DIPLOMA IN PUBLIC HEALTH SERVICES (DPHS)

Revised Course Syllabus, Contents, Micro Lesson Plans with Learning Objectives for Theory & Practical

Conducted by

ALL INDIA INSTITUTE OF LOCAL SELF GOVERNMENT

Affiliated to and Recognized by
Saurashtra University
(UGC Recognized and NAAC Accredited University

Programme Title - Diploma in Public Health Services (DPHS)

Proposed by - AIILSG

Introduction to the course – United Nations in its global plan for development has advocated the Millennium Development Goals (MDG's) for its member countries. The goals are universalization of Education, Reduction in Maternal Mortality, Reduction in Child Mortality, Control of Malaria, HIV/AIDS & other diseases, Environmental Health and its sustainability, Empowerment of woman, Poverty and hunger elimination, Global partnership for development. It may be noted that four out of the eight goals (MDG's) and eight out of sixteen targets are exclusively related to public health. The WHO has estimated that there is a global deficiency of 4 million public health professional in all categories together. However, the demand for mid-level and auxiliary professional is the highest to the extent of 60% of the total demand. All over the world today, public health has been prioritized as an indispensable component for ensuring quality of life and improved standards of living.

In India, the Planning Commission has emphasized on "Education" and "Health" as primary focus areas of development. The health budget has shown upward escalation for the first time since independence. The Government of India has launched the "National Rural Health Mission" reflecting its commitment to formulate development policies with "health" as central component. In addition, Public Health Foundation Initiative has triggered the need for creating human resources in public especially in the private sector. This scenario indicates the need for auxiliary public health professional as mid-level managers will be very acute. Therefore, a need-based training course is necessary to create a cadre of public health profession based competency skills to the students aiming at carrier in public healthy. The course syllabus has been designed in view of the anticipated trends in public health sector, nationally and internationally. The training course will serve as a "career enhancement" for those already in service, but for others it will be launched for an excellent career profile in government, non-government and corporate sector.

The course is an outcome of several brainstorms, sessions with experts, specialists, consultants in public health and related fields. It is envisaged that appropriate career position will be generated in the country, in the health sector, to utilize the expertise gained by the students through this course.

Programme Development Strategy – Course is developed and designed to cover the emerging needs and challenges in the public health system in the country.

The course is developed based on Sanitary Inspectors" Diploma Course being conducted by AIILSG for last 55 years.

Why Programme is needed?

1. To meet the demand for trained human resource in Public Health, in view of emerging global public health challenges.
2. To create a cadre of public health professionals with managerial skills required to improve National Rural Health Mission.
3. To upgrade professional technical sills of Sanitary Inspectors in the State in view of recent advances in Public Health policies and programmes.

Existing Programme – In India, only Post Graduate programmes are carried out for Medical Graduates in Allopathic – No such programme exists at the lower level.

Duration - 2 year course

Entry level qualification to 1st year

- +2 pass or equivalent (12th Std.)

OR

- Graduate from any streams (except Fine Arts, Music, Classical Dance)

OR

- Diploma in Nursing / Engineering

Direct Admission in 2nd year

- 12th Std. / Graduates (Any stream) with Sanitary Inspectors' Diploma Course from AIILSG

OR

- Multi Purpose Health Workers Programme and Female Health Worker Course from any respective State Government

OR

- Medical, Dental, Physiotherapy, Ayurvedic and Homeopathic graduates.

General Aims of the Programme:

- To create a cadre of skilled professionals in Public Health and Sanitation, having expertise to meet global and national challenges in public health including disaster management.
- Promote contribution of this cadre in the National Rural Health Mission and Achievement of Millennium Development Goals.
- To promote Supervisory Cadre in Public and Private Sectors with reference to wellness and allied industry.

Objectives of the course

- To create a cadre of professionals, who would contribute their expertise in implementation of public health policies and programme.
- To impact need based knowledge and skilled to develop practical insights in application of public health principles at community level.
- To inculcate the skills of "Evidence Based Public Health Practice" amongst the students based on present and futuristic public health trends at a National and Global level.

Learner's objectives:

The students of DPHS course will be able to:

- Identify essential components of a topic and be able to correlate practical examples at field level.
- Understand the inter linkage of the various components of the syllabus and its applications at professional level.
- Develop a holistic vision regarding hi/her professional role and develop practical insights in adopting public health skills in the existing health system.
- Inculcate research skills with reference to cognitive, affective and psychomotor skills in public health.
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The objects – To improve quality education so as to develop technical public health expertise which will contribute to enhance the quality of life and promote community development in the country.

Contents of the course – 1st year & 2nd year – The syllabus has been divided into semester-wise focusing on the core skills components in public health. The major domains are:

1st year - 1st Semester

Paper no.	Subject
I	Anatomy & Physiology, Microbiology.
II	Public Health, Pharmachoogy and Nutrition

1st year - 2nd Semester

Paper no.	Subject
IIII	Public Health Administration, Sociology, Behavioural Sciences, Personality Development, Mental Health..
IV	Co-ordination & Implementation Communication in Health, Health Education, Minor Ailments, Entomology & Parasitology, Personal Hygiene,
V	Primary Health Care, National Rural Health Mission, Occupational Health Local Self-Government Institutions, Disaster Management, Job Responsibilities, School Health, International Health, World Health Organization, UNICEF

2nd year - 3rd Semester

Paper no.	Subject
VI	Epidemiology, I.D.S.P, Epidemics Investigations, Statistics, Bio-medical Waste, Health Economics, Community Health Assessment..
VII	Water, Solid Waste Management & Biomedical Waste, Public Health Engineering, Air, Light, Noise, Radiation, Vent, Housing, Meteorological Environment, Disinfection.

2nd year - 4th Semester

Paper no.	Subject
VIII	Entomology, Parasitology, Communicable and Non-communicable Diseases, Health Problems, .
XI	Project planning, Recent Advances, Demonstration & Family Welfare, M.C.H, R.C.H, Record Maintenance & Reports.
X	Introduction to Management, Trade Premises, Health Legislations, FSSA, RBD, Food Sanitation.

Medium of Instruction - English

Working Guidelines:

Working guidelines regarding conduct of training programme both for theory and practical, field visit programme, conduct of annual examination, internal assessment test, etc shall be issued to the students on admission to the course. Teaching faculties shall also allow the working guidelines.

Evaluation Pattern:

Practical : Each of the above papers should have practical examination separately.

1st year - 1st Semester

Topics	Teaching Hours			Mode of Examination			
	Theory hours	Practical	Total hours	Marks			
				theory	Practical / viva	I A	Total marks
Paper I – Anatomy, Physiology, Microbiology	120	40	160				
PAPER II - Public Health, Pharmacology, Nutrition	110	20	130				
Total	230	60	290				

1st year - 2nd Semester

PAPER III - Public Health Administration, Sociology, Behavioural Sciences, Personality Development, Mental Health	120	30	150				
PAPER IV – Coordination & Implementation Communication in Health, Health Education, Minor Ailments, Entomology & Parasitology, Personal Hygiene, Home Nursing & Elementary Medical Care, Important Techniques, First Aid.	130	80	210				
PAPER V – Primary Healthcare, N.R.H.M, Occupational Health, L.S.G Institutions, Disaster Management, Job Responsibilities, School Health, International Health, WHO, UNICEF	120	65	85				
TOTAL	**370**	**175**	**545**				

2nd year - 3rd Semester

Topics	Teaching Hours			Mode of Examination			
	Theory hours	Practical hours	Total hours	Marks			
				theory	Practical / viva	I A	Total marks
Paper VI - Epidemiology, I.D.S.P, Epidemics Investigations, Statistics, Biomedical Waste, Health Economics, Community Health Assessment	130	70	200				
PAPER VII - Water, S.W.M. & Bio-Medical Waste, Public Health Engineering, Air, Light, Noise, Radiation, Vent, Housing, Meteorological Environment, Disinfection, Sanitation at fairs, festivals, Role of Sanitary Inspector in Rural areas.	125	80	205				
Total	**255**	**150**	**405**				

2nd year - 4th Semester

PAPER VIII – Entomology, Parasitology, Communicable And Non-Communicable Diseases, Health Problems	120	30	170				
PAPER XI – Project Planning, Recent Advances, Demo & F.W, M.C.H., R.C.H, Record Maintenance & Reports	130	60	200				
PAPER X – Introduction To Management, Treade Premises, Health Legislation, Fssa, Rbd, Food Saniation	120	100	220				
TOTAL	**370**	**190**	**590**				

1st year - 1st & 2nd Semester = Total Theory hours 600 + Practical - 235 hours = 835 hours

2nd year - 3rd & 4th Semester = Total Theory hours 625 + Practical - 340 hours = 965 hours

Practical : Each of the above papers should have practical examination separately.

The split up of Practical:

Oral Examination	-	30 Marks
Practicals & Records	-	20 Marks
Total	-	50 Marks

Approach to teaching-learning objectives – Based on learning objectives. Classroom/Field/Laboratory/Group Work/Assignments.

Instructional Strategy –

1- Lectures
2- Lab Practical
3- Seminars
4- Field Visit
5- Project Assignments
6- Computer Aided Learning
7- Workshops
8- Teaching Manuals and Notes

Special Feature – AIILSG Diploma in Sanitary Inspector Programme exists for 55 years. Approved by Govt. of India, various States Government.

Proposed Time Schedule –

Development Period - Already developed. Ready to launch

Date announcement (month/year) – June 2013

Date of enrollment - June / July 2013

Syllabus – The syllabus has been designed as a modular course, consisting of different modules. Each module introduces a new concepts and application and creates an enabling environment to understand the concepts of next modules. The module contents have been framed with primary focus on recent advances, new technologies and modern applications provoking students for introspection, to develop analytical thinking and rational output with a professional out look. The syllabus contents cover essential fundamental aspects and emphasize on theoretical as well as applied aspects. Moreover, the spectrum of syllabus is far more than syllabus covered in all existing similar courses implemented by the Government, viz; MPW training course / Diploma in Health Inspector Course of State Directorate of Health Services and the Govt. of India. The course has the potential to create a cadre of Public Health Workers / Health Worker / Health Supervisor in Government Health organization, Private and Non-Governmental Health organizations. In private sector, the candidate will be competent to manage the demands for health supervision quality monitoring, market surveys, advocacy especially in multinational companies related to health care products. The elaborated syllabus contents and duration of Theory and Practical are as attached.

Qualification of the Teachers: Post Graduate in the respective subjects or Medical graduates preferably teaching / administrative experience, Public Health professionals / Expert Managers / Administrators of different levels of Health Care of Delivery System will be associated as teaching faculties.

Conduct of Examination : Examination will be conducted at the end of the each Semester. To get a minimum pass, the candidate must secure a minimum of 50% marks in all theory and practicals.

ATKT: Students will be permitted to keep the terms up to IIIrd Semester continuously provided further such students shall not be permitted to keep the term for the IVth Semester without clearing and passing in all the subject & practicals covered in 1^{st,} IInd & IIIrd Semester

Pass class - 50% marks
Second Class - 51 to 59% marks
First Class - 60 to 69% marks
Distinction - 70% & above marks

If the candidate wants to reassess or recheck the marks it will be done as per the rules of the University.

1st Year Syllabus

PAPER I – ANATOMY & PHYSIOLOGY, MICROBIOLOGY

No.	Content	Teaching hours		Marks			
		Theory	Practical	Theory	Practical	Internal Assessment	Total
A.	Anatomy & Physiology	80	10 10	100			
B.	Microbiology	30	10				
C.	Laboratory technique	5	10				
	Total	**120**	**40**				

THEORY

A] Anatomy & Physiology

Introduction – Definition - Scope of Anatomy and Physiology with reference to the Health Inspector – Application of Anatomy and Physiology for the Health Inspectors – Living Cells – Difference between Plant & Animal cells.

- **Understanding the Body and How it Functions** – The cells – Animal Tissues – Classification – Epithelial Tissues, Muscular Tissues, Nervous Tissues, Connective Tissues, Blood Tissues.
- **Organs and Systems** –
- **Structure and Functions of the System of Body** –
- **Skeletal Skeleton** – Overview of the Skeletal system – Bones – Functions of the Bone – Axial Skelton – Structure and functions of joints – Types of joints – Common disorders of the skeletal system.
- **Muscular system** – Muscle function – Structure, Type of muscle, Voluntary and involuntary muscle, Type of muscle Tissue, Difference between Voluntary and involuntary muscles, Common Disorders of Muscular system
- **Circulatory system** - Introduction
- **Hematology** – Blood, Blood Group, Kinds of blood vessels, Blood group and Rh types.
- **The Heart** – Position, Endocardium, Myocardium, Pericardium – Functions of Heart – Flow of blood through the body, Right atrium, Left atrium, Right Ventricle, Left ventricle, Mitral valve, Blood clotting, clotting mechanism, semilunar Aortic, Diagram **[Flow chart]**of clotting of blood, Blood Pressure.

- **Common Disorders of the Circulatory system** – Aneurysm and Arteriosclerosis, Varicose veins, Myocardial infarction, Heart murmur, Endocarditic, Myocarditis, Pericarditis, Congenital Hypertension, Terminology.

- **Respiratory System** - Introduction – Parts of Respiration, Structure of the Respiratory system, Nasal cavity, Oral cavity, Pharynx, Epiglottis, Larynx, Trachea, Bronchi, Bronchioles, Alveoli, Flow of oxygen through the body, Common Disorders of the Respiratory system, Tuberculosis, Asthma.
- **Digestive System** – Introduction – Digestive Organs, the mouth, the salivary glands, The pharynx, The epiglottis, The esophagus, The stomach, The small intestine, The large intestine, The rectum, Common disorders of digestive system, Gastritis, Enteritis, Gastroenteritis, Diarrhoea, Constipation, Gastric ulcer, The accessory structures. The liver – Function – Gall Bladder Pancreas, Common disorders of accessory structure, hepatitis, Cirrhosis, Cholelithiasis, Pancreatitis.
- **Excretory System** – Introduction – Function – Excretion of urine, Excreted substances, Urine, Formation of Urine, Characteristic o Normal Urine, Structure of the Urinary system – Longitudinal section of kedney.
- **Functional units of Kidney** – Steps in urine formation, constituents of urine, Common disorders of the Urinary system, Nephritis, Uremia, Hydronephrosis, Renal, Cystitis, Urethritis, Kidney failure, Hemodialysis, Peritoneal dialysis.
- **Glandular system** – Introduction – categories, Exorine, Endocrine, Pituitary, Thyroid, Parathyroid, Pancreas, Ovaries, Tests, Adrenal medulla, Adrena cortex, Common disorders of the Glandular system, Hypotheyroidism, Hyperthyroidism, Addison's disease, Diabetes Mellitus, Hypoglycemia.
- **Nervous system** - Introduction - The central nervous system - The peripheral nervous system - Autonomic nervous system - Neuron and its parts.
- **Common disorders of nervous system- Neuritis, Shingles** - Paralysis - Hemi-paralysis – Paraplegia.
- **Special senses** – Physiology of special senses.
- **Eye** – Coats of eye – Protection of eye. Common disorders of eye – Cataract, Glaucoma, Conjunctivitis.
- **Ear –** Main parts of ear – External ear, Middle ear, Inner ear – Common disorders of ear – Otosclerosis, Impacted wax.
- **Tongue** – Organs of taste. Sense of taste.
- **Nose** – Sense of smell. Olfactory nerve.
- **General senses** – Pressure sense – Temperature sense, - Sense oftouch - Sense of pain
- **Reproductive system** – Introduction.
- **The male reproductive system** – Gonads testes – Penis – Epididymis – Vas deferens – Seminal vesicles – Prostate gland – Urethra.
- **The female reproductive system** – Female gonads – Ovaries – Fallopian tubes, uterus, vagina.
- Common disorders of Reproductive System – Leucorrhoea, Fibroid Tumors, venereal diseases, Orchitis, Phimosis.

B] Microbiology

- **Introduction** – Definition – Classification and characteristics – Microscope – Parts – Functions and uses
- **Nature of Microorganisms** – Nonpathogenic Organisms – Pathogenic Organisms – Route to entry to human body – Air-borne Route – Oral Route – Fecal-oral Route – **Insects and Pests** – Direct Contact Route –
- **Control of Infection** – Asepsis – Control the spread of infection – Sterilization – Isolation technique – Hand washing Techniques
- **Living agents of Public Health Importance** – Bacteria – Morphology – Motility
- **Growth requirement of bacteria** – Food – Moisture – Temperature – Reaction - Oxygen – Caron dioxide – Culture media – Simple media – Enriched media – Selective media
- **Biochemical Reactions** – a) Proteolytic – b) Production of indole c) Production of H2S d)Gelatin is liquefied
- **Antigen and antibody reactions** – Common antigen – Antibody reactions are:1) Agglutination 2) Precipitation 3) Complement fixation tests – Uses of antigen – antibody reaction
- **Pathogenicity** – Virulence
- **Characteristics to produce disease** – Tendency to invade tissues – Tendency to cause pathogenicity
- **Toxins** – Exotoxins – Endotoxins – Hypersinsitivity – Antigen and antibody complexes
- **Some pathogenic organisms** – Gram positive cocci – Staphylococci, Streptococci, Pneumococci – Gram negative cocci – Neisseria meningitidis, Neisseria gonorrhea
- **Gram negative bacilli** – Salmonella typhi, Paratyphi, Shigella, Vibrio and Eltor cholera, Pasteurella, Bordetella, Brucella
- **Gram positive bacilli** – Corynebacterium diphtheria, claustridum welchii
- **Acid fast** – Mycobacterium tuberculosis, Mycobacterium leprae
- **Spirochetes** – Treponema pallidum – Borrelia – Leptospira
- **Fungi** – Long branching filaments – budding yeast – type of infection – 1) Superficial mycoses – 2) Systemic mycoses
- **Deep mycoses** – Candida albicans – Achinomycosis – Nocarida astercoids (Madura foot) – Rhinosporidium seeberi (Nose)
- **Laboratory diagnosis**
- Rickettsiae – Types
- **Viruses** – Common virus diseases – Generalized diseases, Nervous system, Respiratory system, Skin and mucous membrane, Liver, Salivary glands, Lymph node

- **Laboratory diagnosis** – Isolation on cell culture chick embryo, Serological tests, Protective antibodies, complement fixation test, Haemagglutination inhibition tests, Radioimmune assay.
- **Protozoa** – Disease caused – Intestine – Entamoeba histolytica, Giardia, lamblia – Trichomonas vaginitis.

- **Blood Parasites** – Malaria, Leishmania, Trypanosome
- **Life cycle of malaria parasite -** Sexual cycle – Asexual cycle – Flow chart showing - Transmission of mosquito borne diseases – The person – Mosquito – Person cycle in malaria.
- **Leishmania –** Causative agent – diseases – Kalaazar – Visceral leighmaniasis – oriental sore – mucocutaneous leighmaniasis**.**
- **Bacteriology / Virology** of newly emerging diseases like SARS, Leptospirosis, Dengue, Avian Flue, etc.

C] LABORATORY TECHNICS / EXAMINATION:

- Information about the various instruments used in laboratory - Microscope, Centrifuge machine, Fridge, etc.
- Different ways of collecting blood.
- Information about the various kinds of staining, staining of fixed smears - Gram's stain - Ziehl-Neeisen stain -
- Blood examination - What is complete blood count, Platelets count, and Erythrocyte Sedimentation Rate (ESR)
- Laboratory Diagnosis of malaria and Filariasis - Preparation of staining of smear - How to diagnose parasites, Laboratory diagnosis of Kalazar - Aldehyde test
- Stool examination - Collection of stool samples - various types of mediums
- Examination of urine - What is normal urine - Detection of sugar in urine - Demonstration of Casts, Crystals in urine - Fining of Albumin in urine - Examination of urine for Jaundice.
- Examination of pus. Demonstration of different types of bacilli, (Gram Positive, Gram Negative, acid fast bacilli, Fungi, Parasites, Viruses, Spirochetes, Mycosis, Protozoa
- Serological test
- Examination of Sputum - Preparation of smear for diagnosis of TB bacilli
- Examination of Leprosy - Collection of Specimen from Ear - collection of specimen from body and face - Dispatch of swab alone - Packing of tubes containing specimen for dispatch.
- Examination of water sample - Collection for microbiological examination - Collection from a tap or hand pump - Collection of sample from a dug well - Collection of sample from water reservoir - Collection of sample for physical and chemical analysis.
- Laboratory examination of Swine flu - Collection of sample from throat
- Keeping of record and registers.

PRACTICAL:

ANATOMY - Models / Charts of Organs & Organ System - Demonstrations of Important Bones – Identification of Main Bones such as Femur, Tibia, Ulna, Radius, Ribs, Clavicle Bone, Vertebrae, Ribs – Student should submit a bonafide record which show the details of important exercise including identificatioin of bones / identification models of human cell, etc. – Visit to Anatomy Museum of any Medical College for Anatomy Specimens.

PHYSIOLOGY - Taking Pulse BP – Recording Temperature - BP - Recording Temperature – Recording of Height - Weight – Measuring Mid of the Arm – Circumference waist – Calculation of BMI

MICROBIOLOGY – Handling Microscope – Culture Media – Staining Method – Preparation of Blood Smear for blood count – Haemoglobin Estimation - ESR – Sputum Examination – Urine Examination – Test For Sugar, Protein - Blood Count – Differential Blood Counting – Stool Examination – Sputum Examination.

LABORATORY TECHNICS / EXAMINATION

- Information and how to handle various instruments used in laboratory - Microscope, Centrifuge machine, Fridge, etc. Knowledge of using Modern machines for examination of blood.
- Demonstration of different ways of collecting blood.
- Demonstration and information about the various kinds of staning
- Demonstration of blood examination - How to do complete blood count, Platelets count, Erythrocyte Sedimentation Rate (ESR) - Procedure of collection of blood for ESR and demonstration of doing ESR test.
- How to preparation of blood films, thick film, thin film - for Diagnosis of malaria.
- Demonstration of Stool examination - Collection of stool samples - various types of mediums used.
- Demonstration of Laboratory diagnosis of Kalazar - Aldehyde test, Demonstration of Laboratory diagnosis of Filariasis - Preparation of staining of smear - How to diagnose parasites

- Demonstration of and how to examine urine - Detection of sugar in urine - Demonstration of Casts, Crystals in urine - Finding of Albumin in urine - Examination of urine for Jaundice
- How to examine pus, Demonstration of different types of bacilli (Gram Positive, Gram Negative, acid fast bacilli, Fungi, Parasites, Viruses, Spirochetes, Mycosis, Protozoa
- Demonstration of Serological tests.
- Examination of Sputum - Preparation of smear.

- Demonstration of Staining of fixed smears - Gram's stain - Ziehl-Neeisen stain
- Demonstration for Examination of Leprosy - Collection of Specimen from Ear - Collection of specimen from body and face - Dispatch of swab alone - Packing of tubes containing specimen for dispatch.
- Demonstration of Examination of water sample - Collection for microbiological examination - Collection from a tap or hand pump - Collection of samples from a dug well - Collection of sample from water reservoir - Collection of sample for physical and chemical analysis.
- Demonstration of Laboratory examination of Swine flu - How to collect sample from throat.
- Keeping of record.

PAPER II – PUBLIC HEALTH, PHARMACOOGY, NUTRITION

No.	Content	Teaching hours		Marks			
		Theory	Practical	Theory	Practical	Internal Assessment	Total
A	Public Health	60		100			
B	Pharmacology	20	10				
C	Nutrition	30	1**0**				
	Total	**110**	**20**				

THEORY

A] PUBLIC HEALTH –

- Introduction – Changing concepts – Biological concepts – Behavioral concepts – Socio-economic concepts – Holistic concepts – Definition of health – WHO definition – Dimensions of health – Physical, Mental, Social, Spiritual, Immoral, Occupational, Others – Positive health – Health relative concept – Concept of well being – Standard of living, Develop living, Quality of life – Factors of public health –Introduction of public health – Effects of Industrial revolution – Effects on community life – Community health, Workers health, Health as a rights – The Great Sanitary awakening – Public Health in India – Definition of public health – Public health in new millennium – Public health in post-independent era – Determination of health – Health services – Harmful practice – Care of ear, care of hand, care of feet.
- **Concept of health and diseases –** Introduction – Responsibility of health – Spectrum of health – Determination of health – Heredity, Environment, Life styles, Socio-economic conditions – Health services – Other factors.
- **Changing concept of health applications –** The new philosophy of health – Concept of diseases – Germ-Theory of diseases – Epidemiological triad – Multi factorial causation of disease – Factors responsible for spread of a communicable disease – Agent factors – Biological agent, Nutrient agent, Physical agents, Chemical agents, Mechanical agents – Host factors – Age, Sex, Heredity, Nutrition, Occupational, Customs & Habits, Human behavior – Environmental factors, physical environment, Biological environment, Socio environment – Spectrum of disease – Epidemiology of diseases – Some General

definition – Infection – Infestation – Host – Infectious disease – Communicable disease – Non-communicable disease – Zoonosis – Epidemic – Endemic – Sporadic – Pandemic – Incubation period – Prodromal period – Carrier – Temporary carrier- Chronic carrier – Formites – Vector – Isolation – Period of communicability – Disease Cycle- Fastigium – Deffervescence – Convalescence – Defection – General measures of control of infectious disease – Eliminating the source – Blocking the channel of transmission – By increasing the resistance of the host or by protecting the host –

1) Steps in control of Disease – Eliminating the source – Early diagnosis – Notification – Isolation – Treatment of the cases & Carriers – Active and passive surveillance – Disinfection of Contaminated sources.
2) Blocking the channels of transmission can be achieved by – Disinfection of the medium of transmission – Disinfection of urine, sputum which can as medium of disease transmission – Control of insects and rodents – Improving food hygiene – Health education
3) Protecting the host is achieved by – Immunization, Health education, Good nutrition, Chemo-Prophylaxis – Prevension of diseases – Primordial, Primary, Seconday - Tertiary prevention – Disability limitations, Rehabilitation.

- **Public Health Evolution** – Definition of Public Health – Evolution of Public Health – Industrial Evolution – Rise of Public Health – Public Health in India – Pre-Independence Era – Post – Independence Era – Some important mile stone in Public Health.
- **Approaches to Public Health** – Regulatory Approach – Service Approach – Educational Approach – Primary Health Care Approach.

B] **PHARMACOLOGY**

- **Elementary pharmacology** – Introduction – Sources of drugs – Action of drugs in the body – Factors affecting drug action – Forms of drugs – Routes for administration of drugs – Rules for administration of drugs – Major characteristics of drugs –

- **Drug dependence** – Types of drug dependence

- **Drugs and their usage** – Therapeutic effects – Side effects - Allergic effects

- Action of drugs in the body

- **Classification of drugs** – Antiseptics and disinfectants – Antibacterials – Anthelminthics – Expectorants – Cough mixtures – Laxatives and purgatives – Symptomatic drugs for diarrhea – Analgesics – Antipyretics – Tonics – Applications for the skin i.e. ointments, lotions, and liniments.

- **Forms of drugs** – Capsule, tablets or pills, ointments, liquids, lotions, liniments injectable, powders, suppositories
- **Routes of administering drugs** – By mouth – Injection – Local application – Instillation – Insertion.

- **Rules of administering drugs** – What one should know before giving any drugs – Rules to be followed while administering any drug – Procedure for dispensing oral drugs
- **Administering eye, ear and nose drops or ointments** – Procedure for administering ear drops – Procedure for administering nose drops – Procedure for applying medication to the skin
- **Administering injections**

- Things to be done at Sub-centre level.

- **Drugs for internal use in children below one year of age** – Chloroquin phosphate – Cough mixture – Kaolin pectin suspension – Magnesium hydroxide – Mist. Carminative – ORS – Oral Rehydration Salt – Paracetamol - Syrup Ferric Ammonium citrate
- **Drugs for External use** – Acriflavine ointment – Antiseptic lotion – Benzoic salicylic ointment – Benzyl Benzoate – Boric acid powder – Calamine lotion – Glycerine 5% - Gentian violet – Chloromycetine ointment – Magnesium sulphate – Menthol and eucalyptus – Mercurochrome – Methyl salicylate liniment – Sethylated spirit – Sulphacetamide ye and ear drops – Tetracycline eye ointment – Tincture benzoin co. – Tincture iodine – White Vaseline Zinc boric dusting powder.

  * Medicines -
  * How to give the, how much to give - Some general information - Dosage - Types - Effect - Common Medicines -
    1. Analgesis
    2. Anti-diarrhoeals
    3. Anti-worms
    4. Haematinic / Vitamins / Minerals
    5. Skin ointments
    6. Anti-allergic drugs
    7. Cough mixtures
    8. Anti-asthamatics
    9. Anti-hypertensives

- **Posology –**

- **Factors influencing dose** – Age – Sex – Body weight – Route of administration – Time of administration – Environmental factors – Emotional factors – Presence of disease – Accumulation – Additive effect – Synergism – Antagonism – Idiosyncrasy – Tolerance – Tachyphylaxis – Metabolic disturbances.
- – **General information regarding doses of medicines** - Common medicines [Drugs] used for treatment of common symptoms and conditions
- **Analgesics –** Paracetamol – Ibuprofen – Dicyclomine.

- **Anti – diarrhoeals** – Metronidazole – Tinidazole – Ampicillin – Cephalexin – Tetracycline
- **Anti worms** – Mebendazole – Pyreantel palmoate
- **Haematinic / vitamins / Minerals** – Iron and folic acid tablets – Calcium lactate – Multivitamin tablets – B-complex tablets
- **Skin ointments** – Becalmethasone – Flucortisone – Micanozole – Clotrimoxazole – Gama benzene hexachloride
- **Anti-allergic drugs** – Chlorpheniramine maleate – Cetrizine
- **Cough mixtures** – Bromhexine – Codeine phosphate – Noscapine
- **Anti-allergic drugs** – Chlorpheniramine maleate – Cetrizine
- **Anti-asthematics** – Salbutamol – Terbutaline – Aminophylline
- **Anti-hypertensives** – Nifedapine – Atanolol – Lisinopril.

C] **NUTRITION**

- **Nutrition** – Introduction – Definition – Nutrition and health – Nutritional disorder – Nutritive value of Food- Classification of Food – Classification by origin, Classification by chemical composition, Classification by Function – Nutrients – Macronutrients, Micronutrients –
    - Vitamins
    - Minerals
    - Other trace elements
    - **Macronutrients** – a) Carbohydrates
      b) Proteins
      c) Fats
- **Carbohydrates** – Rich food – functions of Carbohydrates

- **Proteins** – Essential amino acids – Functions – Body building, Proteins as regulatory and protective substances, Proteins as Carriers, Energy giving functions –
- Fats, sources, Contents, Functions of Fats
- **Micronutrients** –
    - **Vitamins** –
        A. **Retinol (Vitamin – A)** – Sources of vitamin A – Daily requirements – Deficiency Diseases – Treatment – Prevention and Control – Short terms action, Long term action – Vitamin A content of common foods.

        B. **Cholecalciferol (Vitamin D**) - Sources – Daily requirements – Vitamin D deficiency disorders – Prevention
        C. **Vitamin B – Complex –**
            I. **Thiamine (Vitamin B_1)** – Sources – Daily requirements – Deficiency disorder – Prevention
            II. **Riboflavin (Vitamin B_2)** – Sources – Functions – Daily requirements – Deficiency diseases
            III. **Niacin / Nicotinic Acid (Vitamin B_4)** – Sources – Daily requirements – Deficiency diseases
            IV. **Pyridoxine (Vitamin B_6)** – Sources – Daily requirements – Deficiency diseases
            V. **Cyanocobalmin (Vitamin B_{12})** - Sources – Functions - Requirements – Deficiency diseases
        D. **Folic Acid** – Sources – Daily requirements – Deficiency diseases
        E. **Ascorbic Acid (Vitamin C)** – Sources – Daily requirements – Deficiency diseases
    - **Minerals** –
        A. **Calcium** – Functions – Source – Deficiency diseases
        B. **Iodine** – Function – Source – Daily requirement – Deficiency diseases – Prevention and control – Iodization, Monitoring, Surveillance, Manpower training
        C. **Iron** – Sources – Functions – Deficiency diseases – Prevention and control – Diet, Control of infection, Specific protection, Food fortification.
        D. **Fluorine** – Source – Deficiency diseases – Intervention.
- **Protein Energy Malnutrition (PEM**) – Introduction –Forms - Under nutrition – Over nutrition – Imbalance – Specific deficiency – Marasmus - Kwashiorkar – Causative factors of PEM – Poverty, Maternal malnutrition, Infection and poor hygiene, Ignorance of the mother, Wrong child feeling practices – Preventive measures – Health promotion, Specific protection, Early diagnosis and treatment, Rehabilitation.
- Nutritional assessment – Clinical examination, Anthropometry, Laboratory assessment.

- **Milk and Milk products**
- **Balanced diet**
- **Food borne diseases** – Lathyrism, Ergotism, Aflatoxicosis, Epidemic dropsy
- **Food adulteration** – Simple methods of detection of common adulterants in food stuff – Ghee and butter, Edible oils, Tea powder, Supari and Pan masala, Sweet meat, Sherbats, Tea, Powder pulses, Saffron, Asafotida, Chilly powder curry powder, etc. Turmuric powder, Black pepper.

PRACTICAL

Pharmacology

Administration of Drugs, Injections, Intradermal, Subcutaneous, Intramuscular, Intravenous – Forms of Drugs, Lotion, Liniment, Powder, Suppository, Ointment, Demonstration of Tablets, Their manufacturing date, expiry date, number, manufacturing company name, etc. Demonstration of Chloroquin, Paracetamol, CAP Tetracycline, Eryphromycin, Ampicillin, Kanamycin, Rifampicin, Kaolin, Pectin suspension, Mist Alkaline, Mist Carinative, Cough mixture, Acriflavin Ointment, Antiseptic Lotion, Benzoic Salycylic Ointment, Benzyl Benzoate, Emulsion, Boric Acid Powder, Calamine Lotion, Gentian Violet, Menthol, Methyl Salicylate Liniment, Methylated Spirit, Tincture Iodine, White Vaseline, Eye Ointment, Tincture of Benzon.

Nutrition

Demonstration charts and models related to common food items and their nutritive value.

PAPER III

PUBLIC HEALTH ADMINISTRATION, SOCIOLOGY, BEHAVIOURAL SCIENCES, PERSONAL DEVELOPMENT, & MENTAL HEALTH

No.	Content	Teaching hours		Marks			
		Theory	Practical	Theory	Practical	Internal Assessment	Total
A	Public Health Administration	25					
B	Sociology	35					
C	Behavioural Sciences	20	10				
D	Personality Development	20	10				
E	Mental Health	10	10				
6.	**Total**	**110**	**30**				

THEORY

A] PUBLIC HEALTH ADMINISTRATION:

- **Health Administration and health systems in India –** Health Planning in India, Summary of the committee report, Three – Tier system of health care delivery, Planning Commission, Health sector planning, Five year plans, Targets in 10th Five Year Plan, Social & Development targets - Health system in India, At the Centre, Union Ministry of Health and Family Welfare – Organization, Functions – Union list - Concurrent list – Directorate General of Health Services – Organization, Functions – Central Council of India - State health administration – State Ministry of health, State Health Directorate – At the district level – The district – Sub division (Zilla Parishad), Teshils (Talukas), Community Development Blocks, Municipalities and Corporations, Villages, Panchayats, Health care organization model in India – At the village level, At the block level, At the district level – Health care delivery system in urban area.

B] SOCIOLOGY CONCEPTS & USAGE:

1 – The community - Definition , scope, meaning of community society, community development, association, definition of family types, functions advantages, disadvantages of different types of families, joint family, nuclear family , modern family, family welfare services, factors affecting mode of living, family health in relation with income illiteracy and cultural patterns of the society.

a- Rural community – Characteristic change in village, rural problems, community organization-structure and functions.

2 - Social factors influencing health and disease, impact of traditions, customs, folkways, morals, laws on health practices, social stratifications,

a- Social groups – Primary and secondary, activities of group, organization of group, urban and rural administrative patterns – panchayats, and corporations, crowd, public audience.

b- Social process - Co-operation, competition, conflict, assimiliation adjustment, community health services social process, change and development in the community.

c- Social institutions – Marriage , family marriage pattern.

d- Social behavior and interpersonal relations, acceptance of individual, individual differences, appreciation, recognition, approval in social relations behavior adoptions.

3 – Implications of caste system, regionalism, migration, civil wars / unrest, stigma, discrimination in disease,

4 – Social stratification , Socio economic class assessment, concept of poverty line, social security measures.

5– Community dynamics, interpersonal relations, adjustments, conflicts, social medicine, socialized medicine.

C] –BEHAVIOURAL SCIENCES:

1 – Introduction, basic concepts, psychology and behavioural sciences,

a- Psychology – Factors influencing human behavior, heredity and environment, basic needs, drives, urges, early learning, attitudes, beliefs, norms perception, religion, education, economics status, self concept, personality, mind relationships, intellectual development.

2 – Life stages and behavioural patterns, childhood, adolescence, adult, middle age, geriatric age, g ender issues in behavior,

3 – Emotions , behavior and health: Positive, negative, anger, love, fear, complexes, defense mechanisms - purpose and common defense mechanism.

4 – Learning, motivation, conformity, self understanding, compliance, attitudes. Motives incentives : Goals and aspiration.

a- Conditions of learning methods of learning. – Counselling : Types, objectives, difference between counseling and advise, characteristics of counselor and counseling process uses.

5- Social security schemes - Insurance - Individual and community bases group insurance, professional fund, antipoverty programs, regulation of health care cost -

6 - Behavioural change communication - Information education, communication, health education, social marketing, communication needs assessment, examples of health communication models.

D] PERSONALTY DEVELOPMENT :

1 –Introduction - What is personality ? Concept of personality, types, characteristics

2 – Stages of personality development, Ego, super ego, esteem, id, values, feelings, desires, beliefs, perceptions, attitudes, habits of thinking, goals, decision making, creative thinking, love and belonging needs, self awareness, empathy,

3 – Factors influencing personality development – Heredity, environment physical, social growth, past experiences , basic needs, drives, urges, love, safety, security needs, recognition needs, achievement needs, interpersonal relations, Maslows theory.

4 – Body mind relationship, life skills, early learning, discipline, hard work, stress management, coping with stress, problem solving., coping with emotions.

5 – Skills of motivation, communications, being non-judgemental , decision making, analytical thinking, creativity and problem solving skills,

a- Motives, incentives, goals and aspiration. The process of motivation , signification of motivation, in improving health practices, changing attitudes and habits, motivating individuals and groups to improve health practices.

6 – Stress events in life and its impact,

7 – Importance of positive thinking and hard work.

8– Communication , communication skills, and Interpersonal relations, elements, factors influencing, channels, barriers in communication, communication with authorities, colleagues, & communities,

a. Elements of communication and factors influencing communication - Sender, message, receiver, channels of communication,

b. Types of communication , verbal and non-verbal, formal and informal, two way and one way, face to face communication, and mass communication.

c. Evaluating effects of communication. - Simple tools and methods, informal techniques.

9 - Communication skill for health work –

a. Basic skills for communication, human relation skills, listening skills, writing skills, drawing skills,

b. Communication through talks, , talks, broadcasts, role play, street plays, folk ways, demonstration puppet shows, plays,

c. Communication with health team, oral and written reports, accuracy of records and reports, use of language that is effective, concise, communication and learning.

d. Communication with members of the community - approaches, problems.

E] MENTAL HEALTH:

1 – Basic concepts, abnormal and normal behavior, mentally healthy person

2 – Psychosis, Alcoholic psychosis, neurosis, personality disorders, diseases, anxiety, depression, mania, schizophrenia, adjuctment, conflict, frustrations, suicide and other behavioural disorders

3 – Early signs of mental illness, mental health indicators, mental retardation

4 – Mental health issues during adolescence, pregnancy , & old age,

5 – Child abuse, child labour, suicides, domestic violence, broken families,

6 – Drug abuse, drug induced psychosis, and addictions, Tobacco, alcohol etc.

7 – Role of family, community, health worker in mental health promotion,

8 – Role of counseling, especially counseling for boys and girls, eliminating stigma, discrimination in mental illness, sex education,

9 – National Mental Health programmes – Provision, scope and implementation.

10 - Social crimes, Juvenile delinquency, mental rehabilitation.

11 – Epilepsy.

12 – Role of health worker in Mental Hygiene.

- **National Immunization Schedule** – Cold chain equipment – Walk in cold room – Deep freezers – Small deep freezers – Ice Line Refrigerators - Cold boxes – Vaccine carriers – Day carriers – Ice packs – Fridges

PRACTICAL:

Public Health Administration - Visit to health post / Urban health centre / Primary Health Centres / Sub-centres / Community Hospitals, Tertiary Hospitals, Visit to National / State Government Health Institutes.

Sociology – Visit to Voluntary Health Organizations like Home for Aged, Home for Destitute, Handicapped, Orphanage – Visit to Rehabilitation Centres.

Behavioural Sciences –

Personality Development – Visit to Drug De-addiction / Rehabilitation Centre – Student should visit the Centres and prepare minimum 5 exercises and submit them to the faculty.

Mental Health – Visit to mental hospital / Departments – Visit to Institutes of Social Empowerments – Women and Child Health Development Cell, School for Mentally Regarded, Home for the Aged – Visit to Psychiatry Department, Observations of Counseling session, Understand interpretation of IQ tests – Student should visit the Centres and prepare minimum 5 exercises and submit them to the faculty.

PAPER IV

COMMUNICATION IN HEALTH, HEALTH EDUCATION, I.E.C. TECHNIQUES, MINOR AILMENTS, ENTOMOLOGY & PARASITOLOGY, PERSONAL HYGIENE, HOME NURSING & ELEMENTARY MEDICAL CARE, IMPORTANT TECHNIQUES, FIRST AID.

No.	Content	Teaching hours		Marks			
		Theory	Practical	Theory	Practical	Internal Assessment	Total
A	Communication in Health	10	5				
B	Health Education	15	10				
C	Minor Ailments	35	10				
D	Entomology & Parasitology	25	10				
E	Personal Hygiene	15	10				
F	First Aid, Home Nursing Important	30	35				

	Techniques, Medical Care						
	Total	**130**	**80**				

A] COMMUNICATION IN HEALTH -

Factors of communication

1) Prejudice
2) Frustration
3) Attitudes
4) Life experience

- **Elements of Communication -** Message - Sender - Receiver - Good listening skills, Interest, Hearing the message, Do not interrupt - Types of Communication - Verbal communication - Non-verbal communication - Barrier to communication - Labelin, Sensory, Impairment, Talking too fast, Language understanding.

- **Interpersonal communication** – Interview – Non verbal communication – Importance of counseling, - Qualities of counselor – Techniques of counseling- Do and Don'ts of counseling – 7 steps to counseling – Skills required fro counseling – Good interviewing skills.
- **Rumors and misconceptions** – Diagnosis and handling of counseling – Interpersonal communication – Information, Education & Communication – Social market – Types of turnouts and misconceptions – Using I.P.C skills effectively to convince and motivate people.
- **Communication Process** – Components of communication – Channels of communication – Interpersonal communication – Mass media, Traditional or Folk media – Types of communication – One way communication, Two-way communication, Verbal communication, Non-verbal communication, Formal and informal communication, Visual communication, Telecommunication and internet.
- **Health Communication** – Functions of health communication – Information, Education, Motivation, Persuasion, Counseling, Raising morals, Health development, Health organization

B] HEALTH EDUCATION:

1 – Concept, meaning, health education v/s health propaganda, principles of health education.

II – Concept o f I.E.C. [Information, Education, Communication] and B.C.C. [Behavioural Change Communication] and Social marketing giving examples of each .

III Steps in behavioural change, methods of imparting health education [Individual, group and masses]

IV Health education – Audio-visual aids, Technical specifications and usage of Folk methods,

V Modern techniques - Internet, mobile based Health technology, Telemedicine, e-health,

VI Contents & Planning health education, pilot testing, organizing health education programs, in the community [Urban and Rural]

C] MINOR AILMENTS / ILLNESS:

- **Fever** – How do people get fever – How an people protect themselves against germs – What should you do when a patent has fever? A patient had fever less than 24 hour and he has no other complaint. The patient has had fever for more than 3 days . The patient has fever and another complaint. .
- **Cough** – Care of a child or an older person who is coughing – A Mild infection – A moderate infection – A severe infection – Prevention of diseases that cause cough – Immunization – Proper feeding – Keeping the air clean – Send to the health center all patients who have a long lasting cough – informing parents and the community about coughing diseases.
- **Diarrhea** – How people get diarrhea – How to recognize that a person with diarrhea is dehydrated – Preventing dehydration – Dehydration in small children – Preparation of rehydration fluid – Method of preparation of rehydration fluid – Dehydration in adult – Treatment of dehydration- Oral rehydration - Solutions - Methods of preparation - If you have no ORS packets, how to prepare a rehydration fluid - Signs to look for diarrhea - Patient with diarrhea without other signs - How to prevent diarrhea through water – Through food - Method of prevention - Through contaminated hands - Method of prevention.
- **Headaches** – How to find out whether the headache in serious / not serious - Headaches that can be a serious diseases - What to do when you come across patient with headaches - Situation such as - A woman has headache and has 5

months pregnant. A patient has headache and has started behaving strangely. A patient with headache has swollen legs or feet – Headache for the first time . Headache related to high blood pressure.

- **Belly pains (Abdominal pains)** – Causes - What to do for normal / severe pain - A patient has pain which usually comes about 2 hours after a meal – The patient has pains in the lower belly which get worse when he urinates - Belly pains in women..
- **Pain in Joints, Back and Neck** – Main causes of pains in joint, - Pains caused by an injury - Examining the painful joints – Gently place your hand on the joint - patient is an adult - The patient is a young person or child. The patient is an adult - The patient is an old man or woman - Advice for persons with pains in the joints. - When the hip and knees are painful - Joint pains in the arms and hands - Pains in to back – Advice for persons with sudden pain in the back - General advice for persons with back pain - Pains in the neck and shoulders - Advice for persons with paints in the neck and shoulders.
- **Burns** – Causes of burn – Degrees of burns – Extent of burns – What to do if a large area of skin is burnt - When a patient comes to see you less than 24 hours after the burn - A patient with burns comes to you more than 24 hours - Chemical burns of the skin - How to prevent burns?

- **Wounds** - Examining the wound - A patient with losing a lot of blood through the wound without fracture - To stop the bleeding with broken bone - Deep wound with the patient is in a state of shock - How to treat a wound - Small wound- Large wound - Infected wound - Care of the wound - Dressing of the wound of the head.
- **Bleeding and Shock** - What to do when bleeding froma wound with cut in the skin or an open fracture, Vomiting of dark brown blood, Coughing blood, Bleeding through the vagina, Bleeding through the anus, Bleeding from the nose, Bleeding from an ea - How to tel when there is bleeding inside the body and what to do?
- **Fracture** – What to do in case of a fracture? – Facture without wound – A broken thigh or leg bone - A broken arm or Forearm – Fracture in ribs – Back – Pelvis – Head – What to do a wound with fracture - How to carry a patient with wound - Further care of the patients.
- **Bites** – Dog bite – General measures - Someone know the dog - Snake bite.
- **Poisoning** – Poisonous substances in villages / in cities – Signs of acute poisoning – What to do in case of acute poisoning - If the patient is unconscious and has burns on the lips or in the mouth - Prevention of poisoning.
- **Skin diseases** – Causes of signs of skin diseases - Impetigo – Treatment
- **Boils and Abscesses** – Scabies – Treatment - Prevention – Ringworm - Treatment - Prevention - Leprosy - Treatment
- **Eye diseases and loss of sight** – Common eye diseases and injuries – Preventing eye diseases - Common treatment of eye diseases - Red discharging eyes in a

newborn -Treatment – A red discharging eye in a child or an adult - A red, cloudy eye - A Red, painful eye - Eye diseases that come gradually - Loss of sight in the old people – Treatment of common injuries of the eye - Test of sight.

- **Intestinal worms** – Introduction – Discuss the problem of intestinal worms with the community – Advise to people regarding reasons of getting worms – How to recognize main types of worms and how to treat disease caused by them – If mother or patient complains that - the worm is round and long like a pencil – or if the worm is flat like a ribbon and has segments – or if the worms are short and thin like a thread – Characteristics of other worms.
- Weakness and Tiredness - Patient can feeling weak and tired - Tired suddenly - Tiredness of woman - Keeping the mouth and teeth healthy - Good habits - Clean the mouth and teeth after meals - Do not give children too many sweets - Food that protect health and teeth - When a patient can not open the mouth - Mouth wash - A woman has lump in her breast.
- **Mental Health and Mental Disorder** - Patients with mental disorders - Patients who behave in a strange way - Patients with vague complaints - What can you do with the patient is not violent - The problem in new.

- **Venereal diseases** – Introduction – signs , symptoms and treatment - if a man has discharge from the penis – and if a woman has a discharge from the vagina – if a man or w oman has a small sore on genitals – if a man or woman has lumps in the groin – How to prevent venereal diseases ? –
- **Epilepsy [Fits] –** Introduction – What is to be done if patient gets fits – How to prevent fits by continuous treatment – Social problems of epilepsy - Points which family of patient and community should know – Medicines of epilepsy – How to give medicines to patients having epilepsy.

D] **ENTOMOLOGY**

- **Introduction –** Definition – Medical enthomology – Class of insects – Features
- **Arthropods and Disease Agents –** Minor lesions – Allergic reactions – Secondary infection – Entomophobia – Envenomation – Scabies – Myiasis –
- **Arthropods As Vectors** – Mosquito – Ticks – Mites – Lice – Rat flea – Housefly Musca – Tsetse Fly – Sand fly – Cyclops – Genus, Disease Transmitted & Causative Agent.
- **Animal reservoirs for Insect bone diseases –** Reservoir – Vestorial Mechanisms of transmission – Introduction – Difference in Mechanical Transmission and Biological Transmission – Types of Transmission – Non-Cyclical transmission – Propagative - Transovarian transstadial transmission – Cyclodevelopmental – Cyclopropagative

- **Control of Arthropods –** General Principles – Suppression of Arhropods – Destruction of Arhtropods – manual – Trapping – Sex attracts – Chemical – Biological – Genetic – Sterile mode technique – Hybrid male – Technique – Artificial Selection..
- **Exclusion and Personal Protection Against, Arhropods –** Screening – Bednets – Protective – Repellents – Synthetic.
- **Identification and destruction of Microorganism –** Disinfection – Sterilization – Role of health workers in identification – Laboratory techniques – Disinfection
- **Insecticides –** Classification – Petrochemical oils – Monolayers – Paris Green – Pyrethroids – Hydrogen Cyanide – Methyl Bromide – Organochlorine Insecticides – Dichloro dishenyl trichloroethane (DDT) – Hexachlorocyclohexane (HEC, BHC, benzene hexachloride) – Lindane – Organophosphates – Malathion – Diazinon – Dichlorvos – Temephos – Carbamates – Bendiocarb – Carbaryl – Propoxur – Insect-Growth Regulators
- **Integrated Vector Control –**
- **Mosquito – Species** – Morphology – Thorax – Abdomen – Identification of the Genera Life cycle diseases – Diseases Transmitted – Control Measures – Exclusion and Personal Protection – Chemical Methods for the larvae – Chemical Methods Adult – Biological and Genetic control.
- **House fly -** Morphology – Lifespan and habits – Life history – Housefly and diseases – Control – Species sanitation - Food Production – Destruction of Flies.

- **Sand fly –** Morphology – Habits – Life cycle – Disease Transmitted – Control.
- **Rat flea –** Morphology – Life span and habit – Life cycle – Disease transmitted – control
- **Louse -** Introduction – Morphology – Pedicles Humans – Phthirus pubis – Life span and habits – Life cycle
- **Lice and Disease –** Epidemic Typhus – Trench fever – Relapsing fever
- **Control of Lice –** Species sanitation – Physical killing – Chemical control
- **Ticks -** Morphology – Life span and habits – Life cycle – Diseases transmitted – Q Fever – Transmission of diseases other than Q fever – Control
- **Trombicula –** Morphology – Life span and habit – Life cycle – Diseases Transmitted and control
- **Rats –** Ecology & Control – Life span and habits – Rats and diseases – Flea borne disease – Disease from water – Rats bite fevers – Mouse borne diseases – Control of rats – Species sanitation – Biological control – Poison baiting – Principle of baiting – Fumigation – Trapping Genetic control
- **Itch Mite –** Life span & habits – Life cycle – Diseases caused – Control Cyclops – Morphology – Life span & habits – Life cycle – Cyclops & diseases control

PARASITOLOGY

- **Introduction –** Successful Parasitism – Physical environment – Aspects of human behavior – Density of population

- **Nematodes –** 1. Hookworm (Ancylostoma duodenal) Lifestyle – Diseases – Treatment

  2. Round worm (Ascaris lumbricoids) – Lifestyle diseases – Treatment

  3. Strongyloids stercorails – Lifestyle – Diseases – Treatment

  4. Thread worm (Enterobius vermiculture) – Lifestyle – Diseases – Treatment

  5. Whipworm (Trichuris trichura) – Lifestyle – Diseases – Treatment
- **Tapeworms** – 1 Fish tape worm – Beef tape worms – Lifestyle – Diseases – Treatment
- **Helminthes requiring arthropod vector** - Filarial worm – Guinea worm (Dracunculus medinensis) – Hydatid disease
- **Eggs of Worms in Human Stool**
  - Round Worm (A. lumbricoids)
  - Round Worm (Median Focus)
  - Round Worm (Unfertilised)
  - Round Worm (without other envelope)
  - Hook worm (A. Duodenal)

  - Thread Worm (E. Vermicularis)
  - Whip Worm (T. Tricura)
  - Beef or Pork Tape Worm (T. Saginata or T Solium)
  - Dwarf Tape Worm (H. Mana)
- **Tape Worm Eggs in Stool of Man**
  - Fish Tape Worm (D. Latum)
  - S. Japonicum (Blood Flukes)
  - S. Haematobium (Blood Flukes)
  - S Mansoni (Blood Flukes)

General measures of control and prevention of parasitic infection - Reducing the possibility of new infection in the community - Attack on the host other than human being - Mosquito - Snails - Cyclops - Dog control - Rat control - Environmental sanitation measures - Protection of human host - Food hygiene and proper cooking.

E] PERSONAL HYGIENE

- **Introduction** – Definition – hygiene & Health. Healthy environment. Physical health

- **Care of skin** – Functions of skin – Skin types – Hygiene of skin.

- **Bath** – Types of bath. Protection of skin – Regular bath – Oil bath – Balanced diet – Mosquito net – Protective clothing – Cosmetics
- **Care of hair** – Soaps and shampoos

- **Care of teeth** – Dental caries – Periodontal diseases. The prevention and control of dental diseases – Tooth brushing – Use of fluorides – Regular dental check up – Diet – Habits – Care of dentures –
- **Care of eyes** – Conditions which may affect the eyes – The main causes of blindness – Simple measures for preventing blindness - - Prevention and control of infection – Injuries – Eye strain – Good diet – Squint – Regular check up – Hygiene of eyes – Care of eyes in newborn – Harmful practice
- **Care of ears** - Common diseases of ear – Earache – Discharge – Foreign body – Care of ear
- **Care of hands** – **Care of feet** – Ways by which foot are affected – Selection of shoes
- **Menstrual hygiene -** Introduction

- **Rest and sleep**

- **Exercise** – Advantages of exercise – Recreation – Posture – Nutrition

- **Elimination** – Organs of elimination – Constipation – How constipation is avoided.

- **Important Techniques –** Introduction – Vital signs – Temperature – Way to increase body temperature – Ways to decrease body temperature
- **Thermometers –** Glass Thermometers – Oral, Rectal, Security
- **How to read a Glass Thermometer –** Plastic Thermometer – Electronic Thermometer
- **How to Convert Fahrenheit and Centigrade Thermometer Reading**
- **Basic Rules for Taking Temperature –** Sites to Take Body Temperature – Oral Cavity – Method of Taking Oral Temperature – Basic rule for oral and Rectal temperature
- **Axillary Temperature –** Rules to take Axillaries Temperature
- **Pulse –** Pulse points – How to take pulse – Radial pulse, Apical pulse – Rhythm – Arrhythmia, Force of beat - Normal pulse rates – Heart rates – Terminology – Respiration – Abnormal Respiration – Dyspnea, Apnea, Cheyne-Strokes, Rales
- **Factors that Affect Respiration –** Counting of Respiration – Terminology – Recording of Vital Signs
- **How to give injections –** Intramuscular injection in the buttock –Subcutaneous injection
- **Bandages –** Roller bandage for upper arm, Roller bandage for Elbow – Hand bandage – Elbow bandage
- **Counting the pulse –** Increase of pulse rate
- **How to give mouth-to-mouth resuscitation** - For a new born baby for older child or adult – How to make a stretcher

F] FIRST AID

Introduction – Qualities of a first aider – Golden Rules of first aid – First aid in case of wounds accompanied by hemorrhage – Procedures for control of hemorrhage direct pressure – Procedure for hemorrhage by indirect pressure – Constructive bandage – First aid in a case of wounds of the abdominal wall – First aid in case of wounds on chest wall – First aid in case of internal hemorrhage – Bleeding from the nose – Bleeding from ear channel – Bleeding from various veins.

- **Shock** – General treatment of shock – Asphyxia – Causes of Asphyxia – Signs and symptoms of Asphyxia – General rules for treatment of Asphyxia Electrical injury – Fracture – signs and symptoms of fracture- Treatment of fracture – Fractures of skull – Fractures of lower jaw – Fractures of ribs – Fractures of collar bone – Fractures of pelvis – Signs and symptoms – Treatment – Dislocations – Signs and symptoms – Treatment.
- **Bandages** – Triangular bandages – Roller bandages – Relevant points to remember – First aid kit – Materials containing first aid outfit (A), outfit (B).
- **Burns and Scalds** – Rules for treatment of burns and scalds – Rule of “g”
- **Unconsciousness** – Rules for treatment –
- **Poisons** – Signs and symptoms – Rules for treatment of poisoning – Foreign body in ear and nose –

- **Frost bite** – Treatment – Heat exhaustion – Heat stroke – Dog bite – Snake bite.
- **Civil defense** – Problems of first aid in war.
- **First Aid Disasters** – Emergency care – Disasters and First Aid – Types of disasters – Role of health workers – Disaster management – Principles of preserving life and health in emergencies – Community responsibility for safety of water supply – Safe disposal of waste – Health projection measures including immunization – Management of emergency child birth.

Disability - Definition – Causes – Classification – Assessment – Certification – Process – Detection and prevention.

- **HOME NURSING AND ELEMENTARY MEDICAL CARE**:

Introduction - Principles of medical care and treatment - Role of health workers in curative components of primary health care - Coordination and referral system - Preparing the sick unit/room at home - Hygiene of the patient - Feeding, comfort measure, change of position, rest recreation, observation of the patient.

PRACTICALS:

- **Coordination, Implementation Communication in Health** – Preparation of IEC materials like Message, Slogans, Posters, Banners, Pamphlets, Leaflets, Flap charts, Posters, Use of various kinds of IEC materials, Mock Drills.
- **Health Education** – Preparation of IEC materials for Health Education – Mock Drills, Conduction of least one health education programme in community, Conducting focus group discussion, Demonstration of Audio-visual ads.
- **Minor Ailments:** Demonstration of various procedures for minor ailments EG Fever, Headache, Burns, Fractures, Wounds, Preparation of ORS/Home made fluids for Diarrhoea, Skin diseases, Eye diseases.
- **Personal Hygiene** – Demonstration of simple exercises, Yoga, Meditation.
- First Aid, Home Nursing – First Aid – Disability Aids, Wheel chair, Stretcher, Hearing Aids, Dressings, Types of Bandages and how to use them for different procedures, Transportation Aid to Patient, Use of Splints, Demonstration of various types of First Aid procedure, Mouth to mouth breathing, First Aid in case of Drowning, Heart Attack, Asthmatic Attack, Accidents, Charts related to rehabilitation of the challenged.
- **Important Techniques, Medical Care** – Demonstration of Thermometers and how to use them Ways of taking body temperatures, How to take pulse, How to count Respirations, Recording vital signs, How to give Intramuscular injections, Demonstrations of other types of giving injections, Demonstrations of installing eye, ear and nasal drops, How to prepare ORS and Home made fluids.

- **Entomology & Parasitology** - Parasitology - Identification of eggs worms of Nematodes - Identification of Arthopods Related with Public Health - Identification of different chemicals used for the control of Arthropods, Visit to Pest Control Departments for identifications of insecticides such as crude engine oil, Kerosene, Malaria oil, Paris Green, Poyrethrum, Hydrogen Cyanide, Cyanogas, DDT and its forms, Temephos (ABATE), Carbaryl and observing various Antilarval, Antimosquito (Like spraying, fogging operation, Mosquito control at construction site, Use of fish like guppy / Gambusia, etc. Antifly measures / procedures (e.g. In house and in markets), Showing models fo fly, Mosquitoes, Cyclops, Rat, Flea, Louse, Itch Mite, Ticks, Bed Bugs, etc.

Paper V

PRIMAY HEALTH CARE, NATIONAL RURAL HEALTH MISSION, OCCUPATIONAL HEALTH, LOCAL SELF-GOVERNMENT INSTITUTIONS, DISASTER PREPARDNESS & MANAGEMENT, YOGA, MEDITATION, JOB RESPONSIBILITIES, SCHOOL HEALTH, INTERNATIONAL HEALTH, WHO, UNICEF. rimary Health Care, National Rural Health Mission, Occupational Health, Local Self-Government Institutions, Disaster Prepardness & Management, Job Responsibilities, School Health, International Health, WHO, UNICEF.

No.	Content	Teaching hours		Marks			
		Theory	Practical	Theory	Practical	Internal	Total

						Assessment	
A	Primary Health Care	20	10				
B	National Rural Health Mission	20	10				
C	Occupational Health	20	10				
D	Local Self Government Institutions	10	5				
E	Disaster Preparedness and Management, Yoga meditation	20	10				
F	Job Responsibilities, etc.	10	**5**				
G	School Health	10	**10**				
H	International Health, WHO, UNICEF	10	**5**				
	TOTAL	**120**	**65**				

A] PRIMARY HEALTH CARE –

- Definition – Alma Ata Declaration - Concept of Primary Health Care – Dimension of health – Characteristics of Public Health – Essential components of Primary Health Care – Principles of Primary Health Care – Support activities of Public Health – Approach for implementing different components of Public Health Care – Promotion of Food supply and proper nutrition – Supply of safe water and basic sanitary measures – Child Health Care & Family Planning – Maternal Care - Infant care – Care of young children – Immunization agnate major infectious diseases – Prevention and control of Communicable diseases – National Health Programme for Communicable and Non-Communicable Diseases – Malaria Eradication Programme – National filarial Control Programme – National Tuberculosis Control Programme – National Blindness Control Programme – Appropriate treatment of common disease and injuries – Provision of essential drugs – Role of Health worker in Primary Health care – National Health Policy 2002, Health Services Infrastructures, Primary Health care as a Pivot for Health Services Delivery, Health services organizations and infrastructure, Facilities at village level, Facilities at Sub-Centre level, Facilities at Primary Health Centres level, Facilities at Community Health Centre level, Facilities at District level, Suggested norms for health personnel, Goals for health and family welfare programmes, Essential task and skills every health worker must know in the primary health care system, Epidemiological tools

and systems – Map of village, House hold survey or a census, Diaries, Lay reporting of mortality, Tally sheets, Time charts and graphs, Record of births and deaths, Pictorial chart, Health cards, Checklists for screening and for identifying the high risks, Community surveys – Duties of Health/Sanitary Inspectors, Major health problems in India.

- **National Health Policy 2002 -** Health service in infrastructure – Primary Health Care – Health Sanitary Organization and infrastructure – Facility at village level – Facility at sub-centre level – Facility at Primary – sub-central level – Community health Central level.

B] NATIONAL RURAL HEALTH MISSION (NHRM) –

- Mission – Goals – Objective – Envisaged outcomes – Expected outcomes at community level – Care strategy – Supplementary strategies – Institutional frame work – Programs – Infrastructure – District Plan – Technical support to the mission – Priorities and constraints – Broad framework for environment – Management of NRH – Activities of state, District, Sub-District levels – Human resources at rural areas – Role of non-governmental organizations – Reforms in medical and nursing organizations.
- J**anani Shishu Suraksha Yojana -** Salient features - Vandemataram Scheme - Sare abortion services - Integrated management of neonatal and childhood illness.
- **Role of Rogi Kalyan Samit**i

- **Role of Village Health & Sanitation Committee**
- **Rajiv Gandhi Arogya Jivandayi Yojana**
- **Community Based Health Insurance Scheme**
- **Employment Guarantee Scheme**
- **National Food Security Scheme**
- **Indira Gandhi Awas Yojana**
- **PPP – Public Private Partnership Scheme in RCH**
- **Millennium Development Goals** – Concepts – Definition and indicatives – Health related millennium development goals in India – Modification of indicators relating to health in India.
- **Survey Method –** Definition – Purpose – Methodology – Interview, Self-administered questionnaire, Anthropometry, Clinical survey, Laboratory and serological surveys, Errors in interview, Morbidity survey – Introduction, Steps – Expression of survey results – Introduction, Specific incidence and prevalence, Indirect estimation, Concept of elimination and control

C] **OCCUPATIONAL HEALTH**-

- Introduction – Ergonomics – Occupational environment – Occupational hazards – Physical, Poor illumination, Noise – Excess illumination, Vibration, Radiation – Ultraviolet radiation, Ionizing radiation, Mechanical injuries, Accidents – Chemical, Local Action, Inhalation, Ingestion – Biological Psychosocial, Psychological Psychosomatic – Occupational Hazards associated with agriculture – Preventive measures– Occupational diseases – Diseases due to physical gents, Diseases due to chemical agents, Diseases due to biological agents, Occupational cancers, Occupational dermatitis, Diseases of psychological origin – Sickness Absenteeism – Causes, Prevention – Health problems due to industrialization
- Prevention and control of occupational diseases –
    1. Medical measure – Pre placement examination, Periodic examination, Medical and health care services, Notification, Supervision of working environment, Maintenance and analysis of records, Health education and counseling – Pre-placement Examination – Periodic Examination – Medical & Healthcare services – Notification – Supervision of working environment - Maintenance an analysis of records – Health education and counseling – Engineering measures – Proper design of building – Good house keeping – Proper ventilation – Mechanization – Substitution – Reduction of source – Segregation of process – Limitation of time of exposure – Local exhaust ventilation – Personal protection – Environmental monitoring – Statistical monitoring – Research.

D] Local Self-Government Institutions –

- Panchayati Raj Act – Administration of Panchayats – Centralized administration in Kerala – Transfer of administrations under local self-government organizations – Role of local self-government organizations – Grass root level planning – Project preparation – Implementation – Monitoring and evaluation – Inter sectoral level organization – Role of NGOs in the health care delivery.

E] Disaster Preparedness and Management –

- Introduction – Disaster Management – Response – Preparedness – Mitigation – Relief phase – Epidemiologic surveillance and disease control – Vaccination – Nutrition – Rehabilitation – Water supply – Disaster mitigation in health sector – Policy Development – Disaster preparedness – Personal protection in different type of emergencies – (a) Floods (b) Storms (c) Hurricanes and tornadoes (d) Earthquakes (e) Clouds of Toxic fumes (f) Manmade disasters – Disaster in India
- **Yoga** - Various kinds of asanas, pranayam, benefits due to yoga etc. Meditation - Various kinds of practices, benefits due to meditation

F] **JOB RESPONSIBILITIES OF HEALTH TEAM** -

1. Medical Officer, PHC – Captain of the health team, The Planner, The Promoter, The Director, The Supervisor, Co-ordinator and the evaluator of the health team. He is responsible for all primitive, preventive, curative and rehabilitative health care of the people of the PHC area and the supervision of the activities of his team members.
2. Medical Officer II – Same as MO 1 – Health worker male for a population of 5000 of the sub-centre area (3000 in tribal and hilly area) however, health worker female limits her activities among 350 – 500 families.
3. Health worker female – 1) Registration 2) Care at home 3) Care at clinic 4) Care in the community 5) others.
4. Health worker male – 1) Record keeping – He will survey all the families in his area and collect general information about village/locally in his area 2) Prepare, maintain and utilize family records and village registers, containing, column for recording particulars concerning F P, Immunization, Vital events, Environmental sanitation, Other local health programmes, Educational activities, services rendered and achievements – Malaria, Communicable diseases, Leprosy, Tuberculosis, Environmental sanitation, Expanded programme in immunization, family planning.
5. Health Assistants (Male & Female) – Supervise the health workers of the corresponding category for their functions regarding administration, maintaining human relations etc – Common job functions of male and female, Specific job functions of female health assistants, Specific job functions of male health assistance.

G] **SCHOOL HEALTH -**

- **Scope and objectives** – Health care of school going children - Importance of school health services - Organization of school health services - Frequency, Personnel.
- Aims of school health services - Components of school health services - Environmental - Physical - Psychosocial
- Social Health Check-up - Skin, Scalp, Eyes, Nose, Throat, Mouth, Ear, Teeth, Neck, Chest, Abdomen, Genitalia, Lower extremities Upper extremities, Anthropometry, Behavioural.
- **Follow-up Services** - Curative services - Preventive services - Special service - Supervisory - Health Education - Record

H] INTERNATIONAL HEALTH -

- **Introduction -** Birth of WHO - Constitution of WHO - Organizational structure of WHO - Divisions of WHO - Membership and Regions of WHO - Functions of WHO
- **UNICEF** – Introduction - Regions - Functions - GOBIFF Campaign
- **International Red Cross** - Introduction - Objectives - Scope
- **Indian Red Cross**
- **World Bank** - Introduction - Objectives

- **Rock feller Foundation**
- **Ford Foundation**
- **Care**

PRACTICAL

Primary Health care – Visit to local Municipal Health Administration Unit – Orientation of Urban Primary Healthcare System, For Orientation of Functions / Working, etc. Students have to visit PHC/Sub-Centres after finishing of requisite subjects / topics

National Rural Health Mission – Visit to PHC for NRHM initiated project units – RCH Unit, Growth and development clinic, Orientation of IPHS standards, Visit to ICDS for interactions with ASHA, Anganwadi Workers / Supervisor and CDPO of ICDS.

Occupation Health – Visit to occupational health centres.

Local Self-Government Institutions – Visit to ESIC Centres for understanding ESI Medical benefits to the workers, Student will have to visit other Local Govt Institutions also (depending which subject is covered).

Disaster Management – Visit to Disaster Management office of State / Corporations - Mock Drills.

Job Responsibility – For job responsibilities visit to PHC, Sub-Centre, Hospital, Community Hospital, State Govt. offices, Medical officer of Health, TB / RNTCP units, Malaria Units, Leprosy Clinics, Aids clinics..

School Health - Participation in School Medical Check up. How to arrange school health check up programme - Medical examination / vaccination programme - How to fill up the report, Where to send the patients if student is suffering from any disease, Follow up of such students, Participate in School Teach and Parents meetings

International Health, WHO, UNICEF - Visit to offices of International Health Agencies.

2nd year Syllabus

PAPER I

PUBLIC HEALTH MANAGEMENT, ISSUES, CHALLENGES AND EPIDEMIOLOGY,

	TOPICS	THEORY HOURS	PRACTICAL HOURS	MARKS			
				THEORY	PRACTICAL	INTERNAL ASSESSMENT	TOTAL
A	EPIDEMIOLOGY	15	5	100			
B	INTEGRATED DISEASE	25	10				

	SURVEILLANCE PROGRAMME - IDSP						
C	**EPIDEMIC INVESTIGATIONS – HEALTH ECONOMICS**	**15**	**10**				
D	**STATISTICS, HEALTH ECONOMICS**	**20**	**10**				
E	**BIOMEDICAL WASTE**	**20**	**15**				
F	**IMMUNIZATION**	**10**	**10**				
G	**NATIONAL HEALTH PROGRAMMES**	**25**	**10**				
H	**TOTAL**	**130**	**70**				

A] BASICS OF EPIDEMIOLOGY AND ITS APPLICATION

1 – Concept, meaning, definition, approaches, Time / Place Person orientation, frequency o f disease uses of epidemiology

2 – Measurement of diseases, types of epidemiological studies, salient features of Cross- sectional, case-control, cohort, experimental studies,

3 – Meaning of odds-ration, relative / attributable risk, population attributable risk,

4 – Construction of 2 x 2 table for measurement of risks exposure,

5 – Difference between health oriented and disease oriented approach in health care with examples,

6 – Basic statistical methods [Vital and bio-statistics] – morbidity / mortality rates, indicators, measurements, case fatality rate, attack rates, prevalence, incidence, mean mode median, standard deviation, z-test, chi-square test.

- **Epidemiology of Communicable Diseases** – Introduction, Causation of disease – Germ theory of disease – Epidemiological triad – Multifactorial Causation of disease.
- **Natural history of disease** – Pre-pathogenesis phase – Pathogenesis Phase – Iceberg phenomenon of disease
- **Control of disease** – At source – Channel of transmission – Susceptible Host, Prevention of diseases – Sanitation Barrier
- **Dynamics of Disease Transmission** – Source of infection – Mode of transmission.

➢ **Direct Transmission**

1. Direct contract
2. Droplet infection
3. Contact with infected soil
4. Inoculation into skin or mucosa
5. Transplacental or vertical transmission

➢ **Indirect Transmission**

1. Vehicle – borne transmission
2. Vector – borne transmission
3. Air – borne transmission
4. Fomite – borne transmission

- **Immunity** – Definition – classification – Natural immunity – Acquired immunity – Active immunity – Passive immunity – Human gamma globulin – Antisera or antitoxins – Hypersensitivity – Immunizing Agents – Vaccines – Combing vaccines
- **Portals of exit for a Disease** – Nose and throat secretions – Faeces – Urine – Skin
- **General Measures for control of infectious diseases** –

1. **Controlling the source of infectious diseases**
   a) Identify
   b) Notification
   c) Isolation
   d) Surveillance
   e) Disinfection
2. **Blocking the channels of transmission**
3. **Protecting the susceptible population**
   a) Immunization
   b) Health Education
   c) Nutrition

B] INTEGRATED DISEASE SURVEILLANCE PROGRAMME - IDSP

1 – Count – divide – compare, concept o f data analysis, justification of IDSP,

2 – Disease records, reports and compilation of disease data

3 – IDSP - Introduction, objectives, methods, protocols, data flow, practical applications in predicting disease trends & early signs o f outbreak

4 – concept of suspected probable, confirmed cases, laboratory diagnosis and quality accreditations,

5 – Uses of disease surveillance data. - spot map, cluster mapping, surveillance actions in community with reference to malaria, dengue, & water borne disease.

C] EPIDEMIC INVESTIGATIONS

- **Investigation of an Epidemic of Unknown Aetiology -**
- **Introduction -** Definition - Kinds of epidemic - Progressive epidemic and point source epidemic - Steps in investigation - Investigation proper - Treatment, Analysis and Interpretation.

Field level skills

1 – Difference between outbreak and epidemic

2 – Case studies in epidemic investigations,

3 –Rapid surveys, spot maps, predicting status of epidemic, protocols for declaration of onset and end of an epidemic

4 – Epidemic Act – objectives, provisions and uses,

5 –Preparedness for prevention of epidemic during fairs/ festival, mass gatherings,

6 – Characteristics of water borne, food borne, air borne epidemics and their, general control measures and rumour control.

7 – New emerging diseases with potential epidemic threats eg SARS, H1N1, Avian Influenza etc

- **Research Method -** Introduction – Research Protocol – Ethical issues – Drafting a research purpose – study – Devising a survey performa
- **Health Economics –** Introduction – Economics and health – Demand and supply – Market Economy – Healthcare financing – Health Insurance in India – Public and Private partnership in Public Health.

- **Community Health Assessment –** Established report – Collection of information about the family – Recording observations – Medical and social problems – Discuss planning measure for solving the problem – Identification of Government and non-Government Agency – Data presentation.

D] **STATISTICS**

- **Health information and Basic statistics -**
  - **Elementary statistics** – Collection of data – Presentation of data – Analysis of data – Interpretation of data – Chief functions of Statistics – Collection of data
  - **Sampling** – Necessity of sampling – Types of sampling methods – Types of sampling – Random sample, systematic sample, stratified sampling, multistage sample, multi phasic, cluster sample, matched sample –
  - **Measurement of data and enumeration of data** - Types of presentation of data by tabular method, by graphical method, presentation by measures of central tendency and by measures of variability – Principles of presentation of data – Tabular presentation – Example of tabular presentation.
  - **Measurement of central tendency** – Mean,- Definition of mean, calculation properties of mean – Median – Example of median - Definition of median - Example of mean - Properties, Mode – Definition and example - Numerical summaries
  - **Variability** – Measures of variability – Range – Standard deviation – coefficient of variation

  - **Health information and its Definition** – Statistic or datum and its Definition – Biostatistics – Objectives of biostatistics and sources – Surveys - Records – Application and uses of bi8ostatistics in physiology and anatomy, in Pharmacology, in Medicine, in Community medicine and public health – Method of data collection – Qualitative and quantitative data
  - **Presentation of statistical data** – Tabulation – Methods of tabulation - Simples tables – Frequency of distribution table – Charts and diagrams – Bar charts – Types of bar charts - Simple bar chart, multiple bar chart, component bar chart – Histogram – Frequency polyg0on – Line diagram – Pie charts – Pictogram -

E] BIOMEDICAL WASTE MANAGEMENT –

Introduction - categories of medical wastes and their treatment / disposal – colour coding and type of container for disposal of bio-medical waste - handling of hospital waste – steps in management of hospital waste - disinfecting procedures – Storage of hospital waste – labeling of hospital waste – management of non-infectious hospital waste – precautions to be taken by health worker – universal safety precautions to prevent hospital infections - universal coding system – role of rag pickers in hospital waste management strategies to be adopted for rag pickers programme

F] IMMUNIZATION

- Introduction – Universal immunization programme (U I P) – National immunization schedule – Vaccine Vial Monitor (V V M) – Do's & Don'ts for use of Ice Lined Refrigerator - Hazards of Immunization – How to use disinfected syringes and needles – Autoclaving - How to make people in a community to participate in immunization programme – Community participation – Estimation of vaccine requirements – Fridge and its parts – Where to keep vaccine in a fridge – Do's and Don't's of Fridge.

G] NATIONAL HEALTH PROGRAMMES -

- Introduction – National Malaria irradiation programme – National filarial control programme – National Tuberculosis programme - National Leprosy irradiation programme – National Diarrheal Disease Control Programme - National std control programme – National programme fro the control of blindness – National Iodine deficiency disorder control programme – National reproductive child health programme - National family welfare programme – National water supply and sanitation programme – National Guinea Worm irradiation programme – National, disabilities control programme – National HIV/AIDS control programme – Minimum needs control programme – Twenty points programme – Emerging Primary Health Problems

PRACTICALS

Epidemiology - Case study problems solving exercises, drawing spot maps of cases , data compilation and analysis,

I.D.S.P. – Visit to IDSP unit – Orientation of disease surveillance mechanism and Data compilation / analysis of Disease trends – Orientation regarding prediction of impending outbreaks / epidemics and planning control measures – Practical working on spot-map and Tubular presentation of daily disease data – Visit to peripheral hospital for Rajiv Gandhi Swasthya Yojana Unit.

Epidemics Investigations – Visit to Medical Officers of Health Offices, etc. for Epidemic investigation procedures – Mock Drills.

Statistics - Basic statistics – Various kinds of rates like Birth Rate, Death Rate, IMR, MMR, CPR, Growth Rate, Specific Death Rate, Case Fatality Rate /Ratio, Perinatal Mortality Rate, Neonatal Mortality Rate, Under 5 Mortality Rate, Child Survival Rate / Index, Sex Ratio, Proportion of diseases, Incidence Rate, Attack Rate, Prevalence Rate, etc.

Health Economics, Community Health Assessment – Simulated exercises for orientation regarding surveillance actions and epidemic control activities.

Immunization – Visit to PHC / Hospital / Health posts for outdoor and indoor immunization sessions, Identification of various vaccines and following the procedures of giving vaccines, maintenance of cold chains, Identification of various kinds of cold chain instruments, stages of VVM, Preparation of various reports.

- National Immunization Schedule -
- Cold chain equipment - Walk in cold room - Deep freezers - Small deep freezers- Ice Line Refrigerator - Cold boxes - Vaccine carriers - Day carriers - Ice packs - Fridges

Epidemic Investigation - Visit to PHC, Medical Officer of Health for Learning Epidemic Investigations.

PAPER II

ENVIRONMENTAL HEALTH AND SANITATION

	TOPICS	THEORY HOURS	PRACTICAL HOURS	MARKS			
				THEORY	PRACTICAL	INTERNAL ASSESS	TOTAL

						MENT	
A	**WATER**	**30**	**10**				
B	**SOLID WASTE MANAGEMENT**	**30**	**10**				
C	**PUBLIC HEALTH ENGINEERING**	**10**	**10**				
D	**AIR / LIGHT / VENTILATION / NOISE / RADIATION**	**30**	**10**				
E	**HOUSING, SOIL**	**5**	**5**				
F	**METEOROLOGICAL ENVIRONMENT**	**5**	**5**				
G	**DISINFECTION**	**5**	**15**				
H	**SANITATION AT FAIRS & FESTIVALS**	**5**	**10**				
I	**ROLE OF SANITARY INSPECTOR IN RURAL AREAS**	**5**	**5**				
	TOTAL	**125**	**80**				

A] WATER

Importance of water, safe and potable, wholesome water, sources of water, daily requirement.

Sources of mass water supply, well water types of wells, characteristics of sanitary well, hand pump well.

Detection of sources of water pollution.

Method of chlorinating well water, domestic water.

Impurities of water – hardness, softness of water, conventional methods of water purification, chemical purification of water. Purification of water on domestic and large scale – Methods of purification of water, slow and rapid filtrations.

Physical, chemical and microbiological examination of water – break point chlorination, chlorine demand estimation.

Public water distribution systems super chlorination, de-chlorination, water standards for bottled water packages, and liquid.

B] SOLID AND LIQUID WASTE DISPOSAL AND CONTROL

Sewage, sullage, refuse , garbage and solid waste with examples.

Excreta disposal – Concept of sanitation barrier, - Methods of excreta disposal in unsewered areas and in sewered areas - types of latrine - Pail and basket latrine - Bore hole latrine – Dug well latrine – Water seal latrine, - R.C.A. Latrine - Sanitary latrine, constructional features, Aqua Privy - Septic tank, - Chemical closet

Rural sanitation and sewerage programme, low cost sanitation program, community driven sanitation projects [Sulabh shouchalaya].

Refuse, liquid waste disposal methods, incineration, land filling, water recycling, sanitation management during fairs / festivals / Kumbh mela - large gatherings – Accommodation, sanitary arrangement, water supply, conservancy management, medical arrangement, food supply - Shallow trench latrine – Deep trench latrine - Sanitary control at Haj pilgrimage - Camp sanitation- camp site, accommodation , water supply, food and cooking arrangement, disposal of refuse, disposal of faeces.

Soakage pits, seepage pits, kitchen gardening.

Urban, modern methods of sewage treatment – What is sewage ? – Composition of sewage - Why sewage purification is required ? – Elements of sewage system - Sewage appurtenances – House drain – Street sewers or municipal sewers - Flushing tank – Soil

pan - Traps - Types of traps – soil pipe - Anti-siphonage pipe – Waste water pipe – Ventilation pipe – Inspection chamber – Intercepting trap chamber or sewer trap chamber

Septic tank, aqua-privy, oxidation ponds, biological oxygen demand and chemical oxygen demand,

a -Solid waste generation - Introduction - Sources of solid waste generation - need of safe disposal of solid wastes - management of solid waste – storage – collection –

dumping – sanitary land filling methods and their advantages and disadvantages - equipments used at landfill sites - incineration – composting – anaerobic method & aerobic method [with advantages and disadvantages] – vermi composting – burial - public education

b A – Street sweeping – Working hours – work load norms mechanized road sweeping system - segregation of waste for environmental sanitation different waste collection bins and specified bin colours – waste recycling – sources of recyclable waste materials – modes of processing of waste material - stages in waste recycling –

c. B - Legal aspects in Solid Waste Management - Municipal solid Waste (Management & Handling) rules 2000 and penal provision of the Environment (Protection) Act 1986 (29 of 1986) – Mandatory recommendations – responsibility of municipal authority – the municipal authority's annual plan of MSW Rules, 2000, - responsibility of the State Government and the Union Territory Administration – Management of municipal solid wastes – Annual reports – Accident reporting

d. C – Social aspects in solid waste management – Peoples' participation – Role of municipal conservancy in solid waste management

e. D - Role of sanitary inspector in rural waste disposal - main health problems caused by waste.

C] PUBLIC HEALTH ENGINEERING METHODS :

Application of –

1- Engineering methods of control of diseases - Principles of disease control and prevention by engineering methods - Chain of infection, - Transmission of diseases and engineering methods of blocking channels of transmission, Engineering method of vector control - Insect / mosquito control, mosquito-proof water tanks.- Control of guinea worm – Control of hook worm – Control of malaria – Control of filarial, - Control of dengue – Control of rats – Control of house flies.

2- Dog control.

3- Rural sanitation : Paver blocks, pipelines , drain bricks, eco-friendly construction norms.

D] AiIR / LIGHT / VENTILATION / NOISE / RADIATION

Composition of air, properties of air constituents, - effect of changes of air on human body - air velocity, levels of discomfort, air ventilation , cycles, natural and mechanical ventilation.

Sources of Air pollution, health and social economic aspects / effects, indicators, causes, measurement, and prevention control of air pollution, weather conditions which determine effects of air pollution – indoor air pollution - natural ways of purification of air – examination of air - concepts of comfortable room –

Ventilation - Objective of ventilation, - methods of ventilation, natural ventilation – internal and external ventilation – Artificial or mechanical ventilation – exhaust system, plenum system, combined or balanced system, air conditioning – Perflation and aspiration .

Natural light, sunlight, artificial light, characteristic of proper light, ways of artificial lighting, Measurement of light , effects of lighting standards, lighting of the classrooms of a school -

Noise : Effects, sources, measurement, noise control, noise limits, terms used in study of noise, sound levels,

Radiation : Types, effects on human body acute and chronic effects, measurements protection from radiation, Radiation regulatory authority.

E] HOUSING - URBAN, RURAL STANDARDS, SOIL

Concept of overcrowding,

Housing standards : Space planning, FSI, Slums redevelopment, sanitary house, criteria of healthy house –ventilation of house - construction of house - Rural housing - housing condition in village – remedial measures for improving living conditions in slums – slum removal, slum improvement, implementation of the scheme – Minimum sizes and area for classroom, kitchen, WC, bathroom.

Soil – Classification of soil, importance of soil in public health, moisture in soil, reclamation of land, soil, bacteria and parasites, - soil and health.

F] METEOROLOGICAL ENVIRONMENT

Atmospheric pressure - Introduction, atmospheric pressure measurement, - effects of atmospheric pressure on health – measurement of atmospheric pressure.

Air temperature – Measurement – dry and wet bulb thermometer, maximum and minimum thermometer – kata thermometer .Heat stress cold stress, preventive measures,

Humidity – absolute and relative humidity – Dry and wet bulb hygrometer, rainfall, clouds - movement of wind –wind direction -

Environmental laws for controlling pollution – Global environmental change, Green house effects - concentrations of green house gases effects of greenhouse effect

Global warming and its effects on weather and climate sea-level change, effects on species distribution, food production effects, approaches to deal with global warming, stratospheric ozone depletion – ozone hole, effects of ozone depletion – international initiative for mitigating global change - Montreal protocol – Kyoto protocol

Environmental disasters : Nuclear leakages, Tsunami, storms / holocausts / Bhopal gas tragedy cyclones etc.

G] DISINFECTION

Definition - Types of disinfection - classification - Natural agents - Sunlight - Air - Physical agents - Burning - Hot air - Boiling - Stream under pressure - Radiation - Chemical agents - Liquids - Phenol and related compounds - Detergents - Hologens - Oxidizing agents - Heavy metals - Miscellaneous - Alcohol - Methylated spirit - Formalin - Others - Solids - Lime - Bleaching powder - Gases - Formaldehyde - Ethylene oxide - Sterilization - Filtration - Types of filters - Public health importance of disinfection - Recommended disinfection procedures

H] - SANITATION AT FAIRS, FESTIVALS & CAMPS

Introduction – Sanitation management at Fairs and Festivals – Accommodation – Medical and Sanitary arrangements – Water supply – Conservancy arrangements – Food supply.

Kumbh Mela –

Sanitary control at Haj Pilgrimage –

Camp sanitation – Sanitation management – Camp site – Accommodation and equipment – Water supply – Food and cooking arrangements – Disposal of refuse, excreta and wastes.

I] ROLE OF SANITARY INSPECTOR IN RURAL MANAGEMENT:

Introduction – Health problems caused by waste – Dumping waste in common pit – Role of Sanitary Inspector in village waste disposal when there is no common pit – Suggestions to get rid of waste –

Disposal of excreta, latrines – Advise to be given when people have no latrines and if people defecate around their houses – Advise/Action to be given when people defecate in the river – Advise to be given when people defecate in the fields or forests – What advise is to be given when people have latrines but do not use them properly? When latrine is properly built – When latrine is properly used?

ROLE OF SANITARY INSPECTOR IN RURAL WASTE DISPOSAL -

Main health problems caused by waste - Dumping waste in a common pit - Role of S. I.

a - Where there is no common pit

b - Disposal of excreta uses of latrine, Where people have no latrines - When people have latrines but do not use them properly - When latrine is properly built? When latrine is properly used?

PRACTICALS :

Water - Use of Horrock's apparatus, ortho-toludinearsenite test [Chlorometer] – Single pot method, double pot method, Cholorination of wells, lakes, ponds, tanks, demonstration of chlorination of well water, domestic water, collection of water samples, sanitary wells for examination purposes.,

Public Health Engineering – Demonstration of Public Health Engineering methods used for mosquitoes, flies, Cyclops, rat control, measures, visit to Rat Proof Godown.

Air, Light, Noise Radiation, Ventilation – Demonstrations of use of N-5 masks, slings psychrometer, dosimeter, rodent traps, ventilation in a house (Urban & Rural)O, Hotels, Cemetery, Cine/Drama Hall, Radiation Protective Measures taken at X-ray clinics.

Housing – Ventilation of house, Visit to slums for ventilation, visit to classroom, Factories for ventilation.

Meteorological Environment – Demonstration of Kata Thermometer, Six's maximum and minimum Thermometer, Visit to Environmental Health Institute e.g. Meteorological Institute.

SWM – Visit to dumping site for observation of Rag pickers in urban areas, Visit to Sanitary latrines, Acqa privy, Septic tank, Latrines in Rural area / Slums, Gobar gas plant, Soakage pits, Rain water harvesting.

Disinfection – Visit to Hospital / PHC for Disinfection procedures and Demonstration of common disinfectants, Chemicals used, procedures of carrying disinfections visit to markets for Disinfection etc. After disinfection disposal of the items.

PAPER III

COMMUNICABLE AND NON COMMUNICABLE DISEASES, HEALTH PROBLEMS

	TOPICS	THEORY HOURS	PRACTICAL HOURS	MARKS			
				THEORY	PRACTICAL	INTERNAL ASSESSMENT	TOTAL
A	COMMUNCABLE DISEASES	30	10				
B	NON-COMMUNICABLE DISEASES	80	10				
C	HEALTH PROBLEMS	10	10				
	TOTAL	120	30				
	PRACTICAL						

A] EPIDEMIOLOGY OR COMMUNICABLE DISEASES:

- **Respiratory infections**
- **Small pox** – Introduction – History
- **Chicken pox** –Introduction – Epidemiological factors – Clinical features Stages of clinical course – Pre-eruptive and eruptive stage – Diagnosis – Complications – Treatment – Prevention – Role of Paramedical workers / S.I.
- **Measles -** Introduction – Problem statement - Epidemiological factors – Period of communicability - Clinical features Stages of clinical course – Prodromal stage – Eruptive stage – Post measles stage -Diagnosis – Complications – Treatment – Prevention – Measles vaccination – contraindications – Adverse effects of vaccine – Immunoglobulin - Role of Paramedical workers / S.I.

- **Rubella [German measles] -** Introduction – Epidemiological factors – Transmission of disease – Incubation period – complications - Diagnosis – **Congenital Rubella** -

Prevention – Rubella vaccine – side effects and contraindications - Role of Paramedical workers / S.I.

- **Mumps** - Introduction – Epidemiological factors – Clinical features - Complications – Prevention – Contraindications for mumps vaccine Control - – Role of Paramedical workers / S.I.

- **Influenza –** Problem statement - - Introduction – Mode of transmission – incubation period - Agent factors – Clinical features and pathogenesis – Reservoir of infection – Source of infection – Period of infectivity – Host factors – Environmental factors – Laboratory diagnosis – Virus isolation – Prevention of influenza – influenza vaccines – Killed vaccines – Live attenuated vaccines – Anti viral drugs - Role of Paramedical workers / S.I.

- **Diphtheria** - Introduction – Problem statement in world and in India - Epidemiological factors – Mode of transmission – Portal of entry – Incubation period - Clinical features - Schicks test – Control of Diphtheria – DPT vaccine – contraindications for vaccine

- **Whooping cough [Pertussis]** - Introduction – Problem statement - Epidemiological factors – Mode of transmission - Clinical features –Control of whooping cough – Immunization.

- **Acute respiratory infections – [Pneumonia]** - Introduction – Assessment of child having cough or difficult breathing – Questions to be asked to mother / parents – Questions to be asked if child is less than 2 months – Questions to be asked if child is between 2 months and 5 years – Observations of breathing of a patient – Signs of a child who is abnormally sleepy or difficult to wake – Checking for severe malnutrition – Diagnosis of pneumonia – of child under 2 months and a child be3tween 2 months and 5 years – Classification of cough – Conditions and action to b e taken in case of pneumonia with no fast breathing – with fast breathing and if patient has severe pneumonia – Treatment – Reassessment and follow up – Teaching mother how to give Co-trimoxazole to child at home – Home care of child having no pneumonia – Indications of child to b e referred to health centre – Prevention of pneumonia – Breast feeding, immunization, vitamin A prophylaxis and nutrition for preventing pneumonia.

- **Tuberculosis –** Introduction – World view of tuberculosis – Tuberculosis in India – Source of infection – Bovine source – Transmission – Incubation period – Some

common question – Skin test for diagnosing tuberculosis – Mantoux test – Interpretation of the test – Prevention and treatment – Treatment of Tuberculosis – Bactericial Drugs – Rifampicin – Side effects – Important instructions to the patient – INH – Streptomycin – Side effects – Pyrazinamide – Bacteriostatic Drugs – Ethambutol – Two Phase Chemotherapy – Short course Chemotherapy – DOTS (Directly Observed Treatment Short course) – Categories of treatment – Drug Resistance – Drug resistant tuberculosis in India – Role of BCG vaccine in the prevention of tuberculosis – Dosage – Age – Side effects of the vaccine – Tuberculosis and HIV – Role of Paramedical worker

- **Intestinal Infections:**
- **Poliomyelitis** – Introduction – Incidence – Agent – Infective material – Environment – Mode of Transmission – Incubation period – Clinical Features – Diagnosis – Prevention – Secondary prevention – Tertiary Prevention – Role of paramedical worker.

- **Viral Hepatitis** –
- **Hepatitis A** – Introduction, Incidence & Prevalence, Agent, Host, Environment, Mode of transmission, Incubation period, Clinical features, Prevention & Containment – Primary – Secondary – Role of Paramedical worker.

- **Hepatitis B** – Introduction, Incidence & Prevalence, Agent, Mode of transmission, Prevention to control, Role of paramedical worker.

- **Hepatitis C** – Agent, Incubation period, Diagnosis, Role of paramedical worker.

- **Hepatitis E** – Agent, Host, Role of Paramedical worker.

- **Cholera** – Introduction, Problem statement, Epidemiological Features, Agent, Factors, Carriers in cholera, Host factors, Environmental factors, Mode of transmission, Incubation period, Clinical Features, Laboratory Diagnosis of Cholera, Control of Cholera, Verification of diagnosis, notification, Early case finding, Establishment of treatment centres, Rehydration therapy.

- **Rehydration** – Oral Rehydration, Composition of ORS-BICARBONATES, ORS - CITRATE, Solution recommended by WHO, Adjuncts, Epidemiological Investigation, Sanitary measures, Chemoprophylaxis, Vaccination, Role of paramedical workers.

- **Acute Diarrheal Disease** - Introduction- Social impact, Magnitude – Agent Factors – Host Factors – Age – Immunity - Malnutrition – Environmental factors – Macro-environment – Mode of transmission – Incubation period – Clinical Features –

Diagnosis – Management – Prevention & Control – Secondary prevention – Tertiary Prevention – Role of paramedical workers.

- **Typhoid** – Introduction – Incidence & prevalence – Agent – Microbiology – Resistance – Source of infection – Host – Environmental factors – Mode of transmission – Clinical features – Diagnosis & Management – Treatment – Prevention - control of reservoir – - Control of sanitation, Immunization – Vaccine – Oral vaccine – Role of paramedical workers
- **Amoebasis** – Introduction – Incidence and Prevalence – Global – India – Agent – Host – Environmental factors – Mode of transmission – Incubation period – Clinical features – Diagnosis – Treatment – Prevention & control Role of paramedical worker.

- **Ascariasis** – Geographical Distribution – Habitat – Morphology – Life cycle – Mode of infection – Clinical features – Sysmptoms due to the Migrating Larvae – Symptoms due to the Adult Worms – Laboratory Diagnosis – Treatment – Preventive measures – Role of health worker

- **Hook Worm** – Geographical Distribution – Habitat – Morphology – Life Span – Pathogenicity – Infecting agents – Portal of entry – Migration – Site of location – Clinical features - Laboratory Diagnosis – Treatment – Preventive measures.

- **Dracunculiasis (Guinea** – Worm Infection) Introduction – Incidence & Prevalence – Disease cycle - Mode of transmission - Incubation period- Clinical features – Treatment – Eradication strategy used – Role of paramedical workers

- **Food Poisoning** – Introduction, Types – Bacterial – Salmonella food poisoning – Staphylococcal food poisoning, Botulism – Prevention & control – Food Sanitation - Sanitary improvements – Refrigeration – Role of paramedical workers

- **Arthropod Borne Infection** –
  1. **Malaria –** Introduction – Problem world wide – Agent factors – Reservoir / Source – Period of communicability – Host factors – Environmental factors – Vector of malaria – Mode of transmission – Incubation period – Clinical features – Complication – Diagnosis – Presumptive treatment - Radical treatment – Prevention – Vector control of mosquito – Malaria vaccine – Role of Health personnel.

  2. **Filariasis** – Introduction – Filarialproblem in India – Factors which favour the spread of the disease – Incubation period – Clinical signs and symptoms-

Diagnosis – Treatment – Side effect of treatment - Mass treatment with DEC – mosquito control measures – Environment issues in the control of filariasis – Role of health worker

3. **Dengue Syndrome** – Introduction – Prevalence – Mode of Transmission – Clinical features – Treatment – Prevension and control – Role of health worker

- **Rabies** – Introduction – Incidence – World, India, Agent, Host, Most of transmission – Clinical picture – Diagnosis – Vaccines and treatment – Post exposure prophylaxis – Local treatment of wound – Cleaning, Chemical, Suturing, Anti-rabies-serum, Antibiotics – Immunization = Human rabies immune-globin – Advice to patients – Cell Culture vaccine – Adverse effects – Pre Exposure prophylaxis – Rabies in dogs – Dumb rabies – Immunization of dogs – Control of urban rabies – Other methods – Role of health worker

- **Yellow Fever** – Introduction – Problem statement – Agent factors – Host factors – Environmental factors – Mode of transmission – Diagnosis – Clinical features - Control of yellow fever – Urban yellow fever – Vaccination, Vector Control – Anti Larval Measures, Environmental control, Chemical control, Mineral oil, Paris Green, Synthetic control, Biological control, Anti adult measures, Residual spray, Space spray, Genetic control, Protection against mosquito bites, International measures, Role of paramedical workers.

- **Japanese Encephalitis** – Introduction – Incidence & Prevalence – Agent – Host – Environmental factors – Vector – Mode of transmission - Clinical features – Incubation period, Diagnosis – People at risk – Treatment – Prevention – Role of health worker.

- **Kyasanur Forest Diseaase** – Introduction – Agent – Natural Host – Vectors – Host – Mode of Transmission – Incubation period – Clinical features – Diagnosis – Control.

- **Plague** – Introduction – Problem statement – World, India – Return of plague – Agent Factor – Host factors – Environmental factors – Mode of transmission – Incubation period – Disease in man – Laboratory investigation – Prevention and control – Control of rodents – Control of cases – Vaccination – Chemoprophylaxis – Surveillance – Role of paramedical workers

- **Leishmaniasis** – Problem statement in India – Agent factors – Host factors – Environmental factors – Mode of transmission – Incubation period – Clinical features – Laboratory diagnosis – Control measures.

- **Hydatid Disease** – Geographic distribution – Agent factors – Life cycle – Host factors – Mode of Transmission – Incubation period – Clinical features – Diagnosis – Treatment – Prevention and control.

- **Tetanus** – Introduction – Magnitude of the problem in India – Organism – Environmental factors – Causes of Tetanus – Immunity – Prevention – Immunization schedule – Booster dose – Adverse reactions – Storage of vaccine – Role of Immunoglobulins in Tetanus - Role of antibiotics in prophylaxis – Prevention of neonatal tetanus – Prevention of tetanus after injury – Role of health worker.

- **Leoprosy (Hansen's Disease)** – Introduction – Social impact – Magnitude – Agent factors – Host factors – Environmental factors – Mode of transmission – Incubation period – Classification – Diagnosis – Management – Immunoprophylaxis – Chemoprophylaxis – Prevention and control – Tertiary prevention- Preventive Rehabilitation – Role of paramedical health worker

- **Trachoma** – Introduction – Problem statement – Diagnosis – Agent factors – Host factors – Environmental factors – Mode of Transmission – Control of Trachoma

- **S T D (Sexually Transmitted Diseases)** – Incidence – Prevalence – Epidemiological factors – Agent factors – Host factors – Signs, symptoms, Diagnosis & Treatment of Syphilis, Chancroid, Ganornhoen, Herpes Genitalis., LGV – Prevention of STD - Role of health workers

- **HIV / AIDS** – Introduction – Problem World, India – Epidemiological features – Agent factors – Host factors – Immunology – Mode of transmission – Incubation period – Clinical manifestations – Asymptomatic carrier state – Aids related complex – AIDS - Laboratory diagnosis – Screening test – Control of AIDS – Education, Prevention of blood borne HIV transmission – Antiretroviral Treatment – Post exposure Prophylactic Treatment – Specific Prophylaxis – Primary health care – Role of paramedical workers.

- **Leptospirosis** – Introduction – Agent – Host factors – Mode of transmission – Risk factors – Incubation period – Clinical manifestation – Treatment – Diagnosis – Prevention – Role of health worker

- **Emerging Diseases** – H1N1 Diseases, Avian Influenza, Swine flu – Definition – Symptoms – Infectious period – Global scenario – Situations in India – Preventive measures

- **Bio-Terrorism** – Definition – Types & Category – Smallpox – Botulinum toxin – Bubonic Plague – Preparedness – Bio surveillance – Response to bioterrorism – Incident or threat

- **Avian Influenza** – Bird flu – H5N1 – Causes – Incidence – Risk Factors – Symptoms – Signs and tests – Treatment – Complications.

- **Chiungunya Fever** – History – Causes – Symptoms – Treatment – Prevention

- **Swine flu** – Classification – Surveillance – History – Transmission – Signs and symptoms – Prevention and treatment

- **Newer Vaccine** – Introduction – Definition – Types – Emerging diseases

- **Profile of Newer Vaccines** – Vericella Vaccine – Meningococcal vaccine, Hepatitis A Vaccine, Rotavirus vaccine – New TB Vaccine – Gardasil – Chicken pox booster shots – Seasonal influenza Vaccine – H1N1 Vaccine – Malaria Vaccine

- **IMMUNIZATION -** Introduction – Universal immunization programme (U I P) – National immunization schedule – Vaccine Vial Monitor (V V M) – Do's & Don'ts for use of Ice Lined Refrigerator - Hazards of Immunization – How to use disinfected syringes and needles – Autoclaving - How to make people in a community to participate in immunization programme – Community participation – Estimation of vaccine requirements – Fridge and its parts – Where to keep vaccine in a fridge – Do's and Don't's of Fridge.

B] EPIDEMIOLOGY OF NON-COMMUNICABLE DISEASES:-

- **Coronary Heart Disease –** Introduction **–** Incidence and prevalence **–** Pattern of CHD in India – Risk factors – Smoking – Hyper tension – Serum cholesterol – Other risk factors – Prevention- Population strategy – Dietary changes – Blood Pressure – Smoking - Physical activity – Primordial prevention – High risk strategy – Identifying risk – specific advice – Secondary prevention – Role of paramedical workers

- **Hypertension –** Blood Pressure Measurement - Classification of Hypertension – Magnitude of the problem – Prevalence – Mortality – Risk factors – Generic factors – Prevention - Primary Prevention – Population strategy, High risk strategy – Secondary prevention –

- **Stroke** – Problem – Morbidity – Mortality – Risk factors

- **Transient Ischaemic Attacks** - Host factors – Control programme – Role of paramedical workers

- **Rheumatic Heart Disease –** Introduction – Problem statement – World, India – Agent factors – Host factors – High risk groups - Clinical features – Diagnosis - Jones Criteria for RF – Major manifestation – Minor manifestation – Laboratory investigations – Management - Primary prevention – Secondary prevention – Role of paramedical workers.

- **Cancer –** Problem statement – World, India – Time trends – Cancer patterns – Causes of cancer – Environmental factors, Genetic factors – Cancer control – Primary prevention – Control of tobacco and alcohol consumption, Personal hygiene, Radiation, Occupational exposures, Immunization, foods, Drugs and cosmetics, Air prolusion, Treatment of precancerous lesions, Legislation, Cancer education – Secondary prevention – Early detection, Treatment – Cancer screening – Screening of cancer cervix, Screening of breast cancer, Screening of lung cancer – Agents risk factor.

- **Diabetes –** Introduction – Classification – Problem statement – World, India – Natural history – Host factors – Environmental factors – Screening of diabetic patients – Urine examination – Blood sugar testing – Prevention and care – Primary prevention – Secondary prevention – Glycosylated Haemogbin – Self care – Tertiary care – National diabetes control programme – Role of health worker.

- **Obesity –** Introduction – Prevalence – Epidemiological facts – Age, sex, Genetic Physical inactivity, Eating habits, Psychosocial factors, Familial tendency, Endocrine factors, Socio economics status, Obesity, Hazards of obesity – Assessment of obesity - Indicators, Skin fold thickness, Prevention, Management, Role of paramedical workers.

  Blindness – Introduction – Incidence – Causes of blindness – Host factors – Prevention – Primary Eye care - Secondary care – Tertiary care – Role of health workers

- **Accidents –** Introduction – Problem – World, India – Types of accidents – Road Traffic Accidents, Domestic Accidents, Industrial Accidents, Railway Accidents – Risk factors – Prevention – Data collection, Safety education, Promotion of safety measures, Laws, Rehabilitative services, Accident logy.

- **Three-Tier System of Health Care Delivery** – Primary/I level, Secondary / II level, Teriary/III level – Planning Commission – Health sector planning – Tenth Five Year plan (2002-2007) – Targets fixed in the 10^{th} plan – HIV/AIDS – TB – Leprosy – Malaria- Blindness.

- **Morbidity statistics** – Magnitude of disease – Rate – Ratio – Sex Ratio – Proportion – Measurement of morbidity – For frequency – For duration – For severity – Formulae – Incidence rate – Special incidence rate – Prevalence rate – Case fatality rate – DALY (Disability Adjusted Life Year).

C] **HEALTH PROBLEMS -** Communicable diseases problems - Environmental sanitation problems - Nutritional problems - Health problems related to Socio-Economic factors like poverty, illiterate - Population problems and health - Health problems in relation to economy and productivity - Health problems and quality of like - Role of health workers in prevention and control of health problems.

PRACTICALS:

- **Communicable & Non-Communicable Diseases** - Visit to Community hospital for demonstration of cases, Visit to RNTCP / DOT clinic, MDR and XDR TB cases, Various kinds of report maintained by TB/RNTCP clinics, Orientation of treatment protocols of TB patients, Identification of various kinds of category boxes, Procedure of DOTS, Finding out defaulters, Visit to ICTC / Art clinics / DAPCM at District levels, Visit to Leprosy clinics, Visit to Aids clinics, Visit to S.T.D clinics, Identification of intestinal worms, Visit to Public Health Museum at AFML Pune Or PSM Department of any Medical College.

- **Health Problems** – Role plays on resolving health problems – Visit to Diabetes / Cardiology OPD, Wards, ICU in a hospital – Practical orientation on using portable equipments for measurement of blood pressure, blood glucose levels, Visit to Hospitals and various Departments like Medicine, Gynac, Paediatric, ANC, PNC clinics, Sonography clinics, X-ray Dept, Pharmacology, various kinds of wards, Maintenance of Biomedical waste.

PAPER IV

COORDINATION AND IMPLEMENTATION, PROJECT PLANNING, RECENT ADVANCES, DEMONSTRATION & FAMILY WELFARE, M.C.H, R.C.H, RECORD MAINTENANCE & REPORTS

	TOPICS	THEORY HOURS	PRACTICAL HOURS	MARKS			
				THEORY	PRACTICAL	INTERNAL ASSESSMENT	TOTAL
A	COORDINATION AND IMPLEMENTATION PROJECT PLANNING	50	10				
B	RECENT ADVANCES	10	10				
C	DEMOGRAPHY & FAMILY WELFARE	20	10				
D	M.C.H.	20	10				
E.	R.C.H	20	10				
F	RECORD MAINTENANCE & REPORTS	10	10				
	TOTAL	130	60				

A] COORDINATION AND IMPLEMENTATION:

1 – Orientation of linkage between Panchayat Raj and Health administrative system,

2 – Understanding mechanism of development o f district as a democratic process, inter-dependancy of bureaucracy, technocracy, political system, Judiciary, media and people.

3 – Introduction to community survey techniques, census, baseline data, morbidity / mortality trends, nutritional surveys, diet surveys, House to House surveys for disease surveillance [Malaria, Pulse Polio immunization].

4 - Formulating objectives, methodology of surveys, devising basic questionnaire proformas, pilot testing.

5 – Data quality monitoring and data analysis.

6 – Screening of diseases, conducting health camps, sensitivity / specificity of screening tests.

7 – Conducting survey, community influencers', rapport building.

8 – Case study : Janani Suraksha Yojana, Evaluation of impact, community based monitoring surveys in NRHM.

9 – Maintenance of health records.

PROJECT PLANNING, COORDINATION, IMPLEMENTATION:

1 – Difference between programme and project.
2 - Preparing project proposals based on the needs of the organization.
3 - Felt needs v/s perceived needs assessment.
4 – Identification of key health problems, formulating objectives of the project to decide methodology, sampling frame, preparing questionnaire, conducting project activities, collecting data, analysing data, representation in t abular and graphical forms, calculating indicators and assessing achievement of outcomes in relation to the objectives.

5 – Preparation of budget expenditure statement with justification, financial approvals, orientation of audit and accounts .

6 – Ethical consideration, gender issues and project appraisals.

B] RECENT ADVANCES:

- **National Rural Health Mission including Janani Suraksha Yojana, Rogi Kalyan Samiti, Village & Sanitation Committee functions** – Objectives – new programs & schemes – norms for incentives – job responsibilities – coordinating mechanisms – Indian Public Health Standards (IPHS), Community Based Monitoring (CBM) – National Child Health Programe (2013) – Health Advice Call Centre (Maharashtra / Tamil Nadu Model) – Rational Use of Medicine – Branded V/s.Generic drugs prescriptions – concept of Health Centre development – Utility of Aadhar Card – Budget provisions.

- **National Urban Health Mission -** Objectives – Newer urban health issues – Smart card in RCH – Housing Policy – Social Security in health – Importance of Baseline urban community survey & its implications – Urban models for public health services.

- **Integrated Disease Surveillance Programme** - Objectives – activities – surveillance & actions – documentation – application in practice.

- **Management of Neonatal & Childhood Illnesses (IMNCI**) - Concept – Activities – Measurement of malnutrition- SAM/MAM – colour code utilization for referrals – Role of ANM / H W (F) / PHN / Medical Officer PHC – Imporance of IMNCI - Facility based IMNCI – Linkage with Millennium Development Goals.

- **National Child Health Programme** - Objectives & provisions

- **Health Insurance Schemes & Rajiv Gandhi Swasthya Yojana** – Various Health Insurance Schemes – importance – Medi-claims – Community based insurance (Eg. Yashasvini Scheme, Karnataka) – Cashless medical care – ESIS benefits – Insurance in maternal mortality.

- **Rajiv Gandhi Swasthya Yojana (Maharashtra Model)** – Objectives – provisions – diseases covered – mechanism of providing financial assistance – spectrum of financial assistance – public private model in the scheme.

- **National Polio Surveillance Programme** - Objectives – concept (Syndromic approach) - surveillance actions in AFP case – outbreak response immunization – Mop-up Round – Present status of cases – Role of polio surveillance centre / surveillance officer – Role of National Institute of Virology / Enterovirus Research Centre – Classification of polio/non-polio cases – Will India achieve polio eradication.

- **National Programme for Prevention and Management of Disbetes / Hypertension /Coronary Heart Disease)** – Objectives – Activities – referral systems – Self management guidelines in Diabetes – Role of Ayush & allied medicine.

- **Interventions for Multi-drug Resistant & D.R.T B** – Present scenario in T B trends – Reasons for emergence of resistant T B – Challenges – Spectrum of interventions – choice of drugs & drugs schedule – Diagnostic methods – Follow-up – Surveillance.

- **Global Warming & other Environmental issues** – Spectrum of environmental problems & threats – Global warming & its implications – Unregulated urbanization – Deforestation & its implication – Radiations & its effect with reference to mobile towers & handsets – Measurement of radiation & role of BARC – Environmental disaster management (nuclear leaks, cyclones, Bio-terrorism, draughts / floods / earthquakes) – Water conservation, management, rain-harvesting – Role of public health personnel in Kumbh meals / public gatherings / fairs / festivals.

- **Quality Acrredition in Health Services** – Concept of quality – Aspects / Dimensions of quality in healthcare – Accrediting institutions in India & world – Mechanism of seeking accreditions – Accreditions in MRHM & Public-private partnership programmes – Importance.

- **Recent Health Related Legislations** – Objectives – scope – provisions – disciplinary actions – implementing organizations / personnel process – importances (Applicable to all 5 Acts.

C] **DEMOGRAPHY AND FAMILY WELFARE:**

- **Demography** – Introduction – definition – Source of demography data – Demographic Cycle – High Stationary, Early expanding, Late expanding, Low stationery, Declining – Theories of population – Migration – Urbanization
- **Family Welfare** – Concepts – Importance of family planning – Family welfare – Scope of family welfare – 1) Before marriage 2) After marriage 3) Fertile couples 4) Infertile couples
- **Factors Influencing Population Growth** – Fertility – Mortality – Migration – Marriage – Population Pyramid and its interpretation – Hazard of population growth – Demographic trends in India – National Population Policy 2000.
- **Contraceptive Methods** – Ideal Contraceptive – Conventional contraceptive
    - Temporary method –
        1. Abstinence
        2. Coitus interrupts
        3. Safe period (rhythm method)
        4. Natural Family Planning Method
        5. Breast feeding
        6. Barrier method
            - Physical methods
            - Chemical methods
            - Combined

7. Intra-uterine devices

8. Hormonal methods
9. Post Conceptional method

- **Terminal methods**
  1. Male Sterilization
  2. Female Sterilization

- **Natural family planning methods** - Basal body temperature – Cervical mucus method, Symptothermic method, Breast feeding, Barrier methods.
- **Post Conceptional Methods –** Regulation, Induction, Abortion
- **Medical Termination of Pregnancy Act 1971:** The condition of MTP Act 1971 – Grounds – Medical, Eugenic, Humanitarian, Socio-economic, Failure of a contraceptive method – The person / persons who can perform MTP – Place where MTP can be done – Abortion techniques – Terminal methods (Sterilization) – Advantages of sterilization – Guidelines for sterilization – Male sterilization (vasectomy) – Advantageous – Post operative advice – Female sterilization (Tubectomy) – Laoaroscopy - Advantages – Minilap operation.

D] MATERNAL AND CHILD HEALTH

- **Maternal and Child Health –** Introduction – Obstetrics – Social obstetrics – Social Pediatrics – Mental and child health service – Need for specialized preventive health services for the mother and the child – Large section of population , High risk group, Preventive morbidity and mortality, Physically compact unit, Unified, integrated, simultaneous care of women and children – Unified training of all those involved – Socio environmental factors.
- **Assessment of the need for mother & child health services –** Birth rate – Maternal mortality rate – Perinatal mortality rate – Place of delivery – Attendant at delivery – Prematurity – Antenatal care – Resources – Target population – Care of the mother – Maternal death, Maternal mortality rate, Causes of maternal death, Non-obstetric causes – social causes – Preventive measures for reduction of maternal mortality rate – Essential rate – Early detection of complications – Emergency care in need – Care of women in reproductive age group – Antenatal care – First contact examination - History of current pregnancy, History of previous pregnancy, General examination, Systemic examination and other history, Obstetric examination – Baseline investigation, Advice and services – Subsequent visits - Identification of high risk pregnant woman- Examination and investigation – Diet – Personal Hygiene – Immunization – Advise about warning signals – Contraception & child rearing – Home visits – Stress for early breat feeding – How to tell when baby will be born – EDD (Expected Date of Delivery) – Identifying high risk pregnant woman – Normal pregnancy & possible complications according to trimester - Internal care – Traditional birth attendants – Warning signals, Preparing for labour – Labour 1^{st} stage, 2^{nd} stage, 3^{rd} stage – Signs of separation of placenta – Practices in case of home delivery – New born care, Cord care, Eye care – Bath – Breast feeding – Prevention of hypothermia – Prevention of infection – Normal phenomena at birth - Resuscitation of newborn who does not cry soon - External cardiac massage – Post natal care – Infrastructure for mother and child health care delivery – Importance of home visits by health worker in MCH care.

- **Care of Infant –** Introduction – Definition – Indicators of health during infancy – Infant mortality rate – Calculation of IMR – Causes of Infant mortality – Causes during neonatal period (0-4 weeks) – Causes during post neonatal period (1-12 months) - Biological causes – Economical and socio cultural causes - Perinatal mortality – Causes of perinatal mortality , "Low birth rate", Preventive measures for reduction of infant mortality – 1) General measures 2) Preconceptional care 3) Community education 4) Antinatal care 5) Infranatal care 6) Care of new born 7) Care in first six months 8) Care in second six months 9) Breast feeding.
- **Safe motherhood activities** of various levels – Home, Village, Sub-Centre, Primary health centre, CHC/Post partum centre district hospital IST level referral .
- **Measurement of the baby** – Birth weight, length, head circumference.
- **Under Five Clinic –** Aims of under five clinic – Introduction – Objectives – The role of doctor and the nurses – Learning to overhearing – Care in illness – Diagnosis and treatment – X-ray and laboratory services – Referral services – Preventive care – Immunization, Nutritional surveillance, Health check-ups, Oral rehydration, Family Planning, Health education – Growth monitoring – Growth chart used in India – Uses of growth chart.
- National Child Survival and Safe Motherhood Programme 1992 – Children's package – Mothers package – Immunization – Vitamin "A" – Acute Respiratory Infection (ARI) - penumonia
- **Integrated Child Development Scheme (ICDS) –** Introduction – Objectives – Beneficiary & Services – Delivery of services 1) Supplementary nutrition 2) Nutrition and health education 3) Immunization 4) Health check-up 5) Non-formal pre-school education.

E] REPRODUCTIVE AND CHILD HEALTH PROGRAMME

- **Reproductive and Child Health Programme** – Introduction – Definition – Concept – RCH phase I – Components, Highlights – Intervention at district level – Intervention in selected State / districts, Maternal health care - Components – Essential obstetric care – Emergency obstetric care – 24 hours delivery services at PHC/CHCS – MTP – Control of RTI, STD – Immunization - Essential new born care – Oral Rehydration Therapy – Acute respiratory disease control – Prevention and control of Vitamin A deficiency and Anemia in children – Initiates under national population policy 2000 – RCH Outreach scheme – New born care – Home based neonatal care - Border District Cluster Strategy – Hepatitis B vaccination project – Training of Dais Empowered Action Group – District surveys – RCH phase II – New initiatives – Training of doctors – Blood storage at FRU – Janani Suraksha Yojana - Salient features – Vandematharam Scheme – Safe abortion services – Integrated management of neonatal and childhood illness.
  - **Gender Issues** – Female genital metallization and cutting – Child marriage – Sexual abuse excitation and trafficking HIV/AIDS.

F] MAINTENANCE OF RECORD AND REPORTS

- **Maintenance of record and reports –** Introduction – General guidelines for maintaining records – Village records – House hold survey register – Eligible couple register – Mental and child health register and contraceptive register – Sub-centre clinic register – Death register – Stock registers – Register for recording consultative process – Referral register - Daily diary – Reporting – Performance in corresponding month of last year – Performance in reporting month – Cumulative performance till corresponding month of last year Cumulative performance till current month – Planned performance in current year – Disease surveillance – Importance of surveillance – Conditions / diseases expected to be reported - Sources of information of diseases and deaths – Clinical records/Clinic registers, Information from community – Registration Form 6 (Monthly report for sub-centre/urban health post/revamping centre) – Report of ANM / MPW (male)

PRACTICALS :

Project Planning – Preparing project proposal with budgetary statements on a given health problem (by the Guide), Problem solving exercise, preparing objectives/methodology, in a case study.

Recent Advances – Visit to NRHM initiated project UNITW viz; RCH Unit, Growth and Development clinic, ANC/PNC care, Orientation of IPHS standards, Interaction with ASHA, Anganwadi Workers and MS, CDPO of ICDS..

Demonstration & Family Welfare & M.C.H - Visit to Antenatal Centre / Post Natal clinic, GYNAC clinic, Model of Cooper T and other Contraceptives, Nirodh, Various kinds of Registers maintained by them.

R.C.H - Visit to Growth & Development monitoring clinic OR under 5 clinic, maintenance of records and reports, Visit to Primary Health Centre to understand the working of NRHM and National Health Programmes.

Recording & Maintaining registers & reports - Visit to PHC, Sub-centres, following registers and reports - Maintenance of records maintained by ANC, PNC clinics, PHC,, Sub-centres, Registers are as follows – Registers of Junior Health Inspector, Family Health Survey and Follow up Registers, M.F.2, E.C. Registers, Eligible Couple Register, Registers used for Immunization programme, TB Programme, Acceptance Register, Community Education Register, Communicable Disease Register, Stock and Issue Register, Dead Stock Register, Medicine stock Register, Expiry Date Register, Issue of Physical Challenged and Mentally Ill persons, Immunization Register, Vaccine Stock Register, Register for Daily Attendance of patients, Circular file, Disease Surveillance Register, Programme book, Field Diary, Officers Visit Book, Maps to be maintained are area map, Spot map for Malaria (Death cases), Dengue Swine Flu, Leptospirosis, Cholera, Food Poisoning, Graphs, (PIE/BAR graphs) for progress of various activities.

PAPER V

INTRODUCTION TO MANAGEMENT, TRADE PREMISES, HEALTH LEGISLATIONS, FOOD SANITATION, F.S.S.A, R.B.D ACT, DISPOSAL OF DEAD

	TOPICS	THEORY HOURS	PRACTICAL HOURS	MARKS			
				THEORY	PRACTICAL	INTERNAL ASSESSMENT	TOTAL
A	INTRODUCTION TO MANAGEMENT	30	5				
B	TRADE PREMISES	50	50				
C	HEALTH LEGISLATIONS, FSSA, RBD	15	15				
D	DISPOSAL OF DEAD, REGISTRATION OF BIRTH AND DEATHS	15	15				
E	FOOD SANITATION	10	15				
	TOTAL	120	100				
	PRACTICALS						

A] INTRODUCTION TO MANAGEMENT :

1 – Definition of management, Concept, principles, basic theories, functions
2 – Functions of a manager, managerial skills,
3 – Types of management styles,
4 – Basics of human resource management, time management, materials management and finance management, human resources,
5 – Management techniques ; CPM , PERT, Cost effective/ cost benefit - analysis, monitoring and evaluation.
6 – Leadership, teamwork, managerial communications, evaluation, monitoring & supervision
7 – Management v/s Administration and Power v/s Authority,
8 – Health worker, as mid-level manager
9 – Program management skills and experience Sharing
10 – Janani Suraksha Yojana, PPTCT, STI.

11– Management based flagship health programme in India (Technology and management)

A - NRHM (National Rural Health Mission)
B - NUHM (National Urban Health Mission)
C – NACP - Phase III (National Aids Control Programme)
D – Innovative health programme

[i] Community based health insurance,

[ii] Health Advice call centre

[iii] Mobile health technology

[iv] Tele medicine

B] – INSPECTION OF TRADE PREMISES:

1 – Enlistment of trade premises,
2 – Minimum health standards criteria for trade premises viz. Restaurants / Eating House / Bakery / Sweet meat shop / Markets [vegetables] / saloon / Beauty parlours, cinema theatres / Video parlours, Slaughter house,
3 – Inspection of Nursing Home, Sonography centres and cemetery.
4 – Preparation of inspection reports

C]I - HEALTH LEGISLATION:

I – Legislations and managerial empowerment
II – Medical legislations, - Evolution and enlistment of major legislations.
III - Objective, provisions, penalty and other implications of :

a) - Bombay Nursing Home Registration Act, Epidemic Act, quarantine Act, Births and deaths registration act, Marriage act, MTP act, Preventions o f Food Adulteration Act, / FSSA act, PCPNDT Act, COTPA Act, Disease notification act .

b).- Right to information Act [RTI] – Human rights Act, Suppression o f Immoral Traffic Act, consumer grievances Redressal Act, Medical Negligence Act, Organ donation Act, Child labour Act, ESIS Act, Factory's Act, Biomedical Waste Management Act.

- **Employees State Insurance (ESI) Act 1948**: ESI Act benefits - Medical benefits - Sickness benefits - Maternity benefits - Disablement benefits - Dependent's benefits - Funeral benefits.

- **The Factories Act 1948** - Scope - Health Safety and Welfare - Employment of young persons - Hours of work - Leave with wages - Occupational diseases - Employment in hazardous processes.

- Prevention of Food Adulteration Act, 1954 - Food standards - Food additives - Food fortification - Food enrichment - National Nutritional Programme - Applied Nutrition Programme - Mid-day meal programme, National goiter programme, National Anaemia prophylasis programme, Integrated child development scheme, Vitamin A prophylaxis programme, Balwadi nutrition programme.

D] **DISPOSAL OF DEAD:**

[including those who are HIV positive]

Introduction - ways to disposal of dead bodies - The procedure for disposal of dead - Cases required to be referred to Police - Conditions of disposal of dead - Conditions of Cemeteries - Hindu, Muslim, Christian

- The Registration of Birth & Death Act - Registration organization - Implementation of the Act - Process of registration - Form for reporting the event of birth - Form for reporting the event of still birth - Form for reporting the event of death - Disposal of death - Procedure for disposal of dead - Cases required to be referred to Police - Condition for disposal of dead.

E] **FOOD SANITATION -**

- Foods as disease carriers, preservation of food, food safety measures, Do's and don'ts
- Food adulteration, food sampling regulation, food toxicity, lathyrism, aflatoxins in food.
- Food quality standards, food packaging norms, Agro-marks ISI & Role of FDA
- Food handlers safety promotion programme.
- **P F A Act, Food Safety and Standards Act 2006** – Food safety and standards authorities of India – Functions of the Chief Executive Officer – Central Advisory Committee – Duties and functions of food authority – Proceedings of food authority- General principles of food safety authority – Special responsibility as to food safety.

PRACTICALS:

Introduction to Management – Discussion on Health Management – Case Studies.

Trade Premises – Learning inspection of enlisted Trade Premises under supervision, procedure of action taken, Procedure of licensing to various Trade Institutes under Health Department, Visits to different Health Institutions / Shops / Hotel, etc. Visit to Blood Banks, Nursing homes, Hospitals, Maternity homes, Swimming Pools, Drama Theatres, Cinema Houses, Cemetery, Abattoir, Visit to Cowshed.

Health Legislations, Food Sanitation – Medical legislations – Evolution and enlistment of major legislations, Objective provisions penalty and other implications of a) Bombay Nursing Home Registration Act, Epidemic Act, Quarantine Act, RBD Act, Marriage Act, MTPACT, Visit to Sonography Clinic for PCPNDT Act, COTPA Act, Disease Notification Act (B) Right to Information Act – RTI – Human Rights Act, Suppression of Immoral Traffric Act, Consumer Grievanes, Redressal Act, Medical Negligence Act, Organ Donation Act, Child Labour Act, ESIS Act, Factory Act, Biomedical Waste Management Act.

F.S.S. – Learning the methods of sampling of suspected food samples – Licensing conditions under F.S.S.A demonstration of common adulterants and procedure for detection, Common sampling techniques, Visit to laboratory for examination of water, milk, oils, sweets, like Pedha, Barfi, Khoa, Food items, Finding out adulterants, Additives, Fortifiers, Iodized salt.

R.B.D Act – Visit to Birth/Death Registration Offices / Medical Officer of Health Offices for Registration process, Issue of certificates, Procedure for correction in certificates.

Disposal of Dead – Visit to Cemetry Hindu, Christian, Muslim for procedures of disposal of dead, Filling up forms, Maintenance of Cemeteries