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 brainstormings, 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 skills 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.

**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

<table>
<thead>
<tr>
<th>Paper no.</th>
<th>Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Anatomy &amp; Physiology, Microbiology.</td>
</tr>
<tr>
<td>II</td>
<td>Public Health, Pharmachoogy and Nutrition</td>
</tr>
</tbody>
</table>

### 1st year - 2nd Semester

<table>
<thead>
<tr>
<th>Paper no.</th>
<th>Subject</th>
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</thead>
<tbody>
<tr>
<td>III</td>
<td>Public Health Administration, Sociology, Behavioural Sciences, Personality Development, Mental Health.</td>
</tr>
<tr>
<td>IV</td>
<td>Co-ordination &amp; Implementation Communication in Health, Health Education, Minor Ailments, Entomology &amp; Parasitology, Personal Hygiene,</td>
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</table>
### 2nd year - 3rd Semester

<table>
<thead>
<tr>
<th>Paper no.</th>
<th>Subject</th>
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</thead>
<tbody>
<tr>
<td>VI</td>
<td>Epidemiology, I.D.S.P, Epidemics Investigations, Statistics, Bio-medical Waste, Health Economics, Community Health Assessment..</td>
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</table>

### 2nd year - 4th Semester

<table>
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<th>Paper no.</th>
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<tbody>
<tr>
<td>VIII</td>
<td>Entomology, Parasitology, Communicable and Non-communicable Diseases, Health Problems,</td>
</tr>
<tr>
<td>XI</td>
<td>Project planning, Recent Advances, Demonstration &amp; Family Welfare, M.C.H, R.C.H, Record Maintenance &amp; Reports.</td>
</tr>
<tr>
<td>X</td>
<td>Introduction to Management, Trade Premises, Health Legislations, FSSA, RBD, Food Sanitation.</td>
</tr>
</tbody>
</table>

**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

<table>
<thead>
<tr>
<th>Topics</th>
<th>Teaching Hours</th>
<th>Mode of Examination</th>
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<tbody>
<tr>
<td></td>
<td>Theory hours</td>
<td>Pract loveca</td>
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<tr>
<td>Paper I – Anatomy, Physiology, Microbiology</td>
<td>120</td>
<td>40</td>
</tr>
<tr>
<td><strong>PAPER II</strong> - Public Health, Pharmacology, Nutrition</td>
<td>110</td>
<td>20</td>
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<tr>
<td>Total</td>
<td>230</td>
<td>60</td>
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### 1st year - 2nd Semester

<table>
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<th>Mode of Examination</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Theory hours</td>
<td>Pract loveca</td>
</tr>
<tr>
<td><strong>PAPER III</strong> - Public Health Administration, Sociology, Behavioural Sciences, Personality Development, Mental Health</td>
<td>120</td>
<td>30</td>
</tr>
<tr>
<td><strong>PAPER IV</strong> – Coordination &amp; Implementation Communication in Health, Health Education, Minor Ailments, Entomology &amp; Parasitology, Personal Hygiene, Home Nursing &amp; Elementary Medical Care, Important Techniques, First Aid.</td>
<td>130</td>
<td>80</td>
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<td><strong>TOTAL</strong></td>
<td>370</td>
<td>175</td>
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### 2nd year - 3rd Semester

<table>
<thead>
<tr>
<th>Topics</th>
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<th>Mode of Examination</th>
<th>Marks</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Theory hours</td>
<td>Practical hours</td>
<td>Total hours</td>
</tr>
<tr>
<td>Paper VI - Epidemiology, I.D.S.P, Epidemics Investigations, Statistics, Biomedical Waste, Health Economics, Community Health Assessment</td>
<td>130</td>
<td>70</td>
<td>200</td>
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<td>Total</td>
<td>255</td>
<td>150</td>
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### 2nd year - 4th Semester

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<thead>
<tr>
<th>Topics</th>
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<th>Mode of Examination</th>
<th>Marks</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Theory hours</td>
<td>Practical hours</td>
<td>Total hours</td>
</tr>
<tr>
<td>Paper VIII – Entomology, Parasitology, Communicable And Non-Communicable Diseases, Health Problems</td>
<td>120</td>
<td>30</td>
<td>170</td>
</tr>
<tr>
<td>Paper X – Introduction To Management, Trade Premises, Health Legislation, Fssa, Rbd, Food Sanitation</td>
<td>120</td>
<td>100</td>
<td>220</td>
</tr>
<tr>
<td>Total</td>
<td>370</td>
<td>190</td>
<td>590</td>
</tr>
</tbody>
</table>

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 – AllILSG 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 concept 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 outlook. 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 1st, IIInd & 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

<table>
<thead>
<tr>
<th>No.</th>
<th>Content</th>
<th>Teaching hours</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Theory</td>
<td>Practical</td>
</tr>
<tr>
<td>A.</td>
<td>Anatomy &amp; Physiology</td>
<td>80</td>
<td>10</td>
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<tr>
<td>B.</td>
<td>Microbiology</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>C.</td>
<td>Laboratory technique</td>
<td>5</td>
<td>10</td>
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<tr>
<td>Total</td>
<td></td>
<td>120</td>
<td>40</td>
</tr>
</tbody>
</table>

THEORY

A] Anatomy & Physiology


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

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• **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.


• **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.


• **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 of touch - 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.
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**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 – Carbon 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 – Hypersensitivity – Antigen and antibody complexes
- **Some pathogenic organisms** – Gram positive cocci – Staphylococci, Streptococci, Pneumococci – Gram negative cocci – Neisseria meningitidis, Neisseria gonorrhoea
- **Gram negative bacilli** – Salmonella typhi, Paratyphi, Shigella, Vibrio and Eltor cholera, Pasteurella, Bordetella, Brucella
- **Gram positive bacilli** – Corynebacterium diphtheria, claustridium 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 asteroides (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.

- Blood Parasites – Malaria, Leishmania, Trypanosome
- 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 identification 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


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 staining
- 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.
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PAPER II – PUBLIC HEALTH, PHARMACOOGY, NUTRITION

<table>
<thead>
<tr>
<th>No.</th>
<th>Content</th>
<th>Teaching hours</th>
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<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Theory</td>
<td>Practical</td>
</tr>
<tr>
<td>A</td>
<td>Public Health</td>
<td>60</td>
<td>100</td>
</tr>
<tr>
<td>B</td>
<td>Pharmacology</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>C</td>
<td>Nutrition</td>
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<td></td>
<td>Total</td>
<td>110</td>
<td>20</td>
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</table>

THEORY

A] PUBLIC HEALTH –


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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 – Prevention of diseases – Primordial, Primary, Secondary - Tertiary prevention – Disability limitations, Rehabilitation.


B) PHARMACOLOGY


- 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


* 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** –

– 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 –
  o Vitamins
  o Minerals
  o 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** –
    - **Cholecalciferol (Vitamin D)** - Sources – Daily requirements – Vitamin D deficiency disorders – Prevention
  C. **Vitamin B – Complex** –
    I. **Thiamine (Vitamin B\textsubscript{1})** – Sources – Daily requirements – Deficiency disorder – Prevention
    II. **Riboflavin (Vitamin B\textsubscript{2})** – Sources – Functions – Daily requirements – Deficiency diseases
    III. **Niacin / Nicotinic Acid (Vitamin B\textsubscript{3})** – Sources – Daily requirements – Deficiency diseases
    IV. **Pyridoxine (Vitamin B\textsubscript{6})** – Sources – Daily requirements – Deficiency diseases
    V. **Cyanocobalmin (Vitamin B\textsubscript{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
    C. **Iron** – Sources – Functions – Deficiency diseases – Prevention and control – Diet, Control of infection, Specific protection, Food fortification.
    D. **Fluorine** – Source – Deficiency diseases – Intervention.


• Nutritional assessment – Clinical examination, Anthropometry, Laboratory assessment.
- Milk and Milk products
- Balanced diet
- Food borne diseases – Lathyism, 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.
  - Turmeric 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 Salicylic 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**

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### 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.

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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, assimilation 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, gender 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.


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,

-26-

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, adjustment, 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.

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10 - Social crimes, Juvenile delinquency, mental rehabilitation.
11 – Epilepsy.
12 – Role of health worker in Mental Hygiene.


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.**

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**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 - Labeling, Sensory, Impairment, Talking too fast, Language understanding.

- **Interpersonal communication** – Interview – Non-verbal communication – Importance of counseling, Qualities of counselor – Techniques of counseling – Do's and Don'ts of counseling – 7 steps to counseling – Skills required for 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 of 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.


● 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 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 from a 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 ear - How to tell when there is bleeding inside the body and what to do?


- **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 diseases 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 woman 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

• Exclusion and Personal Protection Against, Arthropods – Screening – Bednets – Protective – Repellents – Synthetic.

• Identification and destruction of Microorganism – Disinfection – Sterilization – Role of health workers in identification – Laboratory techniques – Disinfection


• Integrated Vector Control –


• 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


• 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
  
  
  4. Threadworm (Enterobius vermicularis) – 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**
  
  o Round Worm (A. lumbricoids)
  
  o Round Worm (Median Focus)
  
  o Round Worm (Unfertilised)
  
  o Round Worm (without other envelope)
  
  o Hook worm (A. Duodenal)
  
  o Thread Worm (E. Vermicularis)
  
  o Whip Worm (T. Tricura)
  
  o Beef or Pork Tape Worm (T. Saginata or T Solium)
  
  o Dwarf Tape Worm (H. Mana)

• **Tape Worm Eggs in Stool of Man**
  
  o Fish Tape Worm (D. Latum)
  
  o S. Japonicum (Blood Flukes)
  
  o S. Haematobium (Blood Flukes)
  
  o 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 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


• **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


- 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 –


- Civil defense – Problems of first aid in war.


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 Arthropods 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

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<td><strong>65</strong></td>
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**A] PRIMARY HEALTH CARE –**

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) –**

- **Janani Shishu Suraksha Yojana** - Salient features - Vandemataram Scheme - Sare abortion services - Integrated management of neonatal and childhood illness.
- **Role of Rogi Kalyan Samiti**

- **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**

Prevention and control of occupational diseases –


D] Local Self-Government Institutions –


E] Disaster Preparedness and Management –


- 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 -

- UNICEF – Introduction - Regions - Functions - GOBIFF Campaign
- International Red Cross - Introduction - Objectives - Scope
- Indian Red Cross
- World Bank - Introduction - Objectives
• Rockefeller 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.

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PAPER I

PUBLIC HEALTH MANAGEMENT, ISSUES, CHALLENGES AND EPIDEMIOLOGY,

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### A] BASICS OF EPIDEMIOLOGY AND ITS APPLICATION

1. Concept, meaning, definition, approaches, Time / Place Person orientation, frequency of 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-ratio, 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,

- **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 contact
  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 of 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 of 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 -


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


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 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

- Health information and its Definition – Statistic or datum and its Definition – Biostatistics – Objectives of biostatistics and sources – Surveys - Records – Application and uses of biostatistics 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 –

F] IMMUNIZATION


G] NATIONAL HEALTH PROGRAMMES -


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.

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**PAPER II**

**ENVIRONMENTAL HEALTH AND SANITATION**

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-50-
### 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.


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


H] SANITATION AT FAIRS, FESTIVALS & CAMPS


Kumbh Mela –

Sanitary control at Haj Pilgrimage –


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-toluidinearsenite 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.


**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.

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**PAPER III**

**COMMUNICABLE AND NON COMMUNICABLE DISEASES, HEALTH PROBLEMS**
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### 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.


- **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.


- **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 between 2 months and 5 years – Classification of cough – Conditions and action to be 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 be referred to health centre – Prevention of pneumonia – Breast feeding, immunization, vitamin A prophylaxis and nutrition for preventing pneumonia.


- **Intestinal Infections:**


- **Viral Hepatitis** –


- **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.


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


- **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** –

  2. **Filariasis** – Introduction – Filarial problem 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


• **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


• **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


• **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 – Varicella Vaccine – Meningococcal vaccine, Hepatitis A Vaccine, Rotavirus vaccine – New TB Vaccine – Gardasil – Chicken pox booster shots – Seasonal influenza Vaccine – H1N1 Vaccine – Malaria Vaccine


B] EPIDEMIOLOGY OF NON-COMMUNICABLE DISEASES:-


- Stroke – Problem – Morbidity – Mortality – Risk factors

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


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• **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.


**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

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<td><strong>D</strong> M.C.H.</td>
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<td><strong>F</strong> RECORD MAINTENANCE &amp; REPORTS</td>
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</table>
A] COORDINATION AND IMPLEMENTATION:

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

2 – Understanding mechanism of development of 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 tabular 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 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.


- **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.


C] DEMOGRAPHY AND FAMILY WELFARE:


- 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


### 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.


• **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.


**E] REPRODUCTIVE AND CHILD HEALTH PROGRAMME**


• **Gender Issues** – Female genital metallization and cutting – Child marriage – Sexual abuse excitation and trafficking HIV/AIDS.
F] MAINTENANCE OF RECORD AND REPORTS


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

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<th>PRACTICAL HOURS</th>
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TOTAL  120  100

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 of Food Adulteration Act, / FSSA act, PCPNDT Act, COTPA Act, Disease notification act.


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, lathyrisim, 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.


**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 Cemetery Hindu, Christian, Muslim for procedures of disposal of dead, Filling up forms, Maintenance of Cemeteries