sounds and murmurs
- Atrial fibrillation
- Disorders of heart rate, rhythm and conduction
- Congestive cardiac failure
- Rheumatic fever
- Valvular heart disease
- Ischaemic heart disease
- Congenital heart disease in the adult
- Cor pulmonale
- Hypertension
- Peripheral vascular disease
- Atherosclerosis
- Pericardial disease
- Myocarditis and cardiomyopathy

## **Respiratory system**

- Clinical examination of the respiratory system
- Functional anatomy, physiology and investigations
- Major manifestations of lung disease
  - Cough
  - Dyspnoea
  - Chest pain
  - Haemoptysis
  - The solitary radiographic pulmonary lesion
  - Respiratory failure
- Upper and lower respiratory infections
- Bronchial asthma
- Chronic obstructive pulmonary disease
- Pulmonary tuberculosis
- Suppurative lung diseases
  - Bronchiectasis
  - Lung abscess
  - Plural effusion and empyema

- Interstitial and infiltrative lung diseases
- Occupational lung diseases
- Tumors of the bronchus and lung
- Pulmonary vascular diseases
  - Pulmonary hypertension
  - Pulmonary thromboembolism
- Acute respiratory distress syndrome
- Obstructive sleep apnoea
- Diseases of the nasopharynx, larynx and trachea
- Diseases of the mediastinum, diaphragm and chest wall

## **Kidney and genitourinary system**

- Clinical examination of the kidney and genitourinary system
- Functional anatomy, physiology and investigations
- Major manifestations of renal and urinary tract disease
  - Dysuria, pyuria, urethral symptoms
  - Disorders of urine volume
  - Haematuria
  - Proteinuria
  - Oedema
  - Obstruction of the urinary tract
  - Incontinence
- Acute and chronic renal failure
- Infections of the kidney and urinary tract
- Congenital abnormalities of the kidneys and urinary system
- Glomerulonephritides
- Tubulo-interstitial diseases
- Renal involvement in systemic disorders
- Drugs and the kidney
- Renal vascular diseases
- Urinary tract calculi and nephrocalcinosis
- Tumors of the kidney and genitourinary tract
- Renal replacement therapy

## **Gastrointestinal tract**

- Clinical examination of the abdomen
- Functional anatomy, physiology and investigations particularly role of imaging, endoscopy and tests of function



- Major manifestations of gastrointestinal disease
  - Abdominal pain (acute and chronic)
  - Dysphagia
  - Dyspepsia
  - Vomiting
  - Constipation
  - Diarrhoea
  - Abdominal lump
  - Weight loss
  - Gastrointestinal bleeding - upper and lower
  - Approach to the patient with gastrointestinal disease
- Diseases of the mouth and salivary glands - oral ulcers, candidiasis, parotitis
- Diseases of the oesophagus - GERD, other motility disorders, oesophagitis, carcinoma oesophagus
- Diseases of the stomach and duodenum - gastritis, peptic ulcer disease, tumors of stomach
- Diseases of the small intestine
  - Acute gastroenteritis & food poisoning
  - Intestinal tuberculosis
  - Inflammatory bowel disease
  - Malabsorption syndrome
  - Tumors of small intestine
  - Acute, sub-acute and chronic intestinal obstruction
- Disorders of the colon and rectum
  - Bacillary dysentery
  - Amoebic colitis
  - Ulcerative colitis
  - Tumors of the colon & rectum
  - Irritable bowel disease
- Abdominal tuberculosis
  - Peritoneal
  - Nodal
  - Gastrointestinal
- Ischaemic gut injury
- Anorectal disorders
- Diseases of the peritoneal cavity
  - Acute and chronic peritonitis
  - Ascites
  - Peritoneal carcinomatosis

## **Diseases of the pancreas**

- Acute and chronic pancreatitis
- Tumors of pancreas

## **Liver and Biliary tract disease**

- Clinical examination of the abdomen for liver and biliary disease
- Functional anatomy, physiology and investigations of hepatobiliary disease
- Major manifestations of liver disease
  - ‘Asymptomatic’ abnormal liver function tests
  - Jaundice
  - Acute (fulminant) hepatic failure
  - Portal hypertension and ascites
  - Hepatic (portosystemic) encephalopathy
  - Hepatorenal failure
- Liver abscess - amoebic & pyogenic
- Viral hepatitis - acute and chronic
- Alcoholic liverdisease
- Cirrhosis of liver and chronic liver disease
- Drugs, toxins and liver
- Fatty liver and non alcoholic steatohepatitis
- Infiltrative diseases of liver
  - Wilson’s disease
  - Hemachromatosis
- Tumors of the liver
- Gallbladder and biliary tract diseases
  - Functional anatomy
  - Acute and chronic ‘cholecystitis’
  - Cholelithiasis
  - Tumors of gall bladder and bile ducts

## **Endocrinology and Metabolism**

### **Diabetes mellitus**

- Clinical examination of the patient with diabetes
- Epidemiology
- Physiology, pathophysiology and investigations
- Aetiology and pathogenesis

- Major manifestations of disease
  - Hyperglycaemia
  - Acute metabolic complications
    - Diabetic ketoacidosis
    - Hyperglycemic non-ketotic coma
    - Hypoglycemia
  - End organ damage
- Management of diabetes
- Long-term complications (micro and macrovascular)
- Long-term supervision
- Special problems in management
- Prospects in diabetes mellitus

## **Thyroid gland**

- Clinical examination of thyroid disease
- Functional anatomy, physiology and investigations
- Major manifestations of thyroid disease
  - Hyperthyroidism
  - Hypothyroidism
  - Thyroid enlargement
  - Abnormal thyroid function test results

## **The reproductive system**

- Major manifestations of reproductive disease
  - Male hypogonadism
  - Gynaecomastia
  - Impotence
  - Short stature and delayed puberty
  - Cryptorchidism
  - Hirsutism
  - Secondary amenorrhoea
  - Infertility

## **The parathyroid glands**

- Major manifestations of diseases of the parathyroid glands
  - Hypercalcemia
  - Hypocalcemia

## **The adrenal glands**

- Major manifestations of adrenal disease
  - The 'Cushingoid' patient
  - Adrenal insufficiency
  - Pheochromocytoma

## **The endocrine pancreas and gastrointestinal tract**

- Major manifestations of disease of the endocrine pancreas
  - Spontaneous hypoglycemia
  - Disorders affecting multiple endocrine system

## **The hypothalamus and the pituitary gland**

- Major manifestations of hypothalamic and pituitary disease
  - Hypopituitarism
  - Visual field defects
  - Galactorrhea

## **Hematological disorders**

- Clinical examination in blood disorders
- Functional anatomy, physiology and investigations
- Major manifestations of hematological diseases
  - Anaemia
  - Polycythemia
  - Leucopenia
  - Leucocytosis
  - Thrombocytopenia
  - Thrombocytosis
  - Pancytopenia
  - Lymphadenopathy
  - Splenomegaly
  - Bleeding
  - Venous thrombosis
  - Abnormal coagulation screen
  - Infections
- Anemias
- Myeloproliferative disorders
- Haematological malignancies

- Bleeding disorders
- Disorders of coagulation and venous thrombosis
- Blood products and transfusion
- Bone marrow transplantation

## **Disorders of the immune system, connective tissue and joints**

- Introduction to the immune system and autoimmunity
- Primary immune deficiency diseases
- HIV, AIDS and related disorders
- Major manifestations of musculoskeletal disease
  - Joint pains
  - Bone pain
  - Muscle pain and weakness
  - Regional periarticular pain
  - Back and neck pain
- Approach to articular and musculoskeletal disorders
- Inflammatory joint disease
- Infectious arthritis
- Inflammatory muscle disease
- Osteoarthritis
- Systemic connective tissue diseases - SLE, RA, PSS
- Vasculitides
- Ankylosing spondylitis, reactive arthritis and undifferentiated spondyloarthropathy
- Sarcoidosis
- Amyloidosis
- Musculoskeletal manifestations of disease in other systems
- Fibromyalgia
- Diseases of bone

## **Skin diseases**

- Clinical examination of skin diseases
- Major manifestations of skin disease
  - Various types of rash
  - Pruritis
  - Erythroderma
  - Urticaria
  - Photosensitivity

- Blisters
- Leg ulcers
- Alopecia
- Acne
- Approach to patient with skin disease
- Some common skin infections and infestations - scabies, fungal infections, pyoderma
- Eczema, psoriasis and other erythematous scaly eruptions
- Cutaneous drug reactions
- Disorders of pigmentation
- Disorders of the nails
- Skin manifestations of systemic diseases

### **Neurological diseases**

- Clinical examination of nervous system
- Functional anatomy, physiology and investigations
- Major manifestations of nervous system disease
  - Headache and facial pain
  - Raised intracranial tension
  - Faintness, dizziness, syncope & vertigo
  - Sleep disorders
  - Disorders of movement
  - Ataxia
  - Sensory disturbances (numbness, tingling and sensory loss)
  - Acute confusional states
  - Coma and brain death
  - Aphasias and other focal cerebral disorders
  - Speech, swallowing and brain-stem disturbance
  - Visual disturbances
  - Sphincter disturbances
- Migraine and cluster headaches
- Seizures and epilepsy
- Cerebrovascular disease
- Dementias
- Acute and chronic meningitis
- Viral encephalitis
- Diseases of cranial nerves
- Intracranial tumours
- Diseases of spinal cord
- Multiple sclerosis and other demyelinating diseases
- Parkinson's disease and other extrapyramidal disorders
- Cerebellar disorders
- Motor neuron disease
- Peripheral neuropathy
- Neurological manifestations of system diseases
- Nutritional and metabolic diseases of the nervous system
- Myasthenia gravis and other diseases of neuromuscular junction
- Diseases of muscle

# COMMUNITY MEDICINE

## COURSES

### 1. BEHAVIORAL SCIENCES

#### Objectives

**At the end of the course the student should be able to:**

1. Define social & behavioural sciences and discuss their role in Community Medicine.
2. Describe the role of the family/community in health and disease.
3. Measure the socio-economic status of a family and describe its importance in health and disease.
4. Construct, pre-test and validate questionnaire/interview schedule.
5. Define attitudes.
6. Describe the process of attitudinal development and methods to change.
7. Construct, pretest and validate a questionnaire / interview schedule to test attitudes of a community.

#### Contents

- Culture, Society and Health
- Role of Family in health and disease
- Health, illness behaviour
- Social Organization and Community Participation
- Measurement of Socioeconomic Status and its importance in relation to health and disease.
- Questionnaire/Interview schedule designing
- Practical: Construction and pre-testing of questionnaire/ interview schedule
- Attitudes: nature, development, methods to change
- Measurement of attitudes
- Questionnaire design to test attitudes.

### 2. HEALTH EDUCATION

#### Objectives

**At the end of the course the student should be able to:**

1. Describe health education and its methods.
2. Communicate effectively with the individual, family and community.
3. Plan and conduct health Education sessions for an individual/community.
4. Design different health education aids e.g. posters, scripts for role-play, film etc.
5. Use different health education aids, video etc. to educate the community.
6. Evaluate the health education programme.

#### Contents

- Definition and principles of health education
- Health educational methods
- Audiovisual aids

- The art of communication
- Skills of communication
- Methods of overcoming resistance in the individual, family and community.
- Planning a health educational programme
- Use of other aids in health education
- Evaluation of health educational activities
- Information Education Communication Strategies
- Practical exercise: preparing and delivering a health educational talk on simple issues:
  - Personal hygiene
  - Clean water
  - Clean domestic environment
  - Clean external environment
  - Dental hygiene
  - Any other topic

### **3. ENVIRONMENT**

#### **Objectives**

**At the end of the course the student should be able to:**

1. Describe the physical environment inside the home, at the workplace and in the community, and its impact on health and disease.
2. Describe the family environment.
3. Suggest appropriate methods for improving the internal/external environment.
4. Define safe water. Describe the sources of water (tap, hand pump, well).
5. State the criteria (national and WHO) for safe water.
6. Describe appropriate methods for making water safe at the domiciliary level.
7. Describe sources of waste and methods of waste control at individual and community levels.
8. Define air pollution, causes of air pollution and describe appropriate measures of control.
9. Describe the effects of noise and radiation on health.
10. Describe the common vectors of diseases and methods of vector control.
11. Describe the various insecticides that are used for vector control.
12. Describe insecticide resistance.

#### **Contents**

- Environment:
  - housing
  - physical environment inside and outside the home
  - family environment
- Water
- Waste
- Air pollution, green house effect, ozone layer
- Noise and radiation pollution
- Vectors of disease
- Vector Control and insecticidal resistance.



## **5. EPIDEMIOLOGY**

### **Objectives**

**At the end of the course, student should be able to:**

1. Define measures of morbidity/mortality.
2. List and describe the sources of epidemiological data.
3. Describe, with suitable examples, Bradford Hills' criteria of causation.
4. Describe and illustrate natural history of a disease with suitable examples (communicable and non-communicable).
5. Collect relevant clinical, psychosocial information from a patient and family, analyze and present to illustrate the natural history of a common disorder.
6. Advise relevant (psychosocial, cultural and economic context) promotive, preventive, curative and rehabilitative measures for the disorder.
7. Describe the need and uses of screening tests.
8. Differentiate between screening and diagnostic tests.
9. Calculate the sensitivity, specificity, positive predictive value of tests given a set of data.
10. Describe the various types of epidemiological study designs, their application, biases, statistical analyses, relative merits and demerits.

### **Contents**

- Definitions, scope in hospital, community, planning
- Measures of Morbidity/Mortality
- Rates: Incidence, Prevalence
  - Death rate
  - Crude rates/standardized rates
  - Fertility Rates Years
  - Person Years
  - Ratio
  - Proportions
  - Risk
  - Sources of epidemiological data
  - Causation
  - Natural history of disease for communicable and non-communicable diseases.
  - Levels of disease prevention
  - Clinico-psycho-social case review
  - Principles of control of communicable disease
  - Principles of control of non-communicable disease
  - Measurement
  - Screening Tests
  - Diagnostic Tests
  - Cross sectional and case studies
  - Longitudinal study
  - Case control study
  - Randomized Control Trials

## **6. NUTRITION**

## **Objectives**

**At the end of the course the student should be able to:**

1. Describe the nutrients (carbohydrates, proteins, fats, vitamins and minerals) and their dietary sources.
2. Describe the daily nutritional requirements for different ages, sexes, pregnant and lactating women.
3. Describe the deficiency disorders (both macro and micro nutritional status).
4. Describe the features of Protein Energy Malnutrition.
5. Describe the various methods of measuring the nutritional status.
6. Assess the nutritional status of the community.
7. Define balanced diet.
8. Prescribe a balanced diet within the socio-cultural, and economic milieu for
  - a normal adult male/female
  - a pregnant/lactating/postpartum woman
  - an under five child
  - an adolescent
9. Describe the management of PEM affected child in community.
10. Describe and prioritise the nutritional problems in India.
11. Describe the importance of salt fortification.
12. Describe the nutritional programmes in India.
13. Define food adulteration and describe the methods for detecting and controlling food adulteration.

## **Contents**

- Role of nutrition in health and disease
- Nutritional requirements and sources
- Balanced Diet
- Deficiency Disorders and Micronutrient Deficiencies
- Salt fortification
- Protein Energy Malnutrition
- Nutritional problems in India
- Nutritional programmes
- Assessment of nutritional status in community; Growth Charts.
- Practical exercise:- nutritional status assessment in community. Presentation
- Food adulteration

## **7. MATERNAL & CHILD HEALTH**

### **Objectives**

**At the end of the course the student should be able to:**

1. State the magnitude of the problems of maternal and child health in India.
2. Advise a mother on the importance of breast feeding and weaning at appropriate time and addition of weaning foods.
3. Identify and manage high risk mothers and children.
4. Define an eligible couple. Calculate eligible couple protection rate.
5. Describe the various family planning methods. Describe the indications, contraindications, side effects and complications of the methods.

6. Advise a couple on spacing and terminal methods.
7. Describe salient features of National Population Policy 2001-02.

### **Contents**

- Magnitude of the problem
- Maternal morbidity and mortality, under five morbidity mortality.
- Breast feeding/Weaning
- High risk mothers and children
- Family Planning Methods: Spacing and Terminal Methods and emergency contraception
- Practical exercise: observe:
  - insertion of IUD
  - MTP
  - tubal ligation
  - vasectomy

## **8. REHABILITATION**

### **Objectives**

At the end of the course the student should be able to:

1. Define and describe the different types of rehabilitation.
2. Define and describe the different types of impairment, disability and handicap.
4. Make a community assessment of post polio residual paralysis.
4. Advise rehabilitation at individual and community levels.

### **Contents**

- Need for Rehabilitation. Types of rehabilitation. Types of impairment, disability, handicap
- Assessment of Postpolio Residual Paralysis
- Rehabilitation at individual level
- Communitybasedrehabilitation
  - Practical exercise: Post Polio residual paralysis assessment. Presentation.

## **9. EPIDEMIOLOGY OF COMMUNICABLE DISEASES AND NON- COMMUNICABLE DISEASES**

### **Objectives**

At the end of the course the student should be able to:

1. Describe the epidemiology of common communicable diseases.
2. Describe the epidemiology of common non-communicable diseases.
3. Describe the steps involved in investigating an epidemic.
4. Plan and investigate an epidemic of a communicable disease in a hospital/ community setting, and institute control measures.
5. Describe the immunization schedule and side effects of the immunizing agents.
6. Immunize a child.
7. Describe the cold chain and the importance of maintaining the cold chain.

### **Contents**

- Malaria
- STDs / HIV/AIDS

- Pulmonary Tuberculosis
- Leprosy
- Diphtheria, Pertussis, Tetanus
- Poliomyelitis
- Measles, Mumps & Rubella
- Chicken, A.R.I.
- Diarrhoeal Diseases
- Infective Hepatitis
- Kala azar
- Arbo viral diseases
- Filaria
- Plague
- Intestinal infestations
- Investigation of an Epidemic
- Immunity
- Immunization schedule
- Cold chain
- Immunization for international travel
- Surveillance for diseases
- Nutritional Disorders
- RHD /CHD /Hypertension
- Cancers
- Blindness
- Road Traffic Accidents
- Diabetes mellitus
- Obesity

## **10. IMPORTANT NATIONAL HEALTH PROGRAMMES**

### **Objectives**

**At the end of the course the student should be able to:**

1. Describe the national health programmes for the control of communicable diseases.
  - RCH
  - Immunization
  - Family Welfare
  - Iodine Deficiency Disorders
  - ARI
  - Tuberculosis
  - Diarrhoeal diseases
  - Malaria
2. Describe the national health programmes for control non-communicable diseases.
3. Describe the role of the health services in these programmes.
4. Evaluate an important health programme.

### **Contents**

- Health Programmes on:
- RCH (including ARI, Diarrhoeal Diseases)
- Immunization
- Family Welfare
- Iodine Deficiency
- Nutrition, ICDS
- Tuberculosis
- Malaria, Filariasis, Kala Azar
- Evaluation of a health programme
- HIV/ AIDS & STDs
- Leprosy
- RHD/ CHD/Hypertension
- Diabetes
- Blindness
- Cancer

## **11. OCCUPATIONAL HEALTH**

### **Objectives**

**At the end of the course the student should be able to:**

1. Describe the common industrial and occupational diseases.
2. Describe the feasible methods of control of occupational diseases.
3. Describe the important features of the Workman Compensation Act and provision of health services and health insurance to industrial workers.

# PEDIATRICS

## COURSE CONTENT

### Vital statistics

- Definition and overview of Pediatrics with special reference to age-related disorders. Population structure, pattern of morbidity and mortality in children.
- Maternal, perinatal, neonatal, infant and preschool mortality rates. Definition, causes, present status and measures for attainment of goals.
- Current National programmes such as ICDS, RCH, Vitamin A prophylaxis, UIP, Pulse polio, AFP, ARI, Diarrhea control programme etc., IMCI
- Other National Programmes

### Growth and development

- Normal growth from conception to maturity.
- Anthropometry – measurement and interpretation of weight, length/height, head circumference, mid-arm circumference. Use of weighing machines, infantometer
- Interpretation of Growth Charts: Road to Health card and percentile growth curves.
- Abnormal growth patterns – failure to thrive, short stature.
- Growth pattern of different organ systems such as lymphoid, brain and sex organs.
- Normal pattern of teeth eruption.
- Principles of normal development
- Important milestones in infancy and early childhood in the areas of Gross Motor, Fine Motor, Language and Personal–Social development. 3-4 milestones in each of the developmental fields, age of normal appearance and the upper age of normal psychological and behavioral problems.
- Measurement and interpretation of sitting height, US: LS ratio and arm span.
- Age-independent anthropometric measurement-principles and application.

### Nutrition

- Normal requirements of protein, carbohydrates, fats, minerals and vitamins for newborn, children

and pregnant and lactating mother. Common food sources.

- Breast feeding, physiology and lactation, composition of breast milk, Colostrum, Initiation and technique of feeding. Exclusive breast milk. Hazards and demerits of prelacteal feed, top milk and bottle-feeding. Feeding of LBW babies.
- Infant feeding/weaning foods, method of weaning.
- Assessment of nutritional status of a child based on history and physical examination.
- Protein energy malnutrition-Definition, classification according to IAP/Wellcome Trust, acute versus chronic malnutrition. Clinical features of Marasmus & kwashiorkor. Causes and management of PEM including that of complications planning a diet for PEM.
- Vitamins-Recognition of vitamin deficiencies (A, D, K, C, B Complex). Etiopathogenesis, clinical feature, biochemical and radiological findings, differential diagnosis and management of nutritional rickets & scurvy. Hypervitaminosis A and D.
- Characteristics of transitional and mature milk (foremilk & hind milk). Prevention and management of lactation failure and feeding problems.
- Definition, causes and management of obesity.

### Immunization

- National Immunization Programme.
- Principles of Immunization. Vaccine preservation and cold-chain.
- Types, contents, efficacy storage, dose, site, route, contra-indications and adverse reactions of vaccines – BCG, DPT, OPV, Measles, MMR and Typhoid: Rationale and methodology of Pulse Polio Immunization.
- Investigation and reporting of vaccine preventable diseases. AFP (Acute Flaccid Paralysis) surveillance
- Special vaccines like Hepatitis B, H influenza B, Pneumococcal, Hepatitis A, Chicken pox, Meningococcal, and Rabies.

## **Infectious diseases**

- Epidemiology, basic pathology, natural history, symptoms, signs, complications, investigations, differential diagnosis, management and prevention of common bacterial, viral and parasitic infections in the region, with special reference to vaccine-preventable disease: Diarrhea, LRTI, Tuberculosis, Poliomyelitis, Meningitis, Diphtheria, Whooping cough, Tetanus including neonatal tetanus, Measles, Mumps, Rubella, Typhoid, Viral Hepatitis, Cholera, Chickenpox, Giardiasis, Amoebiasis, Intestinal helminthiasis, Malaria, Dengue fever, AIDS.
- Kala-Azar, Leprosy, Chlamydia infection

## **Hematology**

- Causes of anemia in childhood. Classification based on etiology and morphology.
- Epidemiology, recognition, diagnosis, management and prevention of nutritional anemia-iron deficiency, megaloblastic.
- Clinical approach to a child with anemia with lymphadenopathy and/or hepato-splenomegaly.
- Epidemiology, clinical features, investigations and management of Thalassemia.
- Approach to a bleeding child.
  - Diagnosis of acute lymphoblastic leukemia and principles of treatment.
  - Clinical features and management of hemophilia, ITP.
  - Diagnosis and principles of management of lymphomas.
  - Types, clinical features and management of acute hemolytic anemia.
  - Non-thrombocytopenic purpura (Henoch-Schonlein purpura)

## **Respiratory system**

- Clinical approach to a child with cyanosis, respiratory distress, wheezing. Significance of recession, retraction.
- Etiopathogenesis, clinical features, complications, investigations, differential diagnosis and management of acute upper respiratory infections, pneumonia with emphasis on bronchopneumonia, bronchiolitis, bronchitis. Acute and chronic otitis media.
- Etiopathogenesis, clinical features, diagnosis, classification and management of bronchial asthma. Treatment of acute severe asthma.
- Pulmonary tuberculosis-tuberculous infection versus tuberculous disease, difference between primary and post-primary tuberculosis. Etiopathogenesis, diagnostic criteria in children versus adults. Diagnostic aids-technique and interpretation of Mantoux test and BCG test. Radiological patterns, Chemoprophylaxis and treatment.
- Diagnosis and management of foreign body aspiration. Differential diagnosis of stridor.
- Pathogenesis, clinical features and management of pneumothorax, pleural effusion and empyema.
- Multidrug resistant tuberculosis, Bronchiectasis, pulmonary cysts

## **Gastro Intestinal Tract**

- Clinical approach to a child with jaundice, vomiting, abdominal pain, upper and lower GI bleeding, hepato-splenomegaly.
- Acute diarrheal disease-Etiopathogenesis, Clinical differentiation of watery and invasive diarrhea, complications of diarrheal illness. Assessment of dehydration, treatment at home and in hospital. Fluid and electrolyte management. Oral rehydration, composition of ORS.
- Persistent and chronic diarrhea
- Clinical features and management of acute viral hepatitis and acute liver failure, causes & diagnosis of Chronic Liver Disease.
- Neonatal cholestasis, portal hypertension
- Common causes of constipation.
- Abdominal tuberculosis.
- Causes, clinical features and management of Portal hypertension, Reye's syndrome, Celiac disease.
- Drug induced hepatitis

## **Central Nervous System**

- Evaluation of milestones and developmental age
- Localization of neurological deficit
- Clinical approach to a child with coma, mental retardation
- Common causes and approach to convulsion
- Clinical diagnosis, investigations and treatment of acute pyogenic meningitis, encephalitis & Tubercular Meningitis, Cerebral Malaria
- Seizure Disorder-Causes and types of convulsions at different ages. Diagnosis categorization & management of Epilepsy (Broad outline). Febrile convulsions-definition, types Management of seizures and status epilepticus.
- Causes, diagnosis and management of cerebral palsy.
- Acute flaccid paralysis – Differentiation between Polio and Guillain – Barre syndrome.
- Microcephaly, Hydrocephalus, chorea
- Counseling parents for inherited neurological diseases
- Infantile tremor syndrome, infantile hemiplegia

## **Cardiovascular system**

- Clinical features, diagnosis, investigation, treatment and prevention of acute rheumatic fever. Common forms of rheumatic heart disease in childhood. Differentiation between rheumatic and rheumatoid arthritis.
- Recognition of congenital acyanotic and cyanotic heart disease. Hemodynamics, clinical features and management of VSD, PDA, ASD and Fallot's tetralogy (Cyanotic spells).
- Recognition of congestive cardiac failure in children.
- Hypertension in children-recognition and referral.
- Diagnosis and management of bacterial endocarditis, pericardial effusion, myocarditis.

## **Genito-Urinary system**

- Basic etiopathogenesis, clinical features, diagnosis, complications and management of acute post- streptococcal glomerulo-nephritis and nephrotic syndrome.
- Etiology, clinical feature, diagnosis and management of urinary tract infection – acute and recurrent.



- Etiology, diagnosis and principles of management of acute failure.
- Causes and diagnosis of obstructive uropathy in children.
- Diagnosis and principles of management of chronic renal failure.
- Causes and diagnosis of hematuria.
- Renal and bladder stones
- Hemolytic-

uremic syndrome

#### Endocrinology

- Etiology clinical features & diagnosis of diabetes and hypothyroidism, hyperthyroidism and goiter in children.
- Delayed and precocious puberty

### Neonatology

- Definition – live birth, neonatal period, classification according to weight and gestation, mortality rates.
- Delivery room management including neonatal resuscitation and temperature control
- Etiology, clinical features, principles of management and prevention of birth asphyxia.
- Birth injuries – causes and their recognition.
- Care of the normal newborn in the first week of life. Normal variations and clinical signs in the neonate.
- Breast feeding-physiology and its clinical management
- Identification of congenital anomalies at birth with special reference to anorectal anomalies, tracheo- esophageal fistula, diaphragmatic hernias, neural tube defects.
- Neonatal Jaundice: causes, diagnosis and principles of management.
- Neonatal infection– etiology, diagnosis, principles of management. Superficial infections, sepsis.
- Low birth weight babies-causes of prematurity and small-for-date baby, clinical features and differentiation. Principles of feeding and temperature regulation. Problems of low birth weight babies.
- Identification of sick newborn (i.e. detection of abnormal signs – cyanosis, jaundice, respiratory distress, bleeding, seizures, refusal to feed, abdominal distension, failure to pass meconium and urine)
- Recognition and management of specific neonatal problems-hypoglycemia, hypocalcemia, anemia, seizures, necrotizing enterocolitis, hemorrhage
- Common intra-uterine infections
- Transportation of a sick neonate.

### Pediatrics Emergencies

- Status epilepticus
- Status asthmaticus/Acute Severe Asthma
- Shock and anaphylaxis.
- Burns
- Hypertensive emergencies.
- Gastrointestinal bleed.
- Comatose child
- Congestive cardiac failure
- Acute renal failure

# PHARMACOLOGY

## COURSE CONTENT

### Theory

#### (A) General Pharmacology

- a) Absorption, distribution, metabolism and elimination of drugs, routes of drug administration
- b) Basic principles of drug action
- c) Adverse reactions to drugs
- d) Factors modifying drug response

#### (B) Autonomic nervous system & Peripheral nervous system

- a) Neurohumoral transmission
- b) Sympathetic nervous system - sympathomimetics, sympatholytics
- c) Parasympathetic - Cholinergics, Anticholinergics, Ganglion stimulants and blockers
- d) Skeletal muscle relaxants
- e) Local anaesthetics

#### (C) Central nervous system

- a) General principles - neurotransmitters, definition and common transmitters
- b) Drug therapy of various CNS disorders like epilepsy, depression, Parkinson's disease, schizophrenia, neuro-degeneration etc.
- c) Pharmacotherapy of pain
- d) General anaesthetics
- e) Drugs for arthritides & gout

#### (D) Autacoids

- a) Histamine and antihistaminics
- b) Prostaglandins, leukotrienes, thromboxane and PAF
- c) Substance P, bradykinin

#### (E) Cardiovascular system

- a) Drug therapy of hypertension, shock, angina, cardiac arrhythmias
- b) Renin-angiotensin system
- c) Diuretics
- d) Coagulants and anticoagulants, antiplatelet drugs
- e) Hypo-lipidemics

#### (F) Gastrointestinal and respiratory system

- a) Emetics and antiemetics

- b) Drugs for constipation and diarrhoea
- c) Drug treatment of peptic ulcer
- d) Drug therapy of bronchial asthma
- e) Pharmacotherapy of cough

### **(G) Hormones**

- a) Reproductive hormones - testosterone, estrogen, progesterone, contraceptives
- b) Drug therapy of Diabetes
- c) Thyroid hormones

- d) Pituitary-hypothalamic axis
- e) Corticosteroids
- f) Oxytocin and drugs acting on uterus
- g) Drugs affecting calcium balance

### **(H) Chemotherapy**

- a) General principles of antimicrobial chemotherapy, rational use of antibiotics
- b) Chemotherapeutic agents - Penicillins, cephalosporins, fluoroquinolones, macrolides, aminoglycoside, tetracyclines, chloramphenicol and polypeptide antibiotics etc.
- c) Chemotherapy of tuberculosis, leprosy, UTI
- d) Chemotherapy of parasitic infection
- e) Chemotherapy of fungal infections
- f) Cancer Chemotherapy

### **(I) Miscellaneous**

- a) Immunomodulators
- b) Drug therapy of glaucoma and cataract
- c) Treatment of poisoning

## **PRACTICALS**

### **A) Experimental pharmacology exercise on isolated organ**

- Assay of various drugs using guinea pig ileum
- Identification of unknown drugs by evaluating its action antagonism and drug interaction on guinea pig ileum
- Determination of concentration of unknown drug solution by different methods

### **B) Experimental exercise on pharmacy**

- General principles of pharmacy
- Prescription writing exercises
- Preparation and dispensing of powders, emulsions ointments, mixtures, liniments, suppositories and syrups

**C) Spotting exercise - Identify the commonly used items in Pharmacology**

**D) Exercises on drug interactions**

## **TEACHING AND LEARNING METHODOLOGY**

The pharmacology teaching shall be done with the goal of making the student understand the concept of rational use of drug.

### **General pharmacology and systemic pharmacology**

It shall be taught by way of lectures. Each lecture session will be planned to deliver maximum relevant information to the student. The clinical aspects as well as rationality of use of a given drug shall be discussed with the students. In addition, seminars on some important topics will be planned in which the use of a given drug shall be discussed by a clinical expert in the field.

### **Practicals**

The given practical exercise shall be discussed and demonstrated beforehand to the students. In addition, the students will learn prescription writing and discuss exercise on drug interactions and shall also be shown various spots. The spots shall include various chemicals, drugs and instruments used in pharmacology.

### **TEXT-BOOKS 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

# OBSTETRICS & GYNAECOLOGY

## COURSE CONTENT

### I Basic Sciences

1. Normal & abnormal development, structure and function of female & male urogenital systems and the female breast.
2. Applied anatomy of the genito-urinary system, abdomen, pelvis, pelvic floor, anterior abdominal wall, upper thigh (inguinal ligament, inguinal canal, vulva, rectum and anal canal).
3. Physiology of permatogenesis.
4. Endocrinology related to male and female reproduction.
5. Anatomy & Physiology of urinary & lower GI (Rectum / anal canal), tract.
6. Development, structure & function of placenta, umbilical cord & amniotic fluid.
7. Anatomical & physiological changes in female genital tract during pregnancy fistulae.
8. Anatomy of fetus, fetal growth & development, fetal physiology & fetal circulation.
9. Physiological & neuro-endocrinal changes during puberty disorders, adolescence, menstruation, ovulation, fertilization, climacteric & menopause.
10. Gametogenesis, fertilization, implantation & early development of embryo.
11. Normal pregnancy, physiological changes during pregnancy, labour & puerperium.
12. Immunology of pregnancy
13. Lactation
14. Biochemical and endocrine changes during pregnancy, including systemic changes in cardiovascular, hematological, renal, hepatic and other systems. (Anaemia)
15. Biophysical and biochemical changes in uterus and cervix during pregnancy & labour.
16. Pharmacology of identified drugs used during pregnancy, labour, post partum period with reference to their mechanism of action, absorption, distribution, excretion, metabolism, transfer of the drugs across the placenta, effect of the drugs on the fetus, their excretion through breast milk.
17. Mechanism of action, excretion, metabolism of identified drugs used in Gynaecology, including chemotherapeutic drugs.
18. Role of hormones in Obstetrics & Gynaecology.
19. Markers in Obstetric & Gynaecology – Non neoplastic and Neoplastic Diseases.
20. Pathophysiology of ovaries, fallopian tubes, uterus, cervix, vagina and external genitalia in healthy and diseased conditions.
21. Normal and abnormal pathology of placenta, umbilical cord, amniotic fluid and fetus.
22. Normal and abnormal microbiology of the genital tract – bacterial, viral & parasitic infections responsible for maternal, fetal and gynaecological disorders.
23. Humoral and cellular immunology in Obstetrics & Gynaecology.

### II Obstetrics

1. Physiology of normal pregnancy, diagnosis of pregnancy, routine antenatal care, management of common symptoms in pregnancy, investigations to be carried out in pregnancy;

2. Drugs prescription during pregnancy and lactation
3. Hypertensive disorders in pregnancy
4. Anaemia in Pregnancy : Heart disease in pregnancy
5. Antepartum haemorrhage
6. Intrauterine Growth Restriction (IUGR)
7. Antenatal Fetal Surveillance
8. Rhesus Negative Pregnancy
9. Disorders of liver, kidneys in pregnancy
10. Multiple pregnancy
11. Puerperium, and its complications
12. Perinatal and maternal mortality in India

### **III Gynaecology**

1. Anatomy of fetal genital tract, and its variations, supports of uterus, developmental anomalies of uterus.
2. Ectopic pregnancy; epidemiology, early diagnosis and management.
3. Physiology of menstruation, common menstrual problem.
4. Disorders of growth, amenorrhoeas
5. Fibroid uterus
6. Prolapse uterus
7. Vaginal discharge, sexually transmitted diseases
8. Precancerous lesions of female genital tract (cervix, vagina, vulva)
9. Carcinoma Cervix, epidemiology, staging diagnostic procedure, treatment.
10. Carcinoma Endometrium
11. Carcinoma ovary
12. Carcinoma vulva
13. Gestational Trophoblastic disease
14. Temporary and permanent methods of contraception
15. Menopause and related problems
16. Endometriosis
17. Genital Tract Fistulae
18. Adolescence, Pubertal changes, disorders of puberty

### **IV Contraception, Neonatology and Recent Advances**

- (a) Contraception (Male & Female)
- (b) Medical terminal of pregnancy – safe abortion – selection of cases, technique & management of complication of medical and surgical procedures, MTP law Medical abortion & Emergency Contraception.
- (c) National health programmes.
- (d) Social obstetrics and vital statistics
- (e) Care of new born, neonatal resuscitation, detection of neonatal malformation.
- (f) Neonatal sepsis – prevention, detection & management.
- (g) Neonatal hyper-bilirubinemia – investigation & management including NICU care.
- (h) Management of common neonatal problems

- (i) Ethics and medical jurisprudence

## **TRAINING PROGRAMME : SCHEDULE**

The undergraduate students in Obstetrics & Gynae must undergo the following rotation training during their MBBS course.

4<sup>th</sup> semester :

Three weeks

6<sup>th</sup> semester :

Three weeks

8<sup>th</sup> semester :

Three weeks

Internship :

One month

During these periods they will be posted in Obstetrics & Gynaecology OPD's Wards and OT's, Labour Room, and Family Planning OPD and OT. They will be distributed in the 3 Units of the department.

Evening tutorials during posting by senior postgraduates and senior residents.

### **4<sup>th</sup> semester**

during this posting the students are expected to acquire competence in history taking and examination of the obstetrics and gynaecology patient.

They will be allocated beds in the wards and completed to work up these cases for case discussions with faculty. They will also attend OPD and take history of OPD cases and examine them under the supervision of consultants / senior residents. They will be posted in Minor OT to observe OPD surgical procedures like D & C, MTP, Cu-T insertion & removal, endometrial aspirations. At the end of the posting, they have to submit the records of history taking and procedures observed.

### **6<sup>th</sup> & 8<sup>th</sup> semester**

the students are expected to gain increasing competence in making a diagnosis and planning the management of the patient. They will follow their allotted units. In addition there will be joint case discussion with the faculty by rotation.

### **In OPD**

They will take history and examination of + pelvic organs cases under the supervision of the competent / senior resident. They will learn to draw up a list of investigations and counsel the patient and also follow them up.

### **Minor OT**

They will assist in the performance of minor surgical procedures.

### **Wards**

They will be allocated beds and will be responsible for working up and following their patients.

### **Labour Room**

They will remain in the Labour Room in the evening and nights when their respective unit is on call. They will assist a minimum of 10 normal deliveries and witness 5 operative deliveries during each posting.

### **Main OT**

They will witness / assist major surgical procedures like abdominal and vaginal

hysterectomy, laparoscopic surgery.

### **Family Planning**

Students will learn medical and surgical methods of contraception and sterilization procedure. They will learn to perform IUCD insertion and removal and minilap tubal ligation and vasectomy. They will assist 1<sup>st</sup> and 2<sup>nd</sup> trimester MTP procedure and urinary laparoscopic tubal sterilization.

### **Practical skills to be imparted during ward**

#### **posting Obstetrics**

- a. History taking and examination of a pregnancy woman
- b. Watching progress of labour and conduct of a normal labour
- c. Management of third stage of labour, prevention and treatment of post partum haemorrhage
- d. Witness caesarean section, breech delivery, forceps and vacuum delivery
- e. Essential care of a newborn
- f. Non stress testing of fetus; biophysical scoring of fetus

#### **Gynaecology**

- a. How to take history and examination of female pelvic organs
- b. Making of pap smear, wet smear preparation on vaginal discharge
- c. Minor gynaecologic procedures : cervical biopsy, endometrial biopsy, dilatation & curettage; fractional curettage
- d. Medical termination of pregnancy (MTP) : in first & second trimesters
- e. Insertion and removal of intrauterine contraceptive device

#### **Operative Skills**

- a. Conduct of normal delivery
- b. Making and repair of episiotomy
- c. Insertion and removal of intrauterine device
- d. Making of pap smear
- e. Performing minilap tubectomy (under supervision)

### **Medico-Legal Responsibilities of Interns**

As mentioned in the beginning of this document, Resident and Interns are advised to carefully read and

learn the medico-legal responsibilities as related to their day-to-day work in the AIIMS hospital from the AIIMS hospital "Residents' Manual". The department of Obstetrics & Gynaecology Residents have to attend to a lot of "rape cases" in Casualty. They must be very sure of the formalities and steps involved in making the correct death certificates, mortuary slips, medico-legal entries, requisition for autopsy etc. Similarly, they must be fully aware of the ethical angle of their responsibilities and should carefully learn how to take legally valid consent for the different hospital procedure / therapeutics etc.

All students and interns are expected to attend the CCR and CGR.

### **Clinical Combined Round (CCR)**

Every Tuesday at 2.30 p.m. CCR is held in LT I to discuss interesting case / procedure / surgery seen by a department. Two departments (one surgical and one medical), present, for 30 min each an interesting case / procedure with brief review of literature.



## **Clinical Grand Round (CGR)**

This is a centralized teaching activity held at 4.00 p.m. on Tuesday in LT I where the research activity carried out by a department is presented. The total duration is one hour.

## **Patient care in Wards**

1. Obstetric
2. Gynaecology
3. Emergency coverage of all patients with Obst/Gynae problems attending AIIMS casualty on days the unit is on call. The same unit also provides emergency consultation for the AIIMS hospital and attached centers who may require O & G Consultation during after office hours.

## **Patient Care in Labour Room**

Labour emergency coverage is done by each unit concerned from 8 a.m. – 5 p.m. after which the emergency unit “on call” provides intensive care duty. Labour Room duty on Sunday is on rotation.

## **Operation Theatres**

Each unit routinely has two days Main OT, 2 days Maternity OT and Interventional ultrasound OT, besides emergency OT patient care.

## **TEXT BOOKS RECOMMENDED**

- Text book of Obstetrics for Undergraduates - V.L. Bhargava;
- Manual of Practical Obstetrics – Holland & Brews
- Shaw’s Text Book of Gynaecology
- Text Book of Gynaecology – V.L. Bhargava

# FUNDAMENTALS OF AYURVEDA

## THEORY

1.

- **Brief history and introduction of Ayurveda.**
- **Astangas of Ayurveda: -**
  - ❖ The concept of panch Mahabhootas :- Prithvi – Aap – Vayu – Tejas – Akash.
  - ❖ Manovigyan.
- **Shareera Vigyan :-**
  - ❖ Sapta Dhatus: - Rasa – Rakta – Mansa – Meda – Asthi – Majja – Sukra.
  - ❖ Tridosha Vigyan: - Vata – Pitta – kapha.
  - ❖ Mala Vigyan: - Mala – Mootra – Sweda.
  - ❖ Ojas (Vital Force), Vyadhi Kshamatwa.
  - ❖ Different kinds of Agnis: - Jatharaagni – Bhootaagni – Dhatwaagnis.
  - ❖ Concept of Atma.
  - ❖ Marma Vigyan: - Strotas – Kostas.

- **Prakriti Vigyan.**

2.

- **Swastha Vritta, Dinacharya, Ratricharya, Ritucharya, Vegadharanam and Sadvata.**
- **Importance of Ahara, Nidra, Brahmacharya.**
- **Bhaishajya Kalpana, Panch vidha kahsya kalpana.**
- **Roga Vigyanan -**
  - ❖ Vyadhi and classification.
  - ❖ Nidana pachaka – Nidana – Poorva Roopam – Upasayam and Samprapti
  - ❖ Asta Vidh Pareeksha.
  - ❖ Concept of Dosh Kriyakal – Sanchaya – Prakopa – Prasara – Sthaana – Samasraya – Vyakti and Bheda.

3.

- **Concept of Arogya and Roga.**
- **Chikitsa Siddanta: -**
  - ❖ Chikitsa Purusha and Chikitsa Paadas.
  - ❖ Samanya Chikitsa Siddanthas.
- **Dvidividhopa Karma.**
  - ❖ Santarapana and Apatarpana.
- **Shodhana Karma (Panch Karma), Poorva, pradhana, Paschyaat Sansarjana Karma.**
- **Importance of pathya Apathya Vichara in Ayurveda.**
- **Concept of Ras, Guna, Veerya, Vapika and Prabhawa in Ayurveda.**

## HERBLOLOGY

4.

- **The following herbs are to be studied with respect to their source and therapeutic uses.**

### S. No. Botanical Name

1. Emblica Officinalis
2. Ficus Glomerata
3. Cinnamomum Camphora
4. Tribulus Terrestris
5. Cuminum Cyminum
6. Ocimum Sanctum
7. Coriandrum Sativum
8. Allium Cepa
9. Psoralea Corylofolia
10. Aegle Marmelos

### S. No. Botanical Name

11. Cassia Fistula
12. Vetiveria Zizanioides
13. Moringa Charantia
14. Myristica Charantia
15. Sesamum Indicum
16. Punica Granatum
17. Azadirachta Indica
18. Piper Longum
19. Taxus Baccata
20. Semecarpus Anacardium

5.

- **The following herbs are to be studied with respect to their therapeutic uses.**

1. Phyllanthus Niruri
2. Trigonella Foeniculum – Graecum
3. Allium Sativum
4. Acorus Calamus
5. Rauwolfia Serpentina
6. Terminalia Chebula
7. Syzygium aromaticum
8. Ginger Officinalis
9. Piper Nigrum
10. Santalum Album
11. Mimosa Pudica
12. Asparagus Racemosus
13. Curcuma Longa
14. Ferula Nardus
15. Terminalia Belerica

#### **PRACTICALS**

- **Collection of minimum 25 herbs with record**
- **Visit to the Panch-Karma Ward in the Hospital**

#### **BOOKS**

1. **N.K. Udupa – Fundamentals of Ayurveda.**
2. **R.H. Singh – Swatha Vritta Vigyana**
3. **Charaka Samhita**
4. **Dr. Rakesh Verma & Hari Bhardwaj – Ayurveda Prakash.**

# **PHYSICAL EXERCISE & FITNESS**

## **THEORY**

1. Exercise and its uses.
2. What is prohibited for exercise
3. Curing diseases with exercise
4. Different kind of exercises:
  - a. Exercise of neck and chest
  - b. Exercise of chest & arms
  - c. Exercise of heart, stomach and liver
  - d. Exercise of the back
  - e. Exercise of the hip region
  - f. Exercise of the women
  - g. Walking
  - h. Swimming
  - i. Push-ups
  - j. Mugdar
  - k. Wrestling
  - l. Horse riding
  - m. Running
  - n. Games
  - o. Gardening
  - p. Dancing
  - q. Singing
5. Introduction to Physical fitness
6. Definition of Physical fitness
7. Components of Physical fitness
8. Benefits of Physical fitness
9. Development of Physical fitness
  - a. Endurance
  - b. Strength
  - c. Speed
  - d. Flexibility
10. Agility
11. Measuring your Heart rate
12. Weight control
13. Factors influencing Physical fitness
14. Clothing
15. When to Exercise & which Exercise should be done

## **PRACTICAL:-**

- Visit to the Physical exercise department of hospital.
- 100 Demonstration classes of Physical Techniques

## **REFERENCE BOOK:-**

1. Science of Nature life by Dr. Rakesh
2. Physical Education by Dr. Ajmer Singh
3. Prakartik Chikitsa by Dr. Om Parkash Saxena