

# Curriculum

## DNB Broad Specialty

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# Community Medicine

- ◆ Objectives of the Programme
- ◆ Teaching and Training Activities
- ◆ Syllabus
- ◆ Competencies
- ◆ Log Book
- ◆ Recommended Text Books and Journals

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# INDEX

S. No	Contents	Page No.
I	Objectives of the Programme	5
II	Teaching and Training Activities	12
III	Syllabus	13
IV	Competencies	30
V	Log Book	38
VI	Recommended Text Books and Journals	39

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## I. OBJECTIVES OF THE PROGRAMME:

### 1. Programme Goal

- i. **Broad Goals:** To prepare a Planner, Manager, Solution -seeker, Researcher, Teacher and Philosopher in health issues (specifically preventive, promotive and rehabilitative health) of individual, family, community, nation and cross-nations. The overall goal of training programme is to produce a competent public health specialist who can function as a leader of health team and is able to provide effective health care at the primary, secondary and tertiary levels. The goal of postgraduate medical education shall be to produce specialists of Community Medicine who shall have the following competencies:
  - a. Recognize the health needs of the community and carry out professional obligations ethically and in keeping with objectives of the national health policy.
  - b. Have necessary abilities for the practice of Community Medicine
  - c. Be aware of the contemporary advances and developments in the discipline of Community Medicine.
  - d. Have a spirit of scientific enquiry and is oriented to the principles of research methodology and epidemiology.
  - e. Have the basic skills in training of the medical and paramedical professionals.

### 2. Programme Objectives

The objectives of postgraduate degree training programme - in terms of knowledge and skills – are to enable a candidate to:

- i. Lead team of health professionals for planning and managing community health problems effectively and proactively.
- ii. Study critically and manage existing health programmes of all levels (local state, national) and suggest alternatives for achieving desired goals.
- iii. Be proficient in human resource management along with materials (resources) and finance management for health schemes and health service implementation.
- iv. Have global perspective of health scenario and be capable of understanding cultural and societal specific health needs, its implications and its interventions.
- v. Plan budget, execute and evaluate health problems of routine and emerging in nature.
- vi. Have strong analytical abilities, comprehension skills, creativity, lateral thinking and resourcefulness.

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- vii. Administer functions of big hospitals (Size > 500 beds).
  - viii. Function effectively as Industrial Health Officer.
  - ix. Conduct and guide research in various disciplines of health sciences, health management, health systems research, and operational research.
  - x. Impart undergraduate curriculum of university in the subject in terms of knowledge and skills to medical, nursing and paramedical students.
  - xi. Work with consultants / full time officer of national and international agencies (Govt. as well as Non Govt.) working in the field of health.
  - xii. Identify and understand the changing health needs of ever-changing community and organize relevant effective interventions for amelioration of health problem.
  - xiii. Design need based teaching and training programmes / teaching materials for various categories of health professionals including its implementation and evaluation for the desired change in knowledge and skills.
  - xiv. Design need based health – teaching and training programmes / teaching materials for community at large for desired change in health practice.
  - xv. Develop as a “Health – Philosopher.”

### 3. General Objectives

The general objectives of the training programme in Community Medicine will be to enable a candidate to be a:

#### i. Public Health specialist:

- a. Define and manage the health problems of the community, which he/she serves. He/she should be able to organize epidemiological studies to identify health problems.
- b. Plan, implement and evaluate various health programs in his/her area, especially National Health, Family Welfare and disease control / eradication programmes.
- c. Select, train supervise and manage various categories of health personnel working with him/her.
- d. Organize health care services, routine and for special groups and during periods of special needs such as disasters/calamities and epidemics.
- e. Should update himself / herself on latest advances / developments in the field of

#### ii. Public Health Teacher:

- a. Plan and conduct an educational session/ programme. He/she will be able to draw up lesson plan with details of educational objective, content, process and essential inputs.

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- b. Assist in development of curriculum, teaching and learning activities and methods of evaluation
  - c. Assist in manpower planning and development. He/she should be able to participate in programmes for the selection, training and supervision of various cadres of health personnel

#### 4. Research

- i. Plan and execute a research study including clinical trials.
- ii. Use/Organize Biostatistical analysis using computers and softwares and prepare reports/papers.
- iii. Critically evaluate research activities
- iv. Make recommendations on policy and procedures

A candidate upon successfully qualifying should be competent in the following areas:

- a. Health policy, planning; leadership and management
- b. Epidemiology and Biostatistics
- c. Health Promotion and disease prevention
- d. Documentation and dissemination
- e. Behavioral Change Communication,
- f. Research Methodology
- g. Education technology
- h. Public Health Management
- i. Epidemiology
- j. Health Team Leadership
- k. Teaching and Training

#### **Research Specific Learning Objectives: In the area of**

- i. Public Health Management, he/she should be able to: -
  - a. Identify health problems of the community in the context of the sociocultural milieu
  - b. Prioritise health problems
  - c. Identify threats to the environment
  - d. Identify groups which require special attention (elderly, adolescents, gender the poor and other marginalized groups) including those facing occupational hazards

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- e. Set objectives, prepare action plan, implement programmes and monitor, supervise and evaluate them
  - f. Manage Health Information System and respond appropriately to the information gathered
  - g. Assess costs and carry out programme budgeting
  - h. Implement public health laws
  - i. Initiate, implement and supervise National Health Programmes
  - j. Establish Surveillance System and respond to public health threats efficiently and effectively
  - k. Anticipate, prepare for and respond to disasters
  - l. Plan human resources development
  - m. Manage logistics and materials effectively
  - n. Monitor and assure quality in programme implementation
- ii. Epidemiology, he/she should be able to: -
- a. Conduct epidemiological investigation of communicable, non- communicable and other diseases of public health importance and suggest appropriate solution
  - b. Use effectively the tools of epidemiology for understanding disease causation and determinants of diseases
- iii. Health Team Leadership, he/she should be able to: -
- a. Interact, communicate educate effectively persons from diverse backgrounds, areas and preferences to promote healthy behavior through community participation
  - b. Explain scientific information to public, decision makers and opinion leaders.
  - c. Nurture team spirit and harmonize activities of various members
  - d. Facilitate inter- sectoral coordination
  - e. Promote and establish partnerships
- iv. Teaching and Training, he/she should be able to: -
- a. Assess the learning needs of any given group (students, staff or community)
  - b. Formulate learning objectives
  - c. Plan curriculum and prepare curriculum materials
  - d. Select and implement appropriate learning methods
  - e. Evaluate learning experiences

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- v. Research, he/she should be able to: -
    - a. Critically evaluate data, identify gaps in knowledge and formulate research questions
    - b. Design and implement Epidemiological and Health Systems Research studies
    - c. Analyze data and present findings
    - d. Effectively communicate findings and Public Health Information
    - e. Apply ethical principles to the collection, maintenance, use and dissemination of data and information Post Graduate

**5.Special Objectives:** At the end of the program student will:

- i. Know the structure and functioning of the health system at the National and International levels and its historical perspectives.
- ii. Know the principles of nutrition, maternal health and family welfare and put the same into practice.
- iii. Apply the principles of Epidemiology and Biostatistics to health practice including the design and implementation of health related research studies and clinical preventive medicine trails.
- iv. Know the principles of Communicable and Non-communicable diseases control and assist in the implementation of National Health programmes at a program level.
- v. Identify the socio-cultural dimension in Health and disease and apply this knowledge in the design and implementation of an integrated Health and development program.
- vi. Apply the principals of environmental and occupational health in the design of health programmes aimed at improving health status.
- vii. Access specific health situations in a population, plan, organize, implement and evaluate programs aimed at improving health situations.
- viii. Identify the health needs of the special groups within populations especially the aged, the disabled and the worker and to respond to that need.
- ix. Know the principles of learning and apply this knowledge in facilitating the learning process in groups of people involved in health.
- x. Relate his/her knowledge of curative medicine to the improvement of the health status of a given population.
- xi.** Identify the role of the Government, Private and Voluntary sector in health and understand the principles of innovations in health practices and research

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## Specific Learning Objectives:

- i. Public Health Management, he/she should be able to: -
  - a. Identify health problems of the community in the context of the socio - economic - cultural milieu
  - b. Prioritize health problems
  - c. Identify threats to the environment
  - d. Identify groups which require special attention (elderly, adolescents, gender, the poor and other marginalized groups) including those facing occupational hazards
  - e. Set objectives; prepare action plan; implement programmes; and monitor, supervise and evaluate them
  - f. Manage Health Information System and respond appropriately to the information gathered
  - g. Assess costs, plan, implement and supervise budget and alternative health options
  - h. Understand and Implement public health laws
  - i. Initiate, implement and supervise National Health Programmes
  - j. Establish Surveillance System and respond to public health threats effectively and efficiently
  - k. Anticipate, prepare for and respond to disasters
  - l. Plan health manpower development, logistics and materials management.
  - m. Study quality assurance and medical audit (14) Understand basics of hospital management
  - n. Epidemiology, he/she should be able to: -
    - o. Conduct epidemiological investigation of communicable, non- communicable and other phenomena of public health importance and suggest appropriate solution.
    - p. Use effectively the tools of epidemiology for understanding disease distribution and determinants of diseases. In the area of
- ii. Health Team Leadership, he/she should be able to: -
  - a. Understand the structure and organizational behavior
  - b. Interact, communicate, educate effectively to persons from diverse backgrounds, ages and gender to promote healthy behaviour through community involvement.
  - c. Explain scientific information to decision makers and opinion leaders and general public.

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- d. Facilitate inter-sectoral coordination
  - e. Promote and establish partnerships - partnering with community, Panchayati Raj Institutions, public private partnerships, NGOs and corporate sector
- iii. Teaching and Training, he/she should be able to: -
- a. Assess the learning needs of any given group.
  - b. Formulate learning objectives.
  - c. Plan curriculum and prepare curriculum materials.
  - d. Select and implement appropriate learning methods.
  - e. Evaluate learning experiences.
- iv. Research, he/she should be able to: -
- a. Critically evaluate data, identify gaps in knowledge and formulate research questions
  - b. Design and implement Epidemiological and Health Systems research studies
  - c. Design and implement qualitative research methods, when appropriate
  - d. Analyze data and present findings
  - e. Effectively document and disseminate findings
  - f. Apply ethical principles to the collection, maintenance, use and dissemination of data and information

**6.Scope of Training:** The following skills and capacities required to achieve above objectives:

- i. General public health Skills: The post graduate student should be able to:**
  - a. Elicit the clinic-psychosocial history to describe the agent, host and environmental factors that determine and influence health;
  - b. Recognize and assist in management of common health problems of the community;
  - c. Apply principles of epidemiology in carrying out epidemiological studies in the community;
  - d. Work as a team member in rendering health care;
  - e. Carry out health education effectively for the community.
- ii. Laboratory and diagnostic skills:**
  - a. Water testing
  - b. Stool testing
  - c. Identification of vectors and microbiological tests for proper diagnosis

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- iii. **Communication Skills:** Able to communicate with the family, community, and government and non-government organizations; able to organize health education program in the community, generate community participation, etc.
  - iv. **Problem Solving skills:** RCH, Communicable and Non-Communicable diseases (including social problems) at the family and community level.
  - v. **Health care delivery skills:** Skills required to deliver Reproductive and Child Health at the community level; a minimum of 5-10 families to followed for a year to study various family dynamics aiming at educating and improving the health of family members;
  - vi. **Epidemiological, Statistical and Analytical skills:** Conduction of survey or study; analysis and interpretation of results

## II. TEACHING AND TRAINING ACTIVITIES:

The fundamental components of the teaching programme should include:

1. Case presentations & discussion- once a week
2. Seminar – Once a week
3. Journal club- Once a week
4. Grand round presentation (by rotation departments and subspecialties)- once a week
5. Faculty lecture teaching- Once a month
6. Clinical Audit-Once a Month
7. A poster and have one oral presentation at least once during their training period in a recognized conference.

The rounds should include bedside sessions, file rounds & documentation of case history and examination, progress notes, round discussions, investigations and management plan) interesting and difficult case unit discussions.

The training program would focus on knowledge, skills and attitudes (behavior), all essential components of education. It is being divided into theoretical, clinical and practical in all aspects of the delivery of the rehabilitative care, including methodology of research and teaching.

- i. **Theoretical:** The theoretical knowledge would be imparted to the candidates through discussions, journal clubs, symposia and seminars. The students are exposed to recent

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advances through discussions in journal clubs. These are considered necessary in view of an inadequate exposure to the subject in the undergraduate curriculum.

**ii. Symposia:** Trainees would be required to present a minimum of 20 topics based on the curriculum in a period of three years to the combined class of teachers and students. A free discussion would be encouraged in these symposia. The topics of the symposia would be given to the trainees with the dates for presentation.

**iii. Clinical:** The trainee would be attached to a faculty member to be able to pick up methods of history taking, examination, prescription writing and management in rehabilitation practice.

**iv. Bedside:** The trainee would work up cases, learn management of cases by discussion with faculty of the department.

**v. Journal Clubs:** This would be a weekly academic exercise. A list of suggested Journals is given towards the end of this document. The candidate would summarize and discuss the scientific article critically. A faculty member will suggest the article and moderate the discussion, with participation by other faculty members and resident doctors. The contributions made by the article in furtherance of the scientific knowledge and limitations, if any, will be highlighted.

**vi. Research:** The student would carry out the research project and write a thesis/ dissertation in accordance with NBE guidelines. He/ she would also be given exposure to partake in the research projects going on in the departments to learn their planning, methodology and execution so as to learn various aspects of research.

### **III. SYLLABUS:**

Students will be posted to learn organization and administration of hospital services and understand system used for collection, recording and reporting of hospital statistics, inventory control of medical stores, hospital laundry, hospital dietary, CSSD, ensuring quality of health care, clientele satisfaction, hospital infection control, medical audit.

#### **1. Subject Specific Theoretical Competencies:**

- i. History of Public Health and Preventive and Social Medicine
- ii. History of different systems of Medicine
- iii. Public health events - Sanitary awakening, germ theory of disease, rise of Public health in various countries

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- iv. Primary Health

## **2. Core Concepts in Public Health:**

- i. Definition of health; appreciation of health as a relative concept; determinants of health.
- ii. Characteristics of agent, host and environmental factors in health and disease and the multifactorial etiology of disease.
- iii. Understanding of various levels of prevention with appropriate examples.
- iv. Indices used in measurement of health.
- v. Health situation in India: demography, mortality and morbidity profile and the existing health facilities in health services.
- vi. Difficulties in measurement of health.
- vii. National Health Policy

## **3. Community Medicine:**

- i. Concept of Health & Disease
- ii. History of medicine, evolution of public health, alternative systems of medicine Definition and concepts of public health
- iii. Definition of health, holistic concepts of health including concept of spiritual health, appreciation of health as a relative concept, determinants of health
- iv. Characteristics of agent, host and environmental factors in health and disease and the multifactorial etiology of disease Understanding the natural history of disease and application of interventions at various levels of prevention Health indicators
- v. Health profile of India
- vi. Concept of rehabilitation, its types and techniques
- vii. Social and Behavioural Sciences
- viii. Clinico- social, cultural and demographic evolution of the individual, family and community Humanities and Community Medicine Social organizations with special reference to family Religion, its evolution as a special instance of the evolution of social institutions
- ix. Major tenets of the common religions in India & their influence on health & disease
- x. Assessment of barriers to good health and health seeking behavior
- xi. Methodology in social research (Attitude surveys, Questionnaires, Interviews)
- xii. Health economics

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- xiii. Social security in India Culture and its impact on health Customs, taboos and mores Medical social worker
  - xiv. Doctor patient relationship
  - xv. Social problems e.g. child abuse, juvenile delinquency, drug addiction, alcoholism, marital maladjustment, domestic violence, suicide and attempted suicide,
  - xvi. Problems of the old, caste system
  - xvii. Psychology and its concepts The Psycho analytic theory Human personality, its foundations, development and organization
  - xviii. Development of child and its impact on its personality Psychological tests- personality tests, intelligence tests Group dynamics
  - xix. Hospital psychology

#### **4. Epidemiology:**

- i. Use of epidemiological tools to make a community diagnosis of the health situation in order to formulate appropriate intervention measures.
- ii. Epidemiology - definition, concept and role in health and disease.
- iii. Definition of the terms used in describing disease transmission and control.
- iv. Natural history of a disease and its application in planning intervention.
- v. Modes of transmission and measures for prevention and control of communicable and non-communicable disease.
- vi. Principal sources of epidemiological data.
- vii. Definition, calculation and interpretation of the measures of frequency of diseases and mortality.
- viii. Need and uses of screening tests.
- ix. Accuracy and clinical value of diagnostic and screening tests (sensitivity, specificity, & predictive values).
- x. Epidemiology of communicable and non-communicable diseases of public health importance and their control.
- xi. Epidemiological basis of national health programmes.
- xii. Awareness of programmes for control of non-communicable diseases.
- xiii. Awareness of programmes for control of communicable diseases. (a) Planning and investigation of an epidemic of communicable diseases in a community setting. (b) Institution of control measures and evaluation of the effectiveness of these measures.
- xiv. Various types of epidemiological study designs.
- xv. Planning an intervention programme with community participation based on the community diagnosis.

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- xvi. Applications of computers in epidemiology.
  - xvii. Critical evaluation of published research.

### **5. Epidemiology of Specific Diseases:**

- i. Extent of the problem, epidemiology and natural history of the disease.
- ii. Relative public health importance of a particular disease in a given area.
- iii. Influence of social, cultural and ecological factors on the epidemiology of the disease.
- iv. Control of communicable and non-communicable disease by:
  - a. Diagnosing and treating a case and in doing so demonstrate skills in:
  - b. Clinical methods
  - c. Use of essential laboratory techniques
  - d. Selection of appropriate treatment regimes.
  - e. Follow-up of cases.
- v. Principles of planning, implementing and evaluating control measures for the diseases at the community level bearing in mind the relative importance of the disease.
- vi. Institution of programmes for the education of individuals and communities.
- vii. Investigating a disease epidemic.
- viii. Knowledge of the National Health Programmes.
- ix. Level of awareness of causation and prevention of diseases amongst individuals and communities.

### **6. Entomology:**

- i. Role of vectors in the causation of diseases.
- ii. Steps in management of a case of insecticide toxicity.
- iii. Identifying features of and mode of transmission of vector borne diseases.
- iv. Methods of vector control with advantages and limitations of each.
- v. Mode of action, dose and application cycle of commonly used insecticides.

### **7. Principles and Practice of Information, Education and Communication:**

- i. Principles of IEC Health Education
  - a. Objectives of Health Education
  - b. Content of Health Education
- ii. Communication Skills, Principles of Communication
  - a. Communication barrier
  - b. Body Language and non-verbal communication
- iii. The use of Media for IEC

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- iv. Practice (Methods) of IEC and its application in Community Health
  - v. Evaluation of impact of IEC program

#### **8. Biostatistics:**

- i. The scope and use of Biostatistics
- ii. Collection, classification and presentation of statistical data
- iii. Analysis and interpretation of data.
- iv. Obtaining information, computing indices (rates and ratio) and making comparisons.
- v. Apply statistical methods in designing of studies
- vi. Choosing of appropriate sampling methods and sample size.
- vii. Applying suitable test of significance and Use of statistical tables.

#### **9. Health Statistics**

- i. Introduction of Role of statistics in Public Health
- ii. Collection of data
- iii. Sampling in Public Health
- iv. Statistical classification of health data
- v. Handling and processing of statistical information
- vi. Analysis of demographic data o Measurement of morbidity, mortality and fertility
- vii. Standardization of rates and standard indices
- viii. Life tables
- ix. Statistical techniques of evaluation in Public Health Descriptive Statistics
- x. Introduction to biostatistics- aim and scope
- xi. Collection of data- basic ideas
- xii. Presentation of data- tabulation, diagram and graphs
- xiii. Measures of central tendency and dispersion o Normal distribution
- xiv. Elementary idea of skewness
- xv. Concepts of correlation and regression Statistical inferences o Elementary idea of probability
- xvi. Sampling techniques
- xvii. Test of Significance-Chi Square, t-test, z-test, ANOVA
- xviii. Basic idea of testing of hypothesis
- xix. Advanced statistical techniques, multivariate regression analysis, statistical models, understanding of survival analysis
- xx. Use of Epi info, SPSS/ other computer software Special topics in Biostatistics

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- xxi. Clinical Trials-Aim and scope, general principles, use of controls, final presentation of results-discussion of some well-known clinical trials
  - xxii. Prophylactic Trials-Assessment by time trends and geographical comparison, controlled prophylactic trials, discussion of some well-known clinical trails
  - xxiii. Retrospective and prospective studies and follow up studies, discussion of important studies
  - xxiv. Field studies, prevalence surveys, guiding principles for data collection

#### **10. Health planning and Public Health Administration:**

- i. Explain the terms: public health, public health administration, regionalisation, comprehensive health care, primary health care, delivery of health care, planning, management, evaluation, National Health Policy, Development of Health Services in India and various committee reports.
- ii. Components of health care delivery
  - a. Describe the salient features of the National Health Policy concerning:
    - Provision of Medical Care;
    - Primary Health Care and Health for All;
    - Health Manpower Development;
    - Planned Development of Health Care Facilities;
    - Encouragement of Indigenous Systems of Medicine.
  - b. Explain the process of health planning in India by demonstrating awareness of various important milestones in the history of health planning including various committees and their recommendations.
  - c. The health systems and health infrastructure at Centre, state district and block levels. The inter-relationship between community development block and primary health centre. The organization, function and staffing pattern of community health centre, primary health centre, rural health centre and sub-centre etc.
  - d. The job descriptions of health supervisor (male and female); health workers; village health guide; anganwadi workers; traditional birth attendants.
  - e. The activities of the health team at the primary health centre, Community health centre, district hospital.
  - f. Organogram of the health care system –Public and private

#### **11. Health Management:**

- i. Familiarity with management techniques: define and explain principles of management;

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- a. Introduction to Management: Principles & Techniques
  - b. Financial Management in Healthcare
  - c. Human Resources in Health Organizations
  - d. Health Management Information Systems
  - e. Organizational Behaviors
  - f. Management of district/state health systems
  - g. Operations Research
  - h. Resource Management
  - ii. Organizational Leadership
  - iii. Components of health care delivery.
    - a. Appreciate the need for International Health Regulations and Disease surveillance.
    - b. Be aware of the constitutional provisions for health in India.
    - c. Enumerate the major divisions of responsibilities and functions (concerning health) of the union, local and the state governments
    - d. Organizations: Appreciate the role of national, international voluntary agencies in health care delivery like WHO, UNICEF, UNDP, World Bank, IMA, Indian Public Health Association, Indian Association of Preventive and Social medicine, etc. Organization structure of these organizations
    - e. Explain general principles of health economics and various techniques of health management e.g., cost-effectiveness, cost-benefit etc.

## **12. Nutrition:**

- i. Nutritional problems of the country; Role of nutrition in Health and Disease.
- ii. Common sources of various nutrients and special nutritional requirement according to age, sex, activity, physiological conditions
- iii. Nutritional assessment of individual, families and the community by selecting and using appropriate methods such as: anthropometry, clinical, dietary, laboratory techniques
- iv. Compare recommended allowances of individual and families with actual intake.
- v. Plan and recommend a suitable diet for the individuals and families bearing in mind local availability of foods, economic status etc.
- vi. Common nutritional disorders: protein energy malnutrition, Vitamin A deficiency, anemia, iodine deficiency disorders, fluorosis, food toxin diseases and their control and management.
- vii. National Nutritional Policy.
- viii. National programmes in nutrition and their evaluation

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- ix. Food adulteration: prevention and control.
  - x. Applied Nutrition
  - xi. Nutrients, common sources and their requirement according to age, sex, activity and physiological conditions
  - xii. Balanced diet, Prudent diet
  - xiii. Techniques of nutritional assessment of individual, family and the community
  - xiv. Plan and recommend a suitable diet for the individuals and families as per local availability of foods and economic status etc.
  - xv. Common nutritional disorders, specific nutrient deficiency disorders, disorders related to toxins in food; their control and management
  - xvi. Food fortification, additives and adulteration, food hygiene Social and cultural factors in nutrition and health Food and economics
  - xvii. Important National nutritional programmes
  - xviii. National Nutrition Policy
  - xix. Nutritional surveillance, education and rehabilitation
  - xx. Role of diet in specific diseases like coronary heart disease, diabetes, obesity etc.
  - xxi. Food and legislation
  - xxii. Future trends in nutrition

### **13. Environmental Sanitation:**

- i. Awareness of relation of Environment to Health.
- ii. Awareness of the concept of safe and wholesome water.
- iii. Awareness of the requirements of sanitary sources of water.
- iv. Understanding the methods of purification of water on small scale with stress on chlorination of water
- v. Various biological standards.
- vi. Concepts of safe disposal of human excreta.
- vii. Physical, chemical standards; tests for assessing quality of water.
- viii. Disposal of solid waste, liquid wastes both in the context of urban and rural conditions in the community.
- ix. Problems in the disposal of refuse, sullage and sewage.
- x. Sources, health hazards and control of environmental pollution.
- xi. Influence of physical factors – like heat, humidity, cold, radiation and noise – on the health of the individual and community.
- xii. Standards of housing and the effect of poor housing on health.
- xiii. Climate Change and Public Health

### **14. Tropical Medicine;**

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Principles of tropical medicine, Infectious and non-Infectious of tropical region, Disease Epidemiology; e.g., Small Pox, Chicken Pox, Measles, Mumps; Rubella, Diphtheria, Pertussis, Influenza, Tuberculosis, ARI etc.; Poliomyelitis, Hepatitis, Food Poisoning; Cholera, Enteric Fevers, Amoebiasis, Worm Infestations etc.; Malaria, Filaria, Dengue and others; Brucellosis, Rickettsial Diseases, Parasitic infestations; Surface Infectious Diseases of Public Health Importance; Non-Infectious Diseases of Public Health Importance; Cardiovascular diseases, diabetes, blindness, accidents, cancers; Emerging and reemerging disease

**15. Communicable diseases:**

- i. Intestinal infections: Poliomyelitis, viral hepatitis, diarrhea, cholera, helminthiasis, typhoid fever etc.
- ii. Respiratory infections: Acute respiratory infections, measles, mumps, rubella, influenza, diphtheria, whooping cough, tuberculosis etc.
- iii. Vector-borne infections: Malaria, filariasis, kala-azar, dengue, yellow fever etc.
- iv. Surface infections: Sexually transmitted diseases, HIV & AIDS, tetanus, leprosy, scabies, pediculosis etc.
- v. Zoonosis: Rabies, Japanese encephalitis, plague, Kyasanur forest disease, leptospirosis, brucellosis, anthrax, other viral / bacterial / parasitic / rickettsial zoonoses etc.

**16. Non-communicable and lifestyle diseases-** Non-communicable and lifestyle diseases including obesity and cancers Coronary artery disease, hypertension, stroke, obesity, diabetes, rheumatic heart disease, blindness, cancers, accidents etc. Above diseases to be studied in detail under the following subheads:

- i. Extent of problem, epidemiology and natural history of disease
- ii. Public health importance of particular disease in local area
- iii. Influence of social, cultural and ecological factors on the epidemiology of particular disease
- iv. Diagnosing disease by clinical methods, using essential laboratory techniques at primary care level
- v. Treatment of a case, as per National Programme guidelines and also follow up of case
- vi. National Health Programme for particular disease
- vii. Understand the principles of control of an epidemic
- viii. Training of health workers in disease surveillance, control, treatment and health education
- ix. Management information system in a particular disease

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- x. New/ emerging diseases and health related problems

**17. Reproductive and Child Health:**

- i. Current status of reproductive and child health
- ii. Screening of high risk groups and common health problems
- iii. Local customs and practices during pregnancy, lactation, child rearing, child feeding practices including complementary feeding
- iv. Breast feeding and its importance
- v. Indicators of RCH
- vi. Causes of perinatal/infant/maternal mortality and measures for reduction of the same Essential obstetric care, emergency obstetric care
- vii. Essential newborn care
- viii. Reproductive child health (RCH) components, including child survival and safe motherhood, universal immunization programme, integrated child development services scheme (ICDS), integrated management of neonatal and childhood illness (IMNCI) and other existing programmes
- ix. Organization, implementation and evaluation of reproductive and child health program components
- x. Various family planning methods, their advantages and shortcomings Medical termination of pregnancy and Act (MTP Act)
- xi. Adolescent health Handicapped Child Gender issues and women empowerment Organizations, technical and operational aspects of the National Family Welfare Programme

**18. Maternal Health, Child Health and Family Welfare (Rch):**

- i. Common Maternal and child health problems at an individual level
  - a. Antenatal Care
  - b. Risk Approach
  - c. Antenatal visits
  - d. Preventive services
  - e. Intranatal Care
  - f. Postnatal Care
  - g. Care of the mother
  - h. Child Health Problems
    - i. Low Birth Weight
    - j. Growth and Development
    - k. Childhood Infections
    - l. Care of the infant

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- ii. Genetics and Health
    - a. Common genetic problems
    - b. Management of Genetic Problems
    - c. Preventive and Social Measures in Genetics
  - iii. Structure of MCH and Family Welfare services in India
    - a. Problems of Maternal Health in India
    - b. Delivery of Maternal and Child Health Services
    - c. Trends in the MCH services
    - d. MCH related programmes in India eg. RCH, CSSM, ICDS
    - e. Family Planning
    - f. Methods of family planning
    - g. Indicators of MCH care
  - iv. Social Paediatrics
    - a. Juvenile Delinquency
    - b. Child Abuse
    - c. Child Labour
    - d. Street Children
    - e. Child Guidance Clinic
    - f. Child Marriage
    - g. Child Placement

#### **19. Health Care of the Aged and The Disabled:**

- i. Community Geriatrics
  - a. Implications of demographic changes in Indian Population
  - b. Health Problems of the aged
  - c. Preventive Health Services for the aged
- ii. The Disabled and Rehabilitation Problem of disabled in the country
  - a. Types of disabilities and their management
  - b. Rehabilitation of the disabled
  - c. Community Based Rehabilitation
  - d. Health Care of Tribal people

#### **20. Demography and Family Planning:**

- i. Definition of demography and its relation to Community Health
- ii. Stages of the demographic cycle and their impact on population.
- iii. Definition, calculation and interpretation of demographic indices like birth rate, death rate, growth rate, fertility rates.
- iv. Reasons for rapid population growth in the world, especially in India.

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- v. Need for population control measures and the National Population Policy.
  - vi. Identify and describe the different family planning methods and their advantages and shortcomings.
  - vii. Principles of Counselling; Client satisfaction.
  - viii. Medical Termination of Pregnancy Act.
  - ix. Organisational, technical and operational aspects of the National Family Welfare Programme and participation in the implementation of the Programme. Target Free Approach.
  - x. Give guidelines for MTP and infertility services.
  - xi. Recent advances in contraception.
  - xii. National Population Policies.

## **21. Demography and Vital Statistics:**

- i. Concepts of demography, demographic cycle, vital statistics
- ii. Definition, calculation and interpretation of various demographic indices o Declining sex ratio and its social implication
- iii. Population explosion, population dynamics of India o Population control
- iv. National population policy o Sources of vital statistics like census, SRS, NFHS, NSSO etc.

## **22. Socio- Cultural Dimension in Health:**

- i. Principles of Sociology and the Behavioral Sciences
  - a. Concepts of Sociology and Behavioral Sciences
  - b. Influence of Social and Cultural Factors on Health and Disease
  - c. Social Structures and Social Organisation
- ii. Principles of Social Psychology
  - a. Principles of psychology
  - b. Principles of behavioral sciences
  - c. Principles of social anthropology
- iii. Application of Sociology in Health and Development
  - a. Social Problems in Health and Disease
  - b. Use of Sociology in addressing problems in Health and Disease
- iv. Epidemiology of Road Traffic Injuries, Fall Related injuries, Drowning, Fire Related Injuries, Natural and Man Made and prevention and control.

## **23. Sociology:**

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- i. Conduction of a socio-cultural evaluation of the individual in relation to social, economic and cultural aspects; educational and residential background; attitude to health, disease and to health services; the individual's family and community.
  - ii. Concept of Family, Types of family, Functions of family
  - iii. Assessment of barriers in health and identification of obstacles to good health, recovery from sickness and to leading a socially and economically productive life.
  - iv. Development of a good doctor – patient relationship, public relations and community participation for health sectors.
  - v. Identification of social factors related to health and disease in the context of urban and rural societies.
  - vi. Impact of urbanization on health and disease.

**24. Education Technology:**

- i. General principles of teaching/learning, methods of instructions, methods of evaluation
- ii. Various teaching aids (including a.v.aids) and skills to use them correctly.
- iii. Behavioral change communication strategy - Health education

**25. Mental Health:**

- i. Public health importance of mental health
- ii. Public health approach to mental health problems: types, diagnosis and management of mental health problems in the community.

**26. Community Mental Health:**

- i. Principles of Mental Health
  - a. Types
  - b. Causes and Warning signals of Mental Illness
  - c. Preventive aspects of mental Health and positive psychology
- ii. The Approach to Mental Health Problems in a Community Primary Health Care
  - a. Approach to mental health problems
  - b. Mental Health Services in the country
  - c. Mental health Act, Policy and other Recent advances

**27. Newer vaccines:**

- i. New screening/diagnostic methods applicable to public health problems
- ii. Role of Genetics in Community Health and Genetic Counseling at Primary Care Level.

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## 28. School Health:

- i. Problems of school and adolescents; Objectives of the School Health Programme.
- ii. Activities of the Programmes like:
  - a. Carrying out periodic medical examination of the children and the teachers.
  - b. Immunisation of the children in the school.
  - c. Health Education
  - d. Mid-day meals.
- iii. Obtaining participation of the teachers in the school health programme including maintenance of records; defining healthful practices; early detection of abnormalities.
- iv. Organization, implementation, supervision and evaluation of School Health Programme. Adolescent Health: Needs, Adolescent Health Scenario, Newer Initiatives under RCHII for Adolescent Health.
- v. Older persons: Health Problems, Services and Programs, National Policy on older persons
- vi. Disadvantaged and marginalized Groups: Health Problems, Services and Programs. Health of Person with Disability: Welfare and Rehabilitation scheme for hearing, locomotor, visual, mental disability.

## 29. Occupational Health:

- i. Management Occupational Health
- ii. Relate the history of symptoms with specific occupations including agriculture related occupation Asbestos and other fibers, coal workers' lung diseases, silicosis, health significance of metal exposures,
- iii. Diseases associated with exposure to chemical substances, multiple chemical sensitivities,
- iv. Pulmonary responses to gases and particles, pesticides,
- v. Illness due to thermal extremes,
- vi. Ionizing radiations, non-ionizing radiations,
- vii. Effects of physical environment- noise, vibration, work related musculo-skeletal disorders Employees State Insurance (ESI) scheme
- viii. Concepts of ergonomics
- ix. Diagnostic criteria of various occupation related diseases Industrial Hygiene Surveillance, monitoring and screening in occupational health
- x. Occupational problems of special working groups Occupational safety and health standards Legislations related to occupational health Information

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- xi. Relate the history of symptoms with the specific occupation including agriculture.
  - xii. Identification of the physical, chemical and biological hazards to which workers are exposed to while working in a specific occupational environment.
  - xiii. Diagnostic criteria of various occupational diseases.
  - xiv. Preventive measures against these diseases including accident prevention.
  - xv. Various legislations in relation to occupational health.
  - xvi. Employees State Insurance Scheme.

### **30. Urban health:**

- i. Common health problems (Medical, Social, Environmental, Economic, Psychological) of urban slum dwellers.
- ii. Organisation of health services for slum dwellers.
- iii. Organisation of health services in urban areas.
- iv. Urban Health: Common Health Problems of urban slum dwellers, orphan, street children and homeless; Organization of health services, concept of clean city

### **31. Healthcare in India:**

- i. Health care delivery system in India
- ii. Concepts of primary health care and comprehensive health care.
- iii. Health profile of India
- iv. Evolution of health care delivery system in India
- v. Health care delivery in India and infrastructure at primary, secondary and tertiary care level
- vi. Job responsibilities of different categories of workers in health system
- vii. Voluntary health agencies working in India Pattern of health care services in certain south Asian and western countries Health insurance
- viii. Health planning, management and administration
- ix. Concepts of planning, management, public health administration
- x. Components of planning a health activity
- xi. Classification and understanding of various qualitative and quantitative health management techniques
- xii. Over view of administration at village, block, district, state and center level in India Organizational Concept Organizational behavior Time, material and personnel management Integrated disease surveillance project (IDSP)
- xiii. Health related Millennium Development Goals and Sustainable Development Goals Operational research

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- xiv. National Health Policy and National Rural Health Mission
  - xv. Concepts of health economics in health planning and management
  - xvi. Concepts, scope and methods of Health Audit
  - xvii. Role of Planning Commission and five year plans in development of health sector in India Various health committees of Govt. of India and their important recommendations
  - xviii. Public health administration of the future
  - xix. Research in administration, operational & action oriented research
  - xx. New concepts in public health administration
  - xxi. Principles of hospital administration
  - xxii. Medical audit, quality assurance, quality improvement and client satisfaction
  - xxiii. Alternative approaches to planning Importance of hospital records, their retrieval, International classification of diseases, medical certification of death
  - xxiv. Public Health Legislation Birth and death registration act, PFA act, MTP act, CPA, Child Labor act, PNDDT act,
  - xxv. Transplantation of human organ act in India etc.
  - xxvi. Other public health legislations

### **32. Advances and Topics of Current Interest:**

- i. Rational drug policy, Nutrition Policy, Health Policy, Population Policy
- ii. Computers in Public Health
- iii. Agricultural Medicine and Plantation Health
- iv. Introduction to Counseling and behavior change
- v. Community Ophthalmology
- vi. Qualitative Research and Operational Research
- vii. Disaster Management and Public health emergencies
- viii. Nosocomial Infection and Hospital Infection Control
- ix. Newer technology uses, WhatsApp, Facebook, Tele-public health,

### **33. National Health Programmes-** The origin, historical development, interventions, current state and critique of the different National Health Programmes like:

- i. National Family Welfare Programme (NFWP)
- ii. National Tuberculosis Control Programme
- iii. National Leprosy Eradication Programme
- iv. National Diarrhoeal Diseases Control Programme
- v. National Malaria Eradication Programme
- vi. National Filariasis Control Programme
- vii. National Acute Respiratory Infections (ARI) Control Programme

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- viii. National AIDS Control Programme
  - ix. National Guinea Worm Eradication Programme
  - x. National Kala Azar Control Programme
  - xi. National Japanese Encephalitis (JE) Control Programme
  - xii. National Iodine Deficiency Disorders (IDD) Programme
  - xiii. National Programme for the Control of Blindness
  - xiv. National Cancer Control Programme
  - xv. National Mental Health Programme
  - xvi. National Diabetes Control Programme
  - xvii. Child Survival and Safe Motherhood (CSSM)
  - xviii. Reproductive Child Health (RCH)
  - xix. Universal Immunization Programme (UIP)
  - xx. National Water Supply and Sanitation Programme
  - xxi. Minimum Needs Programme
  - xxii. National Health Mission
  - xxiii. The implementation of NHPS at a programme level and in the community

#### **34. International Health:**

- i. International organizations, conventions and treaties
- ii. International Health Regulations (IHR)

#### **35. Field posting and work:**

- i. Posting at Urban and Rural Health Training Centres for a period of one year.
- ii. Posting in the hospital for exposure to clinical departments namely Pediatrics, Gynaecology and Obstetrics, Medicine and Surgery for one month each.
- iii. Wherever possible work attachment at District Health Office and Directorate of Health Services
- iv. Short duration posting in various camps, melas, public health emergencies, Investigation of epidemics, implementation of National Health Programmes
- v. Visits to various institution of Public Health Importance and related development organizations.
- vi. Exposure to hospital and healthcare system administration at the district level or higher level wherever possible

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36. **Postings:** The postgraduate students are to be posted in Urban Health Centre/ Rural Health Centre / other departments in the hospital:

- i. UHC : Minimum 1 month per year
- ii. RHTC: Minimum 2 months per year
- iii. Other Departments: 3 months in 3rd year (Extra Mural postings) (Internal Medicine with allied specialties, Pediatrics, Gynae/Obst/PPU including labour room duties, Microbiology, Pathology, Biochemistry, Psychiatry, Surgery, Dermatology including STD Clinic, Blood Bank, Casualty, CHC, CDPO, MS/Hospital Administration, Dietary, Physiotherapy & Occupational therapy, Civil Surgeon Office). During the posting at UHC & RHTC the residents will work directly under supervision of MOH cum Assistant Professor. PG student will be acquiring skills of Family Physician / Community Physician / hospital administration during their posting at respective centre. Posting at RHTC will be residential.

37. **Other areas in which knowledge is to be acquired:**

- i. Biostatistics, Research Methodology and Clinical Epidemiology
- ii. Ethics
- iii. Medico legal aspects relevant to the discipline
- iv. Health Policy issues as may be applicable to the discipline

#### **IV. COMPETENCIES:**

1. **General Skills-**The postgraduate student should be able to:

- i. Elicit the clinico-social history to describe that agent, host and environmental factors that determine and influence health.
- ii. Recognise and assist in management of common health problems of the community.
- iii. Apply principles of epidemiology in carrying out epidemiological studies in the community.
- iv. Work a team member in rendering health care.
- v. Carry out health education effectively for the community.

2. **Skills in Relation to Specific Topics**

- i. **Communication** The student should be able to communicate effectively with family members at home; patients at clinics or at homes; individuals, family or a group for health educational; peers at scientific forums.

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- ii. Team activity Work as a member of the health team; in planning and carrying out fieldwork like school health.
  - iii. Environmental sanitation; Collect water samples for microbiological evaluation; chlorination of water; estimate the chlorine demand of water; estimate the residual chlorine of water; insecticides: their proper storage and use in control of vectors
  - iv. Communicable and Non-communicable diseases (including social problems)
    - a. Eliciting clinico-social history and examining the patient for diagnosis and treatment.
    - b. Collection of appropriate material for microbiological, pathological or biochemical tests.
    - c. Fixing, staining, and examining smears – peripheral blood smear for malaria and filariasis, sputum for AFB; Hb estimation; urine and stool examination.
    - d. Assessing the severity and/or classifying dehydration in diarrhoea, upper respiratory tract infection.
    - e. Adequate and appropriate treatment and follow-up of leprosy, malaria, filariasis, rabies.
    - f. Advice on the prevention and prophylaxis of common diseases like vaccine preventable diseases, tetanus, malaria, filariasis, rabies, cholera, typhoid, intestinal parasites.
    - g. Use of proper screening methods in early diagnosis of common diseases.
    - h. Take necessary steps in disease outbreak/epidemics/natural disasters – investigation of epidemic, food poisoning; notification; organizing medical care following disasters.
  - v. Reproductive and Child Health
    - a. Antenatal – examination of the mother; application of the risk approach in antenatal care.
    - b. Intranatal – conducting a normal delivery; early recognition of danger signals in intranatal period; referral of cases requiring special care.
    - c. Postnatal – assessment of the mother and new born, advice about appropriate family planning method; promotion of breast-feeding; advice on weaning.
    - d. Assessment of growth and development of the child – use of ‘road to health’ card; recording important anthropometric assessments of the child; giving immunisation to the child; identifying high-risk infant.
  - vi. Statistics
    - a. Choose proper sample, sampling method and sample size.
    - b. Apply appropriate tests of significance to make a correct inference.

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vii. Nutrition

- a. Conducting a diet survey.
- b. Community survey and clinical diagnosis of nutritional deficiencies: Vitamin A deficiency, iodine deficiency, malnutrition.
- c. Making recommendations regarding diet.

viii. Occupational Health

- a. Inspection of work sites
- b. Recommendation in improving work sites.
- c. Medical examination of workers.

ix. Health Care of the Community

- a. Ensuring community participation in health care.
- b. Arranging intersectoral coordination where necessary
- c. Working in liaison with other agencies involved in health care in various National Health Programmes.

x. Health Management

- a. Be an effective team leader.
- b. Guide and train workers.
- c. Supervision of workers and programmes.

xi. Family Planning: Counselling on appropriate methods

xii. Organize, Implement, Supervise & Evaluate National Programmes.

xiii. Managerial Skills

xiv. Teaching Skills

The following skills will be specifically acquired during the entire tenure:

- Skills relate to Public Health Familiarization with organization & functioning of following establishments:
- Water supply system
- Sewage system o Slaughter house
- Catering establishment
- Food processing plant
- Milk plant o Solid waste disposal system
- State public health laboratory

Familiarization with techniques and ability to interpret data in relation to the following:

- Surveillance of drinking water quality
- Analysis of sewage

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- Analysis of milk Assessment of pesticide & other toxins in the environment  
Familiarization with food adulteration act
  - Familiarization with Health Legislation in India

### **3. Skills as Community Physician:**

- i. Ability to identify local health needs of community.
- ii. Ability to demonstrate leadership qualities & function as effective team leader.
- iii. Ability to make community diagnosis including application of Rapid assessment techniques
- iv. Ability to organize health camps.
- v. Ability to organize health surveys & ongoing comprehensive health delivery programme. Ability for effective liaison with PRIs & local opinion leaders, mustering of local resources, advocacy & mobilization of administration & political will for health care programmes.
- vi. Skills as Family Physician
- vii. Diagnosis & management of common illness.
- viii. Diagnosis & management of chronic diseases & disabilities including rehabilitation. Nutritional assessment & nutritional therapy.
- ix. Family planning practices.
- x. Diagnosis & management of Pediatric, Geriatric, Gynecological illness with special emphasis on RCH & integrated management of childhood illness.
- xi. Perform all immunization procedures.
- xii. Ability to organize & conduct MCH services including antenatal clinic, intranatal & postnatal care, care of newborn, growth monitoring & care of toddler.
- xiii. Conduct / attend 20 normal deliveries & 5 abnormal deliveries.

### **4. Skills of Occupational Health:**

- i. Familiarisation with measurement of relative humidity, temperature, thermal comforts & ventilation, noise levels, air pollution, lead exposure estimation, light level estimation. Familiarisation with organization & functioning of ESI system.
- ii. Conduct of pre-placement & periodic medical examination.
- iii. Identification of specific health hazards in occupational environment.
- iv. Skills of Communicable Disease Control

### **5. Other Areas:**

- i. Investigation of an outbreak.
- ii. Investigation of episode of food poisoning.
- iii. Diagnosis & management of zoonotic diseases.

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- iv. Familiarisation with organization & functioning of
    - a. Rabies clinic
    - b. Immunization clinic
    - c. STD clinic
    - d. Leprosy clinic
    - e. TB/DOTS Centre
    - f. National vector borne diseases control programme
    - g. IPPI & AFP surveillance
    - h. Case management of diarrhoea & preparation of ORS
    - i. Case management of ARI
    - j. Functioning of isolation / quarantine unit /APHO
  - v. Family Planning skills
  - vi. Ability to propagate planned parenthood & small family norm as per national guidelines (GOI) by
    - a. Counselling, motivation & IEC.
    - b. Administer appropriate method of contraception by cafeteria approach.
    - c. Assess gaps / unmet needs in family planning services in community under care.
    - d. Ability to perform / assist Tubectomy by using conventional / laproscopic method (min 5) Ability to perform / assist vasectomy by using latest techniques (min 3).
  - vii. Ability to insert IUCDs (min 10).
  - viii. Ability to perform / assist in MTPs (min 5)
  - ix. Ability to perform / assist in menstrual regulation techniques (min 5).

**6. Skills of Hospital Administration:** Familiarisation with working of large multispecialty hospital with special reference to following departments: -

- i. Layout of OPDs o CSSD
- ii. Laundry o Catering
- iii. Biomedical waste management
- iv. Other departments / labs / OTs
- v. Familiarisation with functioning of Medical Record Department
- vi. Inventory control
- vii. HR management
- viii. Familiarisation with functioning of infection control committee
- ix. Disinfection procedures with special reference to OTs & isolation wards.

## **7. Skills of Research Methodology**

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- i. including application of Statistical Methods Planning & execution of 1 short hospital based epidemiological (analytical) study other than thesis work.
  - ii. Planning & execution of 1 short field based / KAP study
  - iii. Critical appraisal of 10 published research papers / projects duly evaluated.
  - iv. Ability to apply biostatistical procedure including sampling & tests of significance.
  - v. Ability to perform epidemiological, biostat & public health exercises duly evaluated (min 10 each).

#### **8. Communication Skills:**

- i. Ability to utilize all known modes of IEC in order to:
- ii. To generate desired level of awareness in the community on common health issues
- iii. To render health education to specified groups / individuals on specific health issues.
- iv. Mobilise community participation regarding health programmes in hand.
- v. Mobilise political & administrative will & demolish communication barrier regarding on going health programme.
- vi. Prepare IEC material using local resources.

#### **9. Skills related to Health Care Delivery to Community**

- i. Familiarization with functioning & infrastructure of SC, SHC, PHC, CHC.
- ii. Familiarization with Urban Health Care delivery system models. Planning & evaluation of health programme (min 2).
- iii. Organization of health services for camps, fairs, prisons, orphanages, urban slums, migratory population & other special circumstances.
- iv. Planning & organization of health aspects of disaster management.
- v. Planning & organization of school health Documentation & record keeping for delivery of comprehensive family health care (RHC & UHC).
- vi. Familiarization with MIS in primary health care.

#### **10. Skills related to Applied Microbiology, Pathology & Radiology**

- i. Microbiology
  - a. Familiarization with organization & functioning of Microbiology lab, diagnostic equipment & bio safety procedures.
  - b. Ability to perform staining procedures (10 each), JSB stain, Niesser stain, Gram's stain, Z-N staining, Leishman stain, other staining procedures.

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- c. Ability to make thin & thick blood smear. o Ability to identify helminthic ova / larvae.
  - d. Familiarization with procedures for-
    - VDRL & other tests for STDs
    - Weil-Felix test
    - Widal test & other tests for enteric fever
    - Examination of throat swab
    - ELISA & other tests for HIV
    - Other common tests for viral infection
  - e. Blood culture & other culture procedures
  - f. Collection, preservation & transportation of samples for microbiological examination.
  - g. Bacteriological examination of water.
  - ii. Pathology
    - a. Familiarization with organization & functioning of Pathology lab including diagnostic equipments.
    - b. Ability to perform the following tests-
      - Routine Haemogram
      - Routine urine examination
      - Routine stool examination
      - Familiarization with Histopathological procedures
      - Familiarization with cytological procedures including FNAC & pap smear.
      - Biochemistry
      - Organization & functioning of Biochemistry lab & familiarization with diagnostic equipments.
  - iii. Radiology
    - a. Familiarization with protection against radiation exposure.
    - b. Interpretation of skiagrams related to common diseases of chest and occupational exposures.

## **11. Other skills**

- i. Computer Skills
- ii. Knowledge & skill to use
  - a. Microsoft Word
  - b. Microsoft Excel
  - c. Spreadsheet
  - d. Calculations

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- e. Graphs
  - f. Microsoft PowerPoint
  - g. SPSS
  - h. Epi info
  - i. Internet surfing
  - j. Familiarization with relevant databases eg Popline, Medline, Pubmed, Cochrane review Pedagogical Skills
- iii. Familiarization with pedagogical techniques in order to perform:
    - a. Curriculum development
    - b. Framing of lesson plan o Use of evaluation techniques
    - c. Microteaching, lectures, group discussion, workshops, seminars etc.
    - d. Public Health Administration Skills
    - e. Familiarisation with the administrative set up & functioning of the health system in India (National, State & District levels).
  - iv. Familiarisation with methods of financial management, practice & procedure.
  - v. Familiarisation with techniques of human resource management.
  - vi. Familiarisation with creating, implementation & monitoring of routine MIS of the health system.
  - vii. Ability to identify need for change & to make strategic & structural changes in clinic, community services, health system & health policies.
  - viii. Ability to play advocacy role in the District Planning Committees & Panchayat Samiti & Zila Parishad.
  - ix. Familiarisation with the administrative, executive & legislative setup of nation & state. Organization & Conduct of health camps.
  - x. Evaluation of National Health Programmes.
  - xi. Familiarisation with legislation pertaining to health.
  - xii. Familiarisation with administrative setup, functions, powers & operations of:
    - a. Municipal Corporation
    - b. Pollution Control Board
    - c. Census
    - d. SRS
    - e. Registrar Births & Deaths
    - f. NSSO
    - g. ICMR
    - h. IMA
    - i. NGOs
    - j. Other bodies of significance to health
    - k. Social welfare agencies

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- l. International agencies
  - m. National Polio Surveillance Project
  - n. Other health agencies – Railways, Armed Forces etc.

## **12. Job Responsibilities**

- i. Health education campaigns in community
- ii. School health programme Organization of various health camps
- iii. Organize Demonstrations / family study / problem- based -learning for undergraduate students
- iv. Conduct of field visits
- v. Prepare settings for training under the supervision and guidance of teacher to impart skill based training to undergraduates in the community
- vi. To become part of resident and internship training programme in the community setting
- vii. Participation in national health programmes
- viii. Function as MO in UHC, RHC
- ix. Function as MO in UHC, RHC

## **V. Log book:**

A candidate shall maintain a log book of operations (assisted / performed) during the training period, certified by the concerned post graduate teacher / Head of the department / senior consultant.

This log book shall be made available to the board of examiners for their perusal at the time of the final examination.

The log book should show evidence that the before mentioned subjects were covered (with dates and the name of teacher(s)) The candidate will maintain the record of all academic activities undertaken by him/her in log book.

1. Personal profile of the candidate
2. Educational qualification/Professional data
3. Record of case histories
4. Procedures learnt
5. Record of case Demonstration/Presentations
6. Every candidate, at the time of practical examination, will be required to produce performance record (log book) containing details of the work done by him/her during the entire period of training as per requirements of the log book. It should be duly certified by the supervisor as work done by the candidate and countersigned by the administrative Head of the Institution.
7. In the absence of production of log book, the result will not be declared.

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## VI. Recommended Text Books and Journals:

### Core books

1. Maxcy-Rosenau-last Public Health & Preventive Medicine : Wallace RB
2. Text book of Community Medicine : Sunder Lal, Adarsh & Pankaj
3. Park's Text book of Preventive & Social Medicine
4. National Health Programmes of India: National Policies and legislation related to health. J.Kishore
5. Epidemiology in Medical Practice : Barker DJP
6. Biostatistics : A foundation for Analysis in the Health Sciences: Daniel WW

### Reference Books

1. Oxford Text book of Public Health: Detels R, McEwen J, Beaglehold R
2. Control of Communicable Diseases in Man: Benenson AS
3. Manson's Tropical Diseses: Cook G, Zumla A
4. Hunter's Diseases of Occupations: Baxter PJ, Admas PH
5. Hunters Tropical Medicine and emerging infectious diseases: Strickland GT
6. A Dictionary of Public Health. J Kishore
7. Clinical Epidemiology- the Essentials : Fletcher
8. Epidemiology and Management for Health Care for all: Sathe PV, Sathe AP
9. Training modules of various national & international institutes and national health programmes
10. Maxy Roseman John M.Last, Maxcy-Roseman Public Helath and Preventive Medicine, Appleton-Centrury-Crofts, Newyouk
11. Hobson W, The Theory and Practice of Public Health, Oxford Med.
12. Publication
13. Barker D J P, Practical Epidemiology, Churchill Livingstone
14. Park J E & K Park, Text Book of P & S.M., M/s Banarsidasm Bhanot, Jabalpur
15. Mahajan B K and M/C.Gupta, Text Book of P & S.M., Jaypee Publications
16. Bradford Hill, Principles of Medial Statistics, The Lancet Ltd. No.7 Adam Street, Adelphine, London, 1967
17. Mac, Mahon & Pugh, Epidemiology-Principles and Methods, Little Brown and Co.Boston, U.S.A.
18. Hunter's Diseases of Occupations, Edited by P.A.B.Raffle, P.H.Adams,
19. P.J.Baxter and W.R.Lee Edward Arnold Publishers (1994), Great Britain.
20. Text book of PSM : A P Kulkarni and Dr. Baride

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21. Text Book of Infection Diseases : Christae
  22. Statistics : K.Vishvesh Rao
  23. Medical Entomology : A. K.Hati
  24. Oxford Text Book of by Public Health : Holland & Detel Journals
  25. Kirkwood B R, Essential of Medical Statistics for Medical students, 1 st Ed.Oxford: Blackwell Scientific Publications 1988.
  26. Mahajan B K, Methods in Bio statistics for medical students, 5 th Ed. New Delhi, Jaypee Brothers Medical Publishers, 1989
  27. Raveendran B Gitanjali, A Practical Approach to PG dissertation, New Delhi, J P Publication, 1998
  28. Practical & Viva in Community Medicine. J Kishore 2017
  29. Multiple Choice Questions in Preventive & Social Medicine : GPI Singh & Sarit Sharma
  30. Preventive Paediatrics : O.P.Gha
  31. An introduction to sociology: Bhusan and Sachdeva
  32. Hunter (Donald), Diseases of the Occupations, 6 th edition, Hodder and stooughton (1978)
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5. Lancet
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10. Nutrition news (National institute of nutrition)
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13. Indian Journal of Public Health
14. Indian Journal of Youth and Adolescent Health
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16. IAPSM Punjab Bulletin
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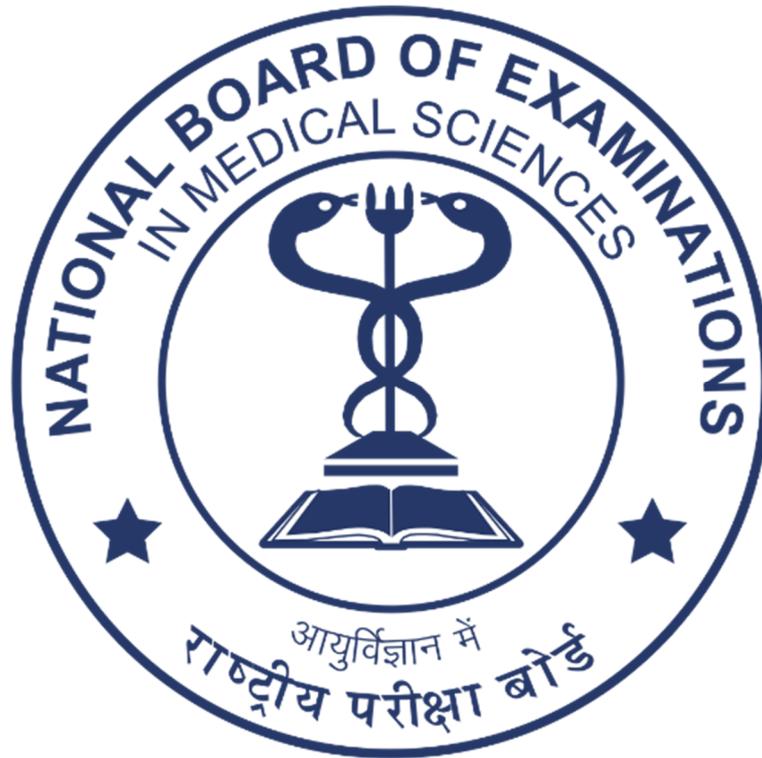
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4. Vaccine
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### **Useful Websites**

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