



# DEPARTMENT OF COMMUNITY MEDICINE

HAMDARD INSTITUTE OF MEDICAL SCIENCES AND RESEARCH  
JAMIA HAMDARD, NEW DELHI

*Curriculum*

*for*

*Post Graduate Students  
MD Community Medicine*

**APPROVED BY BOS HELD ON 01.09.2021**

  
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**DEPARTMENT OF COMMUNITY MEDICINE**  
**HAMDARD INSTITUTE OF MEDICAL SCIENCES AND RESEARCH**

Date: 01.09.2021

**Minutes of Meeting**

A meeting of board of studies was held in Department of Community Medicine on 01.09.2021 at 03:00 PM to discuss about the curriculum of MBBS, MD Community Medicine, MPH & Ph.D. courses running in the department. The following members attended the meeting:

|                         |   |                 |
|-------------------------|---|-----------------|
| 1) Prof Farzana Islam   | : | Chairman        |
| 2) Dr. Sushovan Roy     | : | Member          |
| 3) Dr Aqsa Shaikh       | : | Member          |
| 4) Dr Varun Kashyap     | : | Member          |
| 5) Dr. Yasir Alvi       | : | Member          |
| 6) Prof. Rambha Pathak  | : | Co-opted Member |
| 7) Prof. Najam Khalique | : | Co-opted Member |

The following agendas were discussed in the meeting.

1. MBBS (CBME) curriculum
2. MD, Community Medicine (CBME) curriculum
3. Ph.D. in Public Health (Revision of curriculum)
4. MPH (Revision curriculum)

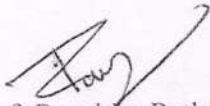
**Minutes of the Meeting:**

The Board of Studies deliberated upon the course curriculum of MBBS (CBME based), MD (CBME based), MPH & Ph.D. in Public Health running under the Department of Community Medicine, HIMS.

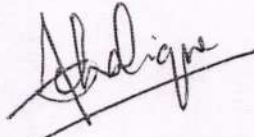
The recommendations are as follows:

- i. The MBBS-CBME based curriculum would be followed as guided by National Medical Commission.
- ii. The MD, Community Medicine-CBME based curriculum would be modified in the following Sections - District residency Program and Practical exam.
- iii. The assessment for Master of Public Health (MPH) and PhD courses will be either credit-hour or mark based whatever is decided by Jamia Hamdard University.
- iv. The board of Studies suggested in order to increase the quality of Master of Public Health (MPH) students an entrance exam may be conducted for their selection.
- v. All candidates of postgraduate courses (MPH & PhD) shall sign an undertaking to abide by the duties assigned as per their courses.

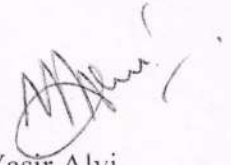
The proposed recommendation of the BOS on these relevant points have been appended.



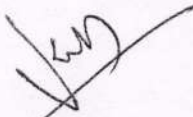
Prof. Rambha Pathak  
Co-opted Member



Prof. Najam Khaliq  
Co-opted Member



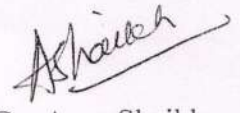
Dr. Yasir Alvi  
Member



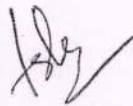
Dr. Varun K Kashyap  
Member



Dr. Sushovan Roy  
Member



Dr. Aqsa Shaikh  
Member



Prof. Farzana Islam  
Chairman





The course MD Community Medicine will be of three years duration in the form of Residency programme that is full time.

The infrastructure and faculty in the department will be as per NMC guidelines.

### 1. GOAL:

To produce a specialist who is competent to teach undergraduates the essentials of the subject, to prepare them to function as community level physicians and to be able to carry out sound scientific research.

Community Medicine is an academic subject, a branch of Medicine which deals with promotion of health and prevention of diseases, involving people's participation, utilizing professional management skills. The Community Medicine specialist, will inculcate a holistic view of health and medical interventions primarily focused on Community Health/Population Health. Thus, he/she should will be equipped with the knowledge, skills, competencies in primary, secondary & tertiary care, control and prevention of outbreaks/epidemics, community diagnosis, health needs assessment, epidemiological assessment, research and planning evidence-based health policies and programmes.

The Guidelines for teaching Community Medicine, therefore, is designed to create a cadre of professionals who are competent to meaningfully contribute their expertise in planning, implementation, co-ordination, monitoring, evaluation of Primary Health Care Programs based on scientific evidence. The competencies mentioned cover a wide spectrum of skills viz., technical, managerial, administrative, organizational skills, applied skills in Health Information Management, software application and soft skills of communication, motivation, decision-making, team building, training in scientific communication and medical writing.

### 2. OBJECTIVES:-

The objective of the course is to train a postgraduate candidate in the principles and practice of Community Medicine and other allied discipline of medical sciences. At the end of the training the candidate shall be able to:

- Possess an in-depth understanding of the determinants and disease in the community
- Diagnose and manage **clinically common disease** conditions and emergencies encountered in practice by rendering first level care and make timely decision for referral to higher level;

- Use discreetly the **essential drugs**, infusions, blood or its substitutes and laboratory services;
- Plan and conduct **investigations** into the problems of health services of the community and its special groups.
- **Demonstrate skills in planning, organizing, implementing and evaluating health services**, National Health Programmes and schemes oriented to provide preventive and promotive health care services to the community.
- Conduct **epidemiological investigations** of communicable and non-communicable diseases and suggest appropriate solutions to public health problems.
- Undertaking **teaching and training assignments** in the field of Community Medicine for various categories of medical and paramedical personnel.
- Develop **leadership qualities** to function effectively as a leader of the health team organized to deliver the health and family welfare service in existing socio-economic, political and cultural environment;
- Evaluate and interpret **records and reports** of health care services at various levels of health care delivery system.
- Adopt an **integrated approach** to meet the health needs of the individual, his family and the community.
- Render **services** to chronically sick persons and persons with disability (PWDs-both physical and mental) and to **communicate effectively** with patient and the community.
- To standardize the teaching & training approaches at post- graduate level, for Community Medicine
- Research: To formulate research questions, do literature search, conduct study with an appropriate study design and study tool; conduct data collection and management, data analysis and report.

### 3. SPECIFIC OBJECTIVES:-

The candidates shall acquire skills to deal effectively with an individual and the community in the context of primary health care. The candidate shall be posted at different health centers as per duty roster. This is to be achieved by hands on experience in the health centers and Community health centre. The details of training are as under:-



## Rural Health Training Centre / Urban Health Training Centre

- I. During this period of training, the candidate should be able to:-
- a. Participate in **Comprehensive health care** of family (Womb to tomb).
  - b. Participate in all **teaching and training of undergraduates** in field practice area for community health e.g. safe motherhood, nutritional surveillance and rehabilitation, diarrheal disorders, use of bed side investigations and primary care techniques etc.
  - c. Acquire **competence** in diagnosis and management of common ailments e.g. Malaria, Dengue, Chikungunya, Tuberculosis, Enteric fever, Congestive heart failure, Hepatitis, COPD, Diabetes, Hypertension, Malnutrition, Diarrhea, etc.
  - d. Acquire **proficiency** for Reproductive and Child Health Programme (ante natal care, normal delivery, contraception care etc.).
  - e. Gain information on "**Essential Drugs**" and their rational usage.
  - f. Recognize **medical emergencies**, resuscitate and institute initial treatment and refer to suitable institution.
  - g. Gain competence in immunization according to National immunization Schedule and management of Cold Chain and Vaccine inventory
- II. Undergo specific Government of India/Ministry of Health and Family Welfare approved training using Government of India prescribed training manual for Medical Officers in all National Health Programmes (e.g. RCH- UIP, CDD, ARI, FP, ANC., safe delivery, tuberculosis, leprosy and others) as recommended by Ministry of Health and Family Welfare to:-
- a. gain **full expertise** in immunization against infectious diseases;
  - b. Participate in programmes in prevention and control of **locally prevalent endemic diseases** including nutritional disorders; Iodine deficiency disorders etc.
  - c. Learn **skills** of family welfare and planning procedures.
  - d. Learn the **management and evaluation** of National Health Programmes.
- III. Be capable of conducting a survey, epidemiological investigations for various infectious and non-infectious diseases and employ its findings as a measure towards arriving at a community diagnosis and the effective control.

- IV. Be capable of carrying out PG thesis / Protocol research under supervision.
- V. Be proficient in health communication:
  - a. Conduct programmes on **Behaviour Change Communication**.
  - b. Gain capabilities to use **Audiovisual aids** and different modes of health communication process.
  - c. Acquire capability of **utilization** of scientific information for promotion of community health.
- VI. Be capable of **establishing linkages** with other agencies such as water supply, Sanitation, Public distribution system, schools and anganwadis and other environmental / social agencies.
- VII. Acquire **quality** of being professional with dedication, resourcefulness and leadership.
- VIII. Acquire **managerial skills**, delegation of duties to paramedical staff and other health professionals.

#### **4. SKILLS TO BE ACQUIRED**

**The candidate should acquire the following skills:**

##### **Skills Related To Public Health**

- Familiarization with organization & functioning of following establishments:
  - o Water supply system
  - o Sewage system
  - o Slaughter house
  - o Catering establishment
  - o Food processing plant
  - o Milk plant
  - o Solid waste disposal system
  - o State public health laboratory
- Familiarization with techniques and ability to interpret data in relation to the following:
  - o Surveillance of drinking water quality
  - o Analysis of sewage
  - o Analysis of milk
- Assessment of pesticide & other toxins in the environment.
- Familiarization with food adulteration act.
- Familiarization with Health Legislation in India.



### **Skills as Community Physician**

- Ability to identify local health needs of community.
- Ability to demonstrate leadership qualities & function as effective team leader.
- Ability to make community diagnosis including application of Rapid assessment techniques.
- Ability to organize health camps.
- 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.

### **Skills as Family Physician**

- Diagnosis & management of common illness.
- Diagnosis & management of chronic diseases & disabilities including rehabilitation.
- Nutritional assessment & nutritional therapy.
- Family planning practices.
- Diagnosis & management of Pediatric, Geriatric, Gynecological illness with special emphasis on RCH & integrated management of childhood illness.
- Perform all immunization procedures.
- Ability to organize & conduct MCH services including antenatal clinic, intranatal & postnatal care, care of newborn, growth monitoring & care of toddler.
- Conduct / attend 20 normal deliveries & 5 abnormal deliveries.

### **Skills of Occupational Health**

- Familiarization with measurement of relative humidity, temperature, thermal comforts & ventilation, noise levels, air pollution, lead exposure estimation, light level estimation.
- Familiarization with organization & functioning of ESI system.
- Conduct of pre-placement & periodic medical examination.
- Identification of specific health hazards in occupational environment.

### **Skills of Communicable Disease Control**

- Investigation of an outbreak.
- Investigation of episode of food poisoning.
- Diagnosis & management of zoonotic diseases.
- Familiarization with organization & functioning of
  - Rabies clinic
  - STD clinic
  - Leprosy clinic
  - TB Centre
  - National vector borne diseases control programme
  - Covid19 Surveillance unit
  - Covid19 Vaccination Centre
  - IPPI & AFP surveillance
- Case management of diarrhea & preparation of ORS.
- Case management of ARI.
- Functioning of isolation / quarantine unit.



### **Family Planning skills**

- Ability to propagate planned parenthood & small family norm as per national guidelines (GOI) by
  - Counselling, motivation & IEC.
  - Administer appropriate method of contraception by cafeteria approach.
  - Assess gaps / unmet needs in family planning services in community under care.
- Ability to perform / assist Tubectomy by using conventional / laproscopic method (min 5)
- Ability to perform / assist vasectomy by using latest techniques (min 3).
- Ability to insert IUCDs (min 10).
- Ability to perform / assist in MTPs (min 5)
- Ability to perform / assist in menstrual regulation techniques (min 5).

### **Skills of Hospital Administration**

- Familiarization with working of large multispecialty hospital with special reference to following departments:-
  - Layout of OPDs
  - CSSD
  - Laundry
  - Catering
  - Biomedical waste management
  - Other departments / labs / OTs
    - Familiarization with functioning of Medical Record Department, Inventory control & HR management.
    - Familiarization with functioning of infection control committee
    - Disinfection procedures with special reference to OTs & isolation wards.

### **Skills of Research Methodology including application of Statistical Methods**

- Planning & execution of 1 short hospital based epidemiological (analytical) study other than thesis work.
- Planning & execution of 1 short field based / KAP study.
- Critical appraisal of 10 published research papers / projects duly evaluated.
- Ability to apply bio statistical procedure including sampling & tests of significance.
- Ability to perform epidemiological, biostatistics & public health exercises duly evaluated (min 10 each).

### **Communication Skills**

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

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

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

### **Skills related to Applied Microbiology and Blood bank**

#### **Microbiology**

- Familiarization with organization & functioning of Microbiology lab, diagnostic equipment & bio safety procedures.
- Ability to perform staining procedures (10 each)  
Gram's stain, Z-N staining, Leishman stain, other staining procedures.
- Ability to make thin & thick blood smear.
- Ability to identify helminthic ova / larvae.
- 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
  - Blood culture & other culture procedures
- Collection, preservation & transportation of samples for microbiological examination.
- Bacteriological examination of water.
- Working of blood bank and screening

#### **Computer Skills**

- Knowledge & skill to use
  - Microsoft Word
  - Microsoft Excel
  - Spreadsheet
  - Calculations
  - Graphs
  - Microsoft Powerpoint
  - SPSS
  - Epi info
- Internet surfing
- Familiarization with relevant databases eg Popline, Medline, Pubmed, Cochrane review.
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### Pedagogical Skills

- Familiarization with pedagogical techniques in order to perform:
  - o Curriculum development
  - o Framing of lesson plan
  - o Use of evaluation techniques
  - o Microteaching, lectures, group discussion, workshops, seminars etc.

### Public Health Administration Skills

- Familiarization with the administrative set up & functioning of the health system in India (National, State & District levels).
- Familiarization with methods of financial management, practice & procedure.
- Familiarization with techniques of human resource management.
- Familiarization with creating, implementation & monitoring of routine MIS of the health system.
- Ability to identify need for change & to make strategic & structural changes in clinic, community services, health system & health policies.
- Ability to play advocacy role in the District Planning Committees & Panchayat Samiti & Zila Parishad.
- Familiarization with the administrative, executive & legislative setup of nation & state.
- Organization & Conduct of health camps.
- Evaluation of National Health Programmes.
- Familiarization with legislation pertaining to health.
- Familiarization with administrative setup, functions, powers & operations of:
  - o Municipal Corporation
  - o Pollution Control Board
  - o Census
  - o SRS
  - o Registrar Births & Deaths
  - o NSSO
  - o ICMR
  - o IMA
  - o NGOs
  - o Other bodies of significance to health
  - o Social welfare agencies
  - o International agencies
  - o National Polio Surveillance Project.
- Other health agencies – Railways, Armed Forces etc.

## **5. COURSE CONTENT**

### **THEORY**

- 1. Conceptual (and applied) understanding of Public Health, Community Medicine, clinical disease-oriented approach, Preventive approach & Health promotion, disease control & promotion.**

## **i. History of Public Health and evolution of Community Medicine**

- Historical lessons learnt from the success and failure of Public Health strategies around the world.
- Historical influence and importance of indigenous System of Medicines in Health Care in India.
- Historical Review of Implementation of the Bhole committee's and other Committee Reports on Health Services, health Care and Health Professional Education in India.
- Historical review of the development of National Health Policies.
- The trend of achievements of the country vis-a-vis the Health for all concept and SDGs
- Influence of the various systems of medicine i.e. Chinese, Mesopotamian, Egyptian, Greek, Roman etc.

## **ii. Concepts in Public Health**

- Concept of Health & Disease,
- Positive Health and Health Spectrum,
- Theories related to Disease Causation including Epidemiological Triad and Multifactorial Causation,
- Determinants of Health and Health Indicators,
- Methods of Assessment of Health of Individual and Community,
- Difficulties in Measurement,
- Natural History of Disease, Understanding of various levels of Prevention with appropriate examples,
- Comprehensive Health Care, Immunity & Immunization, Evidence based Medicine, International Classification of Diseases etc.
- Concept of Disease control strategies.
- Public Health importance of the Health Promotion Approach.
- Concept of Health for all and Millennium development goals and Sustainable Development Goals.
- Multi-sector approach in Health care programs.

## **iii. Primary Health Care**

- Need and importance for prioritizing of Primary Health care.
- Principles of Primary Health Care
- Elements of Primary Health Care
- Models of Delivery of Primary Health Care
- Universal Access to Primary Healthcare
- Current status of Primary Health Care, the world over

## **iv. The Health Care Systems in India**

- Organizational Structure and functions of the Govt. Health care system at the Central, State, district, Primary Health center, Community Health Centre, Peripheral areas as also the urban areas.
- Health care systems for Factories/Mines/Plantation.
- Large and small scale N.G.O. sector health care system.
- Corporate, Private Health Insurance systems and Community-based health insurance

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- Family Medicine, General Practitioners.
- Indigenous Medicine system.
- Feasibility of Networking the Govt. and NGO sector for better coverage of health programs.

### **Learning objectives**

At the end of this course topic, the student should be able to:-

- Understand and explain the concept & application and give suitable analogies/examples related to Public Health/Community Medicine (with differences), Disease-oriented v/s Preventive approach, health promotion disease control & prevention.
- Explain correlation between health and human development with analogies/examples.
- Explain concept of Primordial, Primary, Secondary and Tertiary prevention with examples.
- Evolutionary History and mile-stones in Public Health – National and International levels.

## **2. Communicable and Non-Communicable diseases, emerging and re-emerging diseases**

### **Learning objectives:**

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

- understand and explain Epidemiology of Communicable/Non-communicable diseases- its causes, precipitating factors, social & other non- health causes, mechanisms of transmission, signs/systems, management, control & prevention measures, related national Health Programmes & national Guidelines, Directives, special projects, if any.
- Explain application of Disease surveillance system in control of Communicable/Noncommunicable diseases.
- Explain & undertake steps to investigate & control outbreaks, epidemics and take measures to prevent the same.
- Evolve prevention & control measures based on local & regional epidemiological funding, synchronizing with National guidelines.

## **3. Epidemiology, Health research, Bio-statistics**

### **General Epidemiology**

- Definition, Aim and Uses.
  - Measurement of Disease Frequency.
  - Distribution of Disease, Time, Place & Person
  - Determinants of Disease.
  - Screening of diseases.
  - Measures of Association and Potential Impact.
  - Casual Association.
  - Epidemiological Study Designs & Conduct.
- a. Types of Epidemiological Studies
  - b. Cohort Studies & Nested Case Control studies

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- c. Case Control Studies
- d. Cross-sectional and Longitudinal Studies, Ecological studies
- e. Experimental studies
- f. Precision & Statistics in Epidemiological Studies
- g. Design Studies to improve study accuracy
- h. Casual Diagrams

- Epidemiological Biases and their Control.
- Fundamentals of Epidemiological Data Analysis
- Derivation of Normal Values and the criteria for Intervention in Case of Abnormal Values.
- Clinical Trials
- Meta-analysis
- Surveillance of Diseases / Disorders / Health Conditions.
- Investigation of Outbreaks / Epidemics.
- Prevention & Control of Communicable and Non-communicable Diseases and other Conditions.
- Epidemiological Basis of National Health programmes..

### **Research Methodology**

- Literature Search/review
- Choosing Research Topics
- Formulating Research Questions
- Study Design – Quantitative & Qualitative
- Measuring Reliability and Validity
- Sampling
- Instrument Development and validation
- Data Collection and Management
- Data Analysis and report writing
- Communicating Research Findings.
- Scientific Writing.
- Development of Research Proposal
- Ethical Issues
- Critical Evaluation of Published Research

### **Biostatistics**

- Collection/Organization of data/Measurement scales.
- Presentation of data and Record keeping
- Statistical packages
- Measures of central tendency
- Measures of variability
- Sampling and planning of health survey
- Probability, Normal distribution and inductive statistics
- Estimating population values
- Tests of significance (Parametric/Non-Parametric)
- Analysis of variance
- Multi-Variate analysis and Meta analysis, Systematic Review



- Association and correlation and Regression
- Vital statistics
- Evaluation of Health and measurement of morbidity/mortality
- Survival Analysis, Life table and its uses
- Use of computer
- Census
- Qualitative Research methodologies
- Evaluation methodologies
- Statistical Packages

**Learning objectives:**

At the end of this course, the student should be able to

- Explain the concept & application of Epidemiology of Disease and Health giving suitable examples.
- Explain Epidemiological approach, the terms Distribution & Determinants, uses, types of Epidemiological studies, interpretation, merits/demerits and limitations, odds ratio, relative risk, attributable & population attributable risks, Hybrid designs (with examples), validity of Epidemiological Data and application in practice at field level.
- Explain Epidemiological Research methods, Research related protocols, Literature review, estimating sample size, data collection/ compilation/Analysis/ Research, interpretation.
- Develop Health interventional programs based on Epidemiological Finding & create evidence for Public Health action. Understand difference between data, information & intelligence, types of data, survey methods, formulating questionnaires, interview schedule, data presentation types & analysis.
- Apply computer based software application for data designing, data management & collation analysis e.g. SPSS, Epi-info, MS office and other advanced versions.

**4. Medical Sociology and Behavioral Sciences**

Definitions, Concepts, Social and Behavioral Problems, Cultural, Socio-economic and Psychological Determinants and Impacts of Health Problems, Methods of Assessment, Strategies, Policies for Prevention and Control, Community Participation, Utilization of Health Services, Knowledge, Attitude, Behavior and Practices related to various Public Health Problems, Clinico-social evaluation of individuals, Public relation, Doctor-Patient relationship and Hospital Sociology, Urbanization and Health Impacts, Medical Anthropology, Accelerated changes in Lifestyle.

**Learning objectives:**

At the end of this course, the student will be able to

- Understand influence of social and behavioral practices on health.
- Understand principles of behavior change of an individual and community.
- Clearly understand difference between knowledge, attitude and practices.
- Understand importance of social medicine and health.
- Importance of behavior change communication (BCC).
- Socio-cultural factors influencing behavior change.
- Formal and informal organizations in the community.



- Influence of peer pressure.
- Know the health problems, where BCC interventions are necessary.
- Understand factors promoting and detrimental to BCC.

## 5. Principles of Nutrition and Applied Nutrition.

- Nutrients and their daily requirements.
- Classification of Foods
- Balanced Diet
- Nutritional Profiles of Major foods.
- Nutritional Deficiencies
- Protein energy Malnutrition
- Overweight, obesity and lifestyle diseases
- Nutritional importance of trace elements
- Assessment of an individual's Nutritional status.
- Assessment of Community Nutritional Status
- Nutritional Problems in India including food Borne Diseases
- Nutritional Programmes in India
- Methods and impact of nutritional Surveillance
- Social Problems in Nutrition
- Food Hygiene – domestic and commercial levels.
- Food Adulteration including PFA act – review of implementation
- Primordial prevention of lifestyle related nutritional diseases
- Recent advances in nutrition.

### Learning objectives:

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

- Identify various nutritional problems in the region, state and country and contributing factors for the same, with due emphasis on ecology perspectives.
- Explain importance of various nutrients (including micronutrients) in health, their sources, requirements and problems associated with their deficiencies as well as over consumption.
- Plan balanced diet and dietary requirements of various age and sex groups.
- Dietary/nutritional concerns of vulnerable groups – young children, adolescents,
- ANC/PNC/Lactating mothers/senior citizens/individuals with various health problems e.g hypertension, diabetes, renal problems etc.
- Classification of food, food additives, food fortification, food enrichment, food toxins and food adulteration.
- Explain Food production, Food hygiene and safety, food storage, food preparation, food wastage and feeding practices.
- Assessment of nutritional status of a community by adopting different methodologies.
- Nutritional supplementation, surveillance, education and rehabilitation.
- National programmes in nutrition and their evaluation
- National nutrition policy.



## 6. Environmental Health

- a) Water
  - Applied importance of sources of water
  - Water Pollution and review of control and monitoring methods
  - Purification of water and its storage and distribution
  - Water quality standards – its implementation and monitoring
  - Epidemiology and control of water borne diseases.
  - Epidemiological Investigation of outbreak of water borne disease
- b) Air
  - Indices of Thermal comfort and their applied importance
  - Air pollution including monitoring, control and prevention
  - Ventilation and its applied importance
  - Indoor air pollution
  - Air pollution index
- c) Importance of domestic and industrial Housing standards
- d) Impact and control of Noise Pollution
- e) Radiation Hazards from natural industrial, hospital communication devices
- f) Meteorological environment and its Health impact, Impact of climate change on health
- g) Domestic and industrial Lighting Standards
- h) Disposal of Waste and Sanitation
  - Source and Classification of wastes
  - Disposal of solid Wastes
  - Excreta Disposal
  - Sewage treatment and safe recycling guidelines
  - Health care and Hospital Waste Management
- i) Guidelines on industrial toxic wastes and Nuclear wastes.

### Learning objectives:

At the end of this course, the student will be able to:-

- Highlight importance of external environment (air, water, noise, radiation, temperature, ventilation, solid waste disposal, insects and vectors, domestic and country yard pests, industrial waste disposal etc. and its impact on ecology and human health.
- Elaborate on health issues related to housing, air, water, noise, radiation pollution i.e. size of problems, area and specific groups affected, measurement of pollution levels and health impact of the same, corrective measures
- Elaborate on requirements of water, water chlorination and household purification measures, measurement of chlorine demand, Break-point chlorination levels, water quality.
- Assessment of quality of water and air, control of air pollution
- Explain environmental sanitation and control measures (including appropriate technologies) – modern methods of sewage disposal, mechanical ventilation, soakage pits, gobar gas plants, smokeless Chula, solar energy, rainwater harvesting, sewage water recycling plants at society level etc.
- Explain global warming and its health impact.
- Elaborate on forest reserves, social forestry and health
- Study vectors of medical importance and integrated control measures against them.
- Explain dynamics of transmission of vector borne diseases
- Explain pest control measures



- Explain environmental health issues in urban and rural areas
- Understand functioning of public sector measures to safeguard environmental health e.g water purification plant
- Explain Legislative measures for protection of environmental health

## 7. Primary Health Care System, Panchayat Raj, National Health Programmes including

### RCH, Demography & Family Welfare, School health and special groups:

- **Reproductive and Child Health:** RMNCH+A, Family Planning and Population Medicine: Problems and Strategies related to various services, Initiatives, Policies, Legislations and Programmes for ANC, INC, PNC, Under 5 Children, Population Control, Women Empowerment, gender related Issues and recent advances.
- **School Health:** Objectives, Components of School Health Services, Planning for School Health Services, Behavioral and Learning Problems in Children
- **Social Pediatrics:** Juvenile Delinquency, Child Abuse, Child Labour, Street Children, Child Guidance Clinic, Child Marriage, Child Placement.
- **Adolescent Health:** Common health related issues, method of counselling. life skill education.
- **Older Persons:** Health Problems, Services, Programmes and Policies.

**Disadvantaged Groups:** Health Problems, Services and Programmes

### Learning Objectives

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

- Explain the meaning of Primary Health Care with suitable analogies with reference to India, and be able to define the systems approach for implementation of Primary Health Care.
- Enumerate the elements, principles, population coverage norms, staff patterns, day to day activities, programme schedule, stakeholders at PHC level.
- Explain the scope and implications of 3-tier system of Primary Health Care.
- Understand functioning of Rural Panchayat Raj system of development and its co-relation with health.
- Promote community participation in Primary Health Care programme and motivate various stakeholders for the same.
- Understand and comply with medico-legal procedures related to Primary Health Care activities.
- Integrate, coordinate both health and non-health sectors for implementing various national health programmes.
- Deliver the provisions of various health schemes to eligible beneficiaries such as JSSK, Rashtriya Swasthya Beema Yojana, Rajiv Gandhi Jeevandayi Arogya Yojana etc.



- Impart training in health programmes for paramedical workers, lab technicians, community health volunteer's, interns and provide health education in the community.
- Implement Public Health Skills for investigations and containment of outbreaks & epidemics.
- Understand history of evolution of public health, important milestones in the world and in India.
- Enumerate the various health committees established and their major recommendations since 1947-48 to till date.

### **8. City/Town planning and Health**

- Accessibility of health care facilities.
- Health advisory role on water and waste treatment planning Boards.
- Recommendations on pollution control planning and monitoring systems, as related to Health.
- Urban ecology such as housing, slum formations, social issues, road safety urban stress factors, micro-climatic changes, etc which impact all dimensions of health.
- Disaster preparedness and management in urban ecology

### **9. Principles of Educational Science, Pedagogy and newer Technology**

- Curriculum planning, Educational Objectives.
- Principles of Learning
- Teaching/Learning methods
- Teaching Skills including Micro Teaching.
- Preparation and use of teaching aids and Learning research materials.
- Methods of Evaluation.
- Competence-based assessment

#### **Learning Objectives**

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

- Understand and elaborate implications of the policy provision with reference to the current health scenario in the country.
- Explain the role of health policy in promotion of Primary Health care, ensuring equity, intersectoral co-ordination, appropriate technology and community participation.
- Explain the various provisions for promotion of preventive and curative health services including National Health Mission, National Health Programs, Quality Hospital based services, Medical Education and AYUSH.
- Critically appreciate merits and demerits of the Health Policy.

- Explain SWOT analysis of the policy and debate on evidence based recommendations, additions, deletions.
- Debate on suggestions or recommendations for future inclusions.

## 10. Principles and Practice of Information, education and Communication

- Principles of IEC Health education
- Objectives of Health education
- Content of Health education.
- Relevance of using communication Methods in the implementation of health care.
- Meaning of communication.
- Principles of effective communication, relevant to health.
- Communication strategies of facilitating effective implementation of Health programs at individual and community levels.
- The use and influence of Mass Media for IEC.
- Practice (Methods) of IEC and its application in Community Health.
- Quantitative and Qualitative Evaluation of impact of IEC programs.

## 11. Medical Entomology, Zoonotic Diseases

Identification of the arthropods as classified below: -

- Insecta: Mosquito, Flies, Lice, Fleas, and other insects.
- Arachnida: Ticks and Mites
- Crustacea: Cyclops
  - Diseases transmitted and Modes of Transmission of diseases by arthropods
  - Control of Arthropods and diseases borne by them
  - Integrated vector control
  - Types, Mode of application and effectivity of Insecticides
  - Types and mechanism of Insecticide Resistance and modes of Resistance prevention
  - Rodents and anti - Rodent Measures, Epidemiology of diseases transmitted through Rodents
  - Types, causes and control of Zoonotic diseases especially Rabies, Plague, Leptospirosis, Brucellosis, Anthrax, etc

## 12. Population Science & Genetics

- Factors affecting the size of the Population.
- Theories of Demography
- Measures of Fertility and Mortality.
- Demographic Cycle.
- Demographic Trends in India and the World.
- Population Projection.
- Demographic Transition.
- Implication of rapid population growth.
- Urbanization.
- Genetics: Definitions, Concepts, Problems, Genetic Counselling Management, Genetic & Molecular Epidemiology.



### 13. Principles of Tropical Medicine

- Present problem statement of diseases of public health importance.
- Descriptive epidemiological factor of specific diseases of public health importance.
- Causes and factors related to increasing or decreasing trends of these diseases.
- Factors responsible for emergence of new diseases.
- Review of changing strategies control strategies for specific diseases of public health importance.

#### - **Communicable Diseases Epidemiology**

- a. Respiratory Diseases such as Small Pox, Measles, Mumps, Rubella, Diphtheria, Pertussis, Influenza, Tuberculosis, ARI etc.
- b. Intestinal Infections such as Poliomyelitis, Hepatitis, Food Poisoning, Cholera, Enteric Fevers, Amoebiasis, Worm Infestation etc.
- c. Arthropod Borne Infections such as Malaria, Filariasis, Dengue, Chikungunya, Lymphatic Filariasis, Japanese Encephalitis, Kala Azar, Zika Virus disease, Yellow Fever disease and others.
- d. Zoonotic Diseases such as Rabies, Brucellosis, Rickettsial Diseases, Parasitic Diseases etc.
- e. Surface Infectious Diseases of Public Health Importance
- f. Emerging and reemerging disease.
- g. Neglected Tropical Diseases

#### - **Non-communicable Diseases Epidemiology**

- a. Non-Infectious Diseases of Public Health Importance.
- b. Cardiovascular Diseases, Diabetes, Blindness, Accidents, Cancers

### 14. National Health Programs

- **National Health Programmes** related to them: The origin, historical development, interventions, current state and critique of the different National Health Programmes:
  - ❖ RMNCH+A
  - ❖ National Tuberculosis Elimination Programme
  - ❖ National Leprosy Eradication Programme
  - ❖ National Diarrhoeal Diseases Control Programme
  - ❖ National Malaria Eradication Programme
  - ❖ National Filariasis Control Programme
  - ❖ National Vector Borne Diseases Control Programme
  - ❖ National Acute Respiratory Infections (ARI) Control Programme
  - ❖ National AIDS Control Programme
  - ❖ National Kala Azar Control Programme
  - ❖ National Japanese Encephalitis (JE) Control Programme
  - ❖ National Iodine Deficiency Disorders (IDD) Control Programme
  - ❖ National Programme for the Control of Blindness
  - ❖ National Programme for prevention & control of Deafness

- ❖ National Cancer Control Programme
- ❖ National Mental Health Programme
- ❖ NPCDCS
- ❖ Universal Immunization Programme (UIP)
- ❖ National Water Supply and Sanitation Programme
- ❖ Minimum Needs Programme
- ❖ National Health Mission
- ❖ Integrated disease surveillance programme
- ❖ National Programme of Mid-Day meal in schools
- ❖ Integrated Child Development Services Scheme
- ❖ Swachh Bharat Abhiyan
- ❖ National Iron Plus Initiative
- ❖ Pradhan Mantri Surakshit Matritva Abhiyan
- ❖ Mothers' Absolute Affection
- ❖ India Newborn Action Plan
- ❖ Rashtriya Bal Swasthya Karyakram
- ❖ Beti Bachao Beti Padhao
- ❖ Kayakalp, Jan Aushadhi and AMRIT
- ❖ Various Digital Health Initiatives

## 15. PUBLIC HEALTH LEGISLATIONS

### Learning objectives:

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

- Explain public health legislations and need for the same.
- Know in detail each public health law – when, why, implementation, impact, issues etc.
- Enforcement of various public health laws.
- Judiciary mechanism for ensuring proper implementation of public health laws.
- Scope for integrated approach for implementation of public health laws.

## 16. COMMUNITY MENTAL HEALTH

- Principles of Community Mental Health
- Epidemiological factors associated with the current and emerging mental disorders of public health importance.
- Emerging mental health issues of marital, family based problems, travel related, migration, resettlement, and urbanization problems.
- Planning and intervention strategies for community based mental health programs
- Substance abuse
- Legislations and Programmes for mental health
- Social Media and Mental Health



## 17. OCCUPATIONAL HEALTH

- Relevance of Occupational Environment to Health Hazards.
- Surveying for identifying industrial health hazards.
- Surveying for identifying Health Hazards in Agricultural/Plantation/Mining area settings.
- Surveying for identifying Health Hazards in Home based cottage Industries.
- Basic Principles of Ergonomics and Work – Physiology and their application in occupational Health Intervention Programs.
- Health Hazards due to Industrial Pollution of air, water and land.
- Elements of Industrial waste treatment.
- Relevance and meaning of Industrial Toxicology in the management of Health hazards.
- Understanding the Basic Scope of occupational health legislation such as ESI Act, Factories Act, Mines Safety Act, Child and Adolescent Labour Amendment Act, etc.
- Causes, consequences and Intervention Strategies for occupation related diseases of public health importance.
- Principles of Industrial safety measures and Industrial house keeping.
- Causes and reduction of Sickness Absenteeism.
- Principles of Industrial Psychology including work related stress management.
- Gender issues in work environment.
- Providing social security for industrial workers by the Industrial corporate Sector in view of Globalization and Outsourcing of work.

### Learning Objectives:

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

- Understand the concept of occupational health and its importance, Occupational environment and work dynamics.
- Know different types of occupational exposures at various settings.
- Enlist various occupational hazards and their relative magnitude.
- Understand measurement of exposure levels to harmful influences during occupation.
- Understand preventive and control measures against various occupational hazards – global, national and local level measures.
- Understand individual and community responses towards preventing exposure to occupational hazards.
- Understand and advise occupational safety measures.
- Understand legislative measures to prevent exposures to occupational hazards.
- Advise compensation provisions to persons exposed to various occupational hazards.
- Understand occupational health problems amongst people in unorganized sector
- Understand and advise social security and welfare provisions for workers – ESIS, Factory's Act, Role of ILO, Ministry of Labor, DGFASLI.

## 18. Health Planning & Management

- National Health related Policies.
- Programme Planning, Implementation, Monitoring and Evaluation.
- Planning an Intervention Programme with Community Participation based on Community Diagnosis.
- Strategic Projects Management.



- Organizational Behavior.
- Familiarity with management Techniques: define and explain principles of management; explain broad functions of management.
- Logistic Management.
- Medical Audit.
- Introduction to Human Resource Management.
- Social Marketing.
- Quality Management, Continuous Quality Improvement.
- Importance of Operation Research methods in health care management
- Basics of health system research.
- Introduction to Public Health Laws.
- Health Systems (organizations, agencies, infrastructure etc.): Government & Non-Government: International & within the Country.
- Relevance of qualitative methods in health care management
- Communication in Organizations, Networking and Advocacy.
- Public Health Emergencies

### **19. Health Information System.**

- Use of Health information System in Health planning including situational analysis, Prioritization, Monitoring and evaluation.
- Sources and methods of data acquisition.
- Applications of Health information on National and International Notification of Diseases.
- Use of Internet and Intranets including NICNET, National health Portaletc.

### **20. Disaster Management and public health emergencies.**

- Brief review of definition, types and cause of disaster.
- Understanding the short and long term Health Impact of Disaster.
- Accessing priorities of Disaster Response.
- Planning for Administrative, Operational, Technical Intervention for Disaster Relief program including Multi Sectoral Co-ordination.
- Community Disaster Preparedness training needs for Health Providers and Beneficiaries.
- Post Disaster Follow up care.
- National Disaster Management Authority and its function

### **Learning Objectives:**

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

- Explain the conceptual difference between Administration and Management, Power and Authority with reference to health care.
- Explain the role of fundamental principles of constitution, principles of Democracy and its correlation with health care administration.
- Explain the role of Bureaucracy, Technocracy, Political system, Judiciary, Media and people in health care administration.
- Explain and identify the key positions and their role in health administration at State, District, Taluka (Tehsil block) and village level.



- Explain the frame work of health care system at State, District, Taluka & village level and understand the mechanism of coordination between bureaucrats, technocrats, political, judiciary and media at each of these levels.
- Enumerate functions of a manager, explain concepts of management and leadership styles, various management techniques, planning process, monitoring & evaluation skills.
- Should be sensitive to quality issues in health care management and comply with relevant quality management techniques.
- Formulate and manage team approach for implementing health programmes.
- Apply skills of effective human resource management and identify relevant roles, responsibilities and duties of functionaries.
- Implement skills of motivation, communication, negotiation and conflict management at PHC level.
- Develop budgetary statements based on evidence of needs assessment and be able to maintain account of expenditure as per norms.
- Undertake community health needs survey, conduct training & communication needs assessment of paramedical and health workers, identify vulnerable, underprivileged communities, implements high risk approach.

### **21. Health Economics**

- Introduction to Macro and Micro-economics (including cost-effective & cost-benefit analysis).
- Pharmaco-economics.
- Demand & Supply.
- Health Financing in India.
- National and District Health Accounts.
- Insurance (commercial, social security).
- User Fees.
- Resource Mobilization and Utilization.
- Costing and Budgeting.
- Financial Sustainability.

#### **Learning Objectives:**

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

- Describe the scope of health economics.
- Understand health market & its characteristics.
- Understand & apply economic evaluation techniques.
- Assess the mechanism of Funding Health Care services, especially health insurance.
- Advise on allocation of resources appropriately in their work area.

### **22. International Health including International Health Regulation, Vaccination for Travellers, etc**

**Learning Objectives:**

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

- Understand the need and scope for international health measures.
- Enlist and understand functioning of various UN agencies (including WHO) playing key role in international health.
- Enlist and understand functioning of bilateral vs multilateral international donor agencies.
- Provide advice to international travelers and vaccination requirements,
- Understand International health control measures e.g. quarantine, airport management etc.
- Understand the management of international ports from health perspectives.

**23. Health Technology:** Computer Application, Software for Research and Statistical Analysis, Awareness regarding Remote Sensing, GIS and other new Technologies.

**24. Recent Advances and Topics of Current Interest.**  
(Topics may be extracted from individual area of Syllabus content above)

- Components of National Health Policy
- Basis of formulating Rational drug policy
- Relevance of Evidence Based Medicine in the planning of Disease control Programs.
- Use of Computer in Public Health.
- Role of Clinical Specialists in Community Health care Programs.
- Writing of a Research Protocol.
- Nosocomial infection and Hospital infection control.
- Impact of macro-climatic changes (eg. Global Warming, etc.) on health.
- Organising health component of Relief camps during war, mass migration.
- Planning of Public Health measures during pandemics of new diseases.
- Selected Methods in operation Research.



## COURSE CONTENTS FOR PRACTICALS

### I. Postings To Clinical And Diagnostic Departments

#### **1. Dept. of Medicine**

- Diagnosis and management of common ailment like
  - a. Diabetes
  - b. Hypertension
  - c. Hyperlipidemia
  - d. Thyroid disorder
  - e. COPD/Bronchial asthma
  - f. Malaria/Dengue/Chikungunya
  - g. Dog bite
  - h. Congestive Heart failure
  - i. Hepatitis
  - j. Anaphylaxis
  - k. Pneumonia/Common cold
  - l. Diarrheal disorders, Amoebiasis, Cholera
  - m. Pyrexia of unknown origin
  - n. Typhoid
  - o. Tuberculosis
- Emergency management of myocardial infarction and appropriate referral
- Emergency management of anaphylaxis
- Emergency management of status asthmaticus
- Reading and reporting of Chest X-ray and ECG.

#### **2. Dept of Obstetrics and Gynecology**

- Antenatal care and checkup of normal pregnancy and special cases like gestational diabetes, preeclampsia, eclampsia and iron deficiency anemia during pregnancy.
- Conduct and Management of Normal Vaginal delivery
- Counseling of couples in family welfare clinic
- Ability to insert IUCDs (min 10)
- Diagnosis and Management of PID and RTI/STI cases
- Diagnosis and Management of menstrual irregularities
- Management of Medical abortion
- Skills on D & C and D & E
- Partograph
- Observe / assist in lapro-ligation.

### 3. Dept of Paediatrics

- **Growth monitoring**
- Diagnosis and Management of cases like:
  - a. ARI
  - b. Diarrhoea
  - c. Malnutrition
  - d. Nephrotic syndrome
  - e. Vitamin D deficiency
  - f. Fever with rash
  - g. Measles, Mumps
  - h. Acute flaccid paralysis
- Assessment of development delays and their management and referral.
- Knowledge of Immunization guidelines.
- Knowledge of drug dosage in children.
- Infant and young child feeding/BFHI guidelines/Kangaroo mother care.
- Essential new born care, APGAR scoring.

### 4. Dept of Surgery

- Management of acute abdomen.
- Dressing of wounds and ulcers.
- Suturing, abscess drainage.
- Catheterization/Insertion of ryles tube/Cannulation.
- -Basic life support training.

### 5. Dept of Ophthalmology:

- Management of common cases like
  - a. Conjunctivitis
  - b. Spring catarrhal
- Diagnosis of cataract and current procedures followed in management.
- Visual acuity and colour vision assessment.
- Facilities available under National programme for control of Visual Impairment and Blindness.

### 6. Dept of Biochemistry

- To know procedure, principle and interpretation of common tests like:
  - a. Lipid profile
  - b. Thyroid profile
  - c. Liver function test
  - d. Kidney function test
  - e. FBS and PPBS
  - f. HbA1c
  - g. Serum uric acid

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### **8. Deptt. of Microbiology**

- Hand on experience in staining techniques and interpretation of:
  - a. Grams Stain, Ziehl-Neilson Stain, Leishman stain, Alberts Stain.
  - b. Peripheral blood examination of thick and thin smears and reporting.
  - c. Microscopic examination of stools and interpretation, identify helminthic ova / larvae.
  - d. Demonstration of Collection, storage and Dispatch of water, stool, body fluids samples to laboratory.
  - e. Interpretation of commonly used serological tests such as Physical/Biological/Chemical water analysis reports/Widal/HIV/Hepatitis B/VDRL/ Viral Antibody Titers.
  - f. Testing of water for bacteriological indicators(MPN).

### **9. Dept of Pathology and Blood bank**

- Procedure for Routine urine examination and interpretation
- Procedure for complete haemogram and interpretation
- Procedure for Peripheral blood smear and its interpretation
- To know selection procedure and counselling of blood donors in blood bank.
- Procedure for regular screening of blood for donation.

### **10. Dept of Psychiatry**

- Prevention and primary care of patients with mental disorders
- Tobacco cessation

### **11. Dept of Dermatology**

- Management of common problems like
  - a. Scabies
  - b. Acne
  - c. Taenia infection
  - d. STD's/Concept of Suraksha clinic and NACO kits.

### **12. NITRD/TB and Chest**

- Patient diagnosis and categorization under RNTCP.
- Treatment guidelines.
- To learn about maintenance of TB registers.
- HIV/TB cross referral and management.
- ICTC
- DOTS plus
- Functioning of MDR ward.

### **13. Public Health Lab and National center for disease control**

- Testing of water for physical parameters, and chemical analysis of water.
- Analysis of milk.
- Medical Entomology.
- Demonstration of Collection and Transportation of entomological specimens.
- Identification of mosquitoes/Fleas/ticks/others.
- Demonstration of mounting entomological specimens and reporting.



- Interpretation of entomological survey findings and vector indices calculation.

### **13. Infectious Disease Hospital**

-Management of common diseases like

- a. Mumps
- b. Measles
- c. Diphtheria
- d. Pertussis
- e. Chickenpox
- f. Rubella

### **14. National Institute of Health and Family Welfare and MS office, HAHC hospital for Hospital Administration**

To know basic techniques of hospital administration and management like inventory control, budgeting, financial and material management, CSSD, Biomedical waste management, HR management etc.

## **II. Epidemiological (Including outbreaks of disease) and Statistical Exercises**

-Application of theoretical knowledge about epidemiology and biostatistics.

## **III. Case Studies (including Family studies) to illustrate principles and practice of Community Health- Diet and Nutritional survey of a community**

## **IV. Investigation of an Outbreak of a disease and suggested control measures.**

## **V. Field and simulated Exercises in**

- PRA techniques and Interpretive Reporting.
- IEC Field Exercise organization, execution and evaluation.
- Planning for simulated public health intervention Programs including disaster relief measures.
- VED analysis etc.
- Assessment of Health Needs.
- Simulated exercises in Preparation of Budgeting at the PHC level.
- Demonstration of Supervisory methods and Performance Appraisal at PHC/SC and field level.
- Simulated calculation of Requirement of Vaccines, Medicines, Transport Schedules, lab supplies, equipment, staff deployment, stationary, etc. at the PHC level.
- Simulated Exercises for organization of field and center based camps for Family Welfare, MCH, IEC, and Specialist Camp, Immunization camps.

## **VI. Collection and Dispatch of Food samples for Lab Investigations.**

## **VII. Situational analysis of selected potentially health hazardous environments & its influence on health.**



**VIII. Industrial Health Survey and recommendation reports for Industrial and home-based Work places. Include interpretation of reports quantifying air pollution, noise pollution, temperature, humidity and other meteorological factors and their effect on health.**

**IX. School Health Surveys with recommendations.**

**X. Situational status (organizational structure and functioning with feasible recommendations)**

Reporting on Visits/Posting to the following institutions of public health importance:

- District Health Office
- District Hospital
- PHC/SC/CHC
- ICDS Office/Anganwadi centre
- Public Health Laboratory
- Sewage Treat Plant
- Malaria Centre Vector control Centre – including Malaria, J.E. etc.
- Any Large NGO
- UFWC/DFPO
- Family Welfare Camps
- Infectious disease Hospital
- DTO/DOTS Centre
- Polio Surveillance Office
- Visit to Factory/Inspectorate of factories
- Home for the aged
- Blindness Rehabilitation Schools
- Schools for Deaf and Dumb
- Schools for Blind
- Rehabilitation/Physically Handicapped Centre-Cheshire home
- Milk Plant
- Water Supply and water treatment plant
- Modi flour Mill
- International Inoculation Centre including Registration of Births and Deaths

**XI. Postings to health centres**

- a) Posting at Urban Health Centres and Rural Health Training Centres of the Department:  
**Total period of one year.**

**During these posting emphases should be on: -**

- Observing and participation in Antenatal care.
- High risk pregnancy identification.
- Registration and participation in care of Antenatal and under-fives.
- Nutrition Status assessment, Growth and Development monitoring through analysis of cumulative under five and antenatal cards and follow-up programs for drop-outs etc.
- Records design, recording procedures, data compilation and reporting procedures of Nation Health Programs.
- Disinfection and infection control methods.
- Field visits with peripheral health care staff to review problems associated with Implementation of Health programs.

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- Participation in organization and management of health camps.
  - Observation and reviewing methods of motivating for Family welfare.
  - Health information preparation using MCH indicators and their interpretation.
  - Measuring Health care service utilization rates for the centre.
  - Observation and participation in the laboratory work with emphasis on result interpretation.
  - Biomedical waste management observation and review report.
  - Immunization coverage calculation and follow up.
  - Cold Chain observation up to vaccine administration at field level.
  - Collection and dispatching and follow up for Vaccine Potency testing.
- b) Short duration posting in various camps, Public Health emergencies, Investigation of epidemics, Implementation of National Health Programmes e.g. Pulse Polio, Dengue Control, etc.

### **THESIS (GUIDELINES FOR STUDENT)**

- Step 1. Understanding the concept of thesis writing by assigned guide and co guide(s)
- Step 2. Review of available literature
- Step 3. Short Listing of topic of interest
- Step 4. Work up in detail on few topics keeping in mind the feasibility and discussion at the dept. level
- Step 5. Selection and finalization of the topic and submission of protocol
- Step 6. Preparation of study instrument
- Step 7. Pilot survey
- Step 8. Preparation and submission of synopsis six months after the date of admission and as notified by the University.
- Step 9. Data collection
- Step 10. Data entry, compilation and processing
- Step 11. Analysis and interpretation
- Step 12. Presentation and Discussion at the Dept. level.
- Step 13. Preparation and submission of dissertation to Registrar Evaluation six months prior to university examination as notified by the university.





## TEACHING AND TRAINING ACTIVITIES OF POST GRADUATE RESIDENTS

- Postgraduate (PG) Medical Education in Community Medicine shall be of three years duration after MBBS
- Postgraduate curriculum shall be competency based.
- Learning in Postgraduate programme shall be essentially autonomous and self-directed

The entire training and the facilitation of the learning process will be aided through the following methods of learning:

1. PG Activities will be held at least thrice a week.
2. Class Room and Field learning –
  - a) self-directed: At least twice a week in which the student will present articles, abstracts from journals, seminars, group work, epidemiological and statistical exercises, case studies, family presentation by rotation.
  - b) Lectures: The recognized teachers will take lectures. The frequency of lectures will be once a month, preferably once a week depending upon the number of teachers available.
3. Participation in scientific activities, Participation in Panel, Symposia, CME, workshops, conferences etc.
4. Teaching exposure
  - a) They will conduct group teaching of undergraduate students. Each student must take 30 classes. They will participate in the training programme conducted by department and should conduct few sessions. They will use the techniques of pedagogy.
5. Thesis work.
6. Presentation for joint discussions of Field and center activity Review reports and Work-diary analysis.
7. Lecture discussions
8. Practical Demonstrations.
9. Field Visits – Institutional visits, Family Studies/Clinico- social Case Studies/ Site visits. Family health file containing records of minimum 5 families. Folder containing clinico-social case records of 15 long/short case.
10. Problem based learning.
11. Supervised Training of undergraduates including lesson Planning.
12. Conducting of Surveys/Epidemiological Projects.
13. PG Students will participate in various national health programme and special campaign such as on Pulse Polio, HIV/AIDS, Environmental health etc.
14. Post graduates students will be participating in all the activities of the department
  - a) Organizing and carrying out screening camps/health education camps/health checkup camps.
  - b) Planning and organization of CME, workshops and public health days.
  - c) Participating in research work of the department other than thesis.
  - d) Active involvement in the research publications (**A postgraduate student would be required to present one poster presentation/ to read one paper at a national/state conference/to have one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.**)





15. They have to participate in national, international and regional level conferences, CME and workshops organized by other institutions.
16. PG Students will organize atleast one health camp in 6<sup>th</sup> semester.
17. PG student will begin working on selection of thesis topic and review the literature from 2<sup>nd</sup> Month onwards.
- 18. Protocol of the thesis is to be submitted by 31<sup>st</sup> October of the 1<sup>st</sup> year or when notified**
19. PG Students will present thesis work every quarter.
- 20. Thesis is to be submitted 9 months before the exam as per the date decided by the university.**
21. Record maintenance-

The following diaries / books will be maintained by each PG endorsed by the guide / HOD:-

- Log book of daily activities including statement of skill acquired on each day.
- Day book containing detailed reports of visits to establishments of health interest other than own department.
- Scrap book containing lay media reports regarding current health issues & critical appraisal thereof (min 30 reports).
- Folder containing formats / brochures / other material like family health cards, in connection with extramural visits.
- Family health file.
- Folder containing clinico-social case records of long / short case.

#### **Course in Research Methodology**

- a) All postgraduate students shall complete an online course in Research Methodology.
- b) The students shall have to register on the portal of the designated training institutions.
- c) The students have to complete the course within one year of the commencement of the batch
- d) The online certificate generated on successful completion of the course and examination thereafter, will be acceptable evidence of having completed this course.
- e) The above certification shall be a mandatory requirement to be eligible to appear for the final examination of the respective postgraduate course.

#### **Course in Ethics**

- a) All postgraduate students shall complete course in Ethics including Good Clinical Practices
- b) The students have to complete the course within one year of the commencement of the batch
- c) No Postgraduate Student shall be permitted to appear in the examination without completing the above course.



### **Course in Basic Cardiac Life Support Skills (BCLS)**

- a) All postgraduate students shall complete a course in Basic Cardiac Life Support (BCLS) skills and get duly certified.
- b) The students have to complete the course within one year of the commencement of the batch.
- c) No Postgraduate Student shall be permitted to appear in the examination without the above certification.

### **Awareness in basics of management and audit**

Awareness in Medical Audit, Management, Health Economics, Health Information System, basics of statistics, exposure to human behavior studies and knowledge of pharmacy shall be imparted to the Post Graduate students.

### **District Residency program**

All postgraduate students pursuing MD/MS in broad specialties in all Medical Colleges/Institutions under the Indian Medical Council Act, 1956 shall undergo a compulsory residential rotation of three months in District Hospitals/ District Health System as a part of the course curriculum. Such rotation shall take place in the 3rd or 4th or 5th semester of the Postgraduate programme. This rotation shall be termed as 'District Residency Programme' (DRP)

The District Residency Programmes will be implemented with the PG (broad specialty) batch that has joined for the postgraduate course in 2022 or when notified.



## POSTING SCHEDULE

### 1<sup>st</sup> Semester

#### Postings

1. Departmental posting-1 month
2. RHTC-2 months
3. UHTC-2 months
4. Covid Vaccination Centre – 1 month

| Months                | Place of Posting                              |
|-----------------------|---|
| 1 <sup>st</sup> Month | Department of Community Medicine              |
| 2 <sup>nd</sup> Month | Covid Vaccination Centre                      |
| 3 <sup>rd</sup> Month | Rural Health Training Centre, Madanpur Khadar |
| 4 <sup>th</sup> Month | Rural Health Training Centre, Madanpur Khadar |
| 5 <sup>th</sup> Month | Urban Health Training Centre, Pul Prahladpur  |
| 6 <sup>th</sup> Month | Urban Health Training Centre, Pul Prahladpur  |

For 15 days 1 hour common lecture class will be taken for all post graduates on the below mentioned topics from 2-4 pm

1. Importance of biomedical research and planning and designing of research studies
2. Sample size calculation and sampling techniques
3. Types of data and data collection techniques
4. Sources of health data and some useful indicators derived from health statistics
5. Measures of morbidity and mortality
6. Elementary tests of significance
7. Elementary methods of statistics
8. Commonly used statistical packages
9. Source of bias and efforts of their control
10. Ethics in biomedical research
11. Medical audit
12. Health Information system
13. Writing of research proposal
14. Medical record keeping and medical certification of cause of death.
15. Biomedical waste management.



## 2<sup>nd</sup> SEMESTER

| Months                | Place of Posting  |
|-----------------------|---|
| 0-15 Days             | Department of Medicine (1 Week)<br>Department of Dermatology (4 days) & Department of Psychiatry (4 days)   |
| 16-30 Days            | Department of Paediatrics, HIMSR  |
| Second Month          | Department of Community Medicine  |
| Month 3/first Half    | Department of Obstetrics & Gynecology, HIMSR  |
| Month 3/ Second Half  | Department of Pathology (Blood Bank) - 3 days<br>Department of Microbiology – 3 days<br>Department of Emergency & Trauma – 5 Days<br>MRD and MS office HIMSR – 3 Days |
| 4 <sup>th</sup> month | National Institute of Health and Family Welfare, (7 Days)<br>National Center for Disease Control, (7 Days)  |
| 5 <sup>th</sup> month | TB& Chest/National Institute of Tuberculosis and Respiratory Diseases (7Days)   |
| 6 <sup>th</sup> month | Infectious Disease Hospital, (7 Days)   |
|                       | Rest of the time in Department  |

### 3<sup>rd</sup> & 4<sup>th</sup> SEMESTER

| Days      | Morning (Pre-Lunch)              |                                    | Afternoon (Post-Lunch)   |
|-----------|----------------------------------|------------------------------------|--|
| Monday    | Health Centre<br>(09.00-1.00pm)  |                                    | Seminar/Journal Presentation<br>(02.00-04.00pm)  |
| Tuesday   | Health Centre<br>(09.00-11.00am) | Data collection<br>(11.00-01.00pm) | Scientific discussion/presentation with<br>Interns at health centre<br>(02.00-04.00pm) |
| Wednesday | Health Centre<br>(09.00-01.00pm) |                                    | Theory Lecture by Faculty Members/UG<br>seminar<br>(02.00-04.00pm)                     |
| Thursday  | Health Centre<br>(09.00-1.00pm)  |                                    | Case Presentation<br>(02.00-04.00pm)   |
| Friday    | Health Centre<br>(09.00-11.00am) | Data collection<br>(11.00-01.00pm) | Library Literature review & Thesis work<br>(02.00-04.00pm)                             |
| Saturday  | Health Centre<br>(09.00-11.00am) |                                    | Data collection<br>(11.00-01.00pm)   |

District Residency Program will be conducted in 3<sup>rd</sup>-5<sup>th</sup> Semester as notified.

### 5<sup>th</sup> SEMESTER

| Days      | Morning (Pre-Lunch)                                |  | Afternoon (Post-Lunch)   |
|-----------|--|--|--|
| Monday    | Clinical Posting with UG<br>(9.00am-12.00pm)       |  | Seminar/Journal club (02.00-04.00pm)                                     |
| Tuesday   | Clinical Posting with UG<br>(9.00am-12.00pm)       |  | Thesis work<br>(02.00-04.00pm)   |
| Wednesday | Clinical Posting with UG<br>(9.00am-12.00pm)       |  | Theory Lecture by Faculty Members<br>/Seminar with UG<br>(02.00-04.00pm) |
| Thursday  | Clinical Posting with UG<br>(9.00am-12.00pm)       |  | Case Presentation<br>(02.00-04.00pm)                                     |
| Friday    | Thesis/Clinical Posting with UG<br>(11.00-01.00pm) |  | Thesis work<br>(02.00-04.00pm)   |
| Saturday  | Clinical Posting with UG<br>(9.00am-12.00pm)       |  | Thesis work<br>(02.00-04.00pm)   |

\*PG students shall present thesis work every quarterly.





## 6<sup>th</sup> SEMESTER (Nov. - April)

| Days      | Morning (Pre-Lunch)<br>(09.00-01.00pm)                   | Afternoon (Post-Lunch)   |
|-----------|--|--|
| Monday    | Epidemiological Investigations                           | Seminar / Journal Club (02.00-04.00pm)                                 |
| Tuesday   | Clinical Posting with UG<br>(9.00am-12.00pm)*            | Research Methodologies (02.00-04.00pm)<br>Under faculty supervision    |
| Wednesday | Clinical Posting with UG<br>(9.00am-12.00pm)*            | Hospital Based Evaluation (02.00-04.00pm)                              |
| Thursday  | Clinical Posting with UG<br>(9.00am-12.00pm)*            | Research Methodologies / Family Health<br>Presentation (02.00-04.00pm) |
| Friday    | Community based health programmes /<br>IEC activities    | Biostatistical Evaluation (02.00-04.00pm)                              |
| Saturday  | Environment Health Campaign under<br>faculty supervision | Writing research paper   |

### EVALUATION

#### INTERNAL (FORMATIVE) EVALUATION

Internal assessment in reality is done to assess and to identify the weaknesses as well as the strength of the candidate. Thus appropriate corrective methods can be adopted at the right time so that a well-trained and competent community physician worthy of a post graduate degree is available for the society. However a formal assessment can be recorded every 6 months.

1. A log book should be maintained recording the posting in centres, skills acquired, presentations done, journal clubs presented, conferences and workshops attended, published work, thesis progress, undergraduate classes taken etc.
2. Research work should be assessed monthly. The protocol and the final results should be presented in the entire department.
3. Evaluation sheets may be incorporated for the purpose of assessment. The following points may be considered in the scheme for evaluation of presentations such as seminars and journal clubs:
  - a. Choice of article/topic (unless specifically allotted)
  - b. Completeness of presentation
  - c. Clarity and cogency of presentation
  - d. Understanding of the subject and ability to convey the same
  - e. Whether relevant references have been consulted
  - f. Ability to convey points in favor and against the subject under discussion
  - g. Use of audio-visual aids
  - h. Ability to answer questions
  - i. Time scheduling
  - j. Overall performance
4. In the case of specific postings similar points may be assessed with regard to knowledge and skills. It is also recommended that the candidate be assessed with regard to ability to get along with colleagues and conduct with patients and staff.
5. Every six monthly/semester departmental exam could be conducted to evaluate the performance in cognitive, psychomotor and affective domains.
6. Sent up examination to be conducted before final University exam.



The grades must be endorsed by more than one faculty member or an average obtained by pooling the grades of different faculty members. This must be conveyed to the candidate periodically (at least once in every six months) so that the candidate knows where he/she stands.

| Timing of Exam                        | Theory   | Practical |
|---------------------------------------|----------|-----------|
| End of Semester One                   | 1 Paper  | -         |
| End of Semester Two                   | 1 Paper  | 1         |
| End of Semester Three                 | 1 Paper  | -         |
| End of Semester Four                  | 1 Paper  | 1         |
| End of Semester Five                  | 2 Papers | 1         |
| End of Semester Six<br>(Sent up Exam) | 4 Papers | 1         |

Each paper will be of 100 Marks consisting of 10 questions of 10 Marks each

### UNIVERSITY (SUMMATIVE) ASSESSMENT

The University or summative examination shall be held at the end of three years of the training programme. This would include assessment of the thesis and a formal examination on the theoretical and practical aspects of the specialty of Community Medicine.

### SCHEME OF EXAMINATION

#### **A. Theory (Written) Examination: 400 marks**

There shall be **four question papers**, each of three hours duration. Total marks for each paper will be 100. Each Question paper will consist of 10 questions of 10 marks each.

There shall be four theory papers as follows:

**Paper I :** Conceptual (and applied) understanding of Public Health, Community Medicine, Communicable and Non- Communicable diseases, emerging and re-emerging diseases, Applied Epidemiology, Health research, Bio-statistics.

**Paper II:** Nutrition, Environmental Health, Primary Health Care system, Panchayat Raj system, National health Programs, RCH, Demography and Family Welfare, Health Care Administration, Health Management and Public Health Leadership.

**Paper III:** Social & Behavioral sciences- applied aspects, Scientific communications & Medical writing, Research Methodology, Public Health Legislations, International Health & Global Diseases surveillance.

**Paper IV:** Health Policy planning, Medical Education technology, Information Technology, Integration of alternative Health system including AYUSH, Occupational Health, Recent advances in Public Health & Miscellaneous issues, Health Economics.

\* The topics assigned to the different papers are generally evaluated under those sections. However a strict division of the subject may not be possible and some overlapping of topics is inevitable. Students should be prepared to answer overlapping topics.



**B. Practicals: 400 Marks**

**1. Family Study and long case: (One) (100 Marks)**

One family will be allotted in rural/urban field practice area. Presentation and discussion will be on the health status of the family and of any case/individual in the family and on factors that contributed towards maintenance of health and occurrence of disease; management at individual, family and community levels.

**2. Clinico-social case Study [Short case] (30X2=60 Marks)**

Basic clinical presentation and discussion of diagnosis, treatment and management of common communicable or non-communicable diseases/conditions with emphasis on social and community aspects.

**3. Problem on Epidemiology and Biostatistics (3-Epidemiological exercise and 2 biostatistics each) (30X2=60 Marks)**

Based on situation analysis from communicable or non-communicable diseases, MCH & FP including demography. Environmental health including Entomology and Occupational Health.

**4. Health management exercise (20 marks-1)**

**5. Public health lab (20 marks)**

**6. Pedagogy (20 marks)**

**7. Spotters (5) (20 Marks)**

- Identification and description of relevant public health aspects of the spotters/specimen by the student. Spotters shall be from Nutrition, Environmental health including entomology and Occupational health, MCH & FP; Microbiology including parasites; vaccines, sera and other immunobiologicals.
- Microbiology component should be suitably represented.

**Viva-Voce: 100 Marks**

Students will be examined by all the examiner together about students' comprehension, analytical approach, expression and interpretation of data.

|   |               |                   |              |
|---|---------------|-------------------|--------------|
| Maximum Marks in M.D.<br>Community Medicine | Theory<br>400 | Practicals<br>400 | Total<br>800 |
|---|---------------|-------------------|--------------|



**Qualifying level:** Obtaining a minimum of 40% marks in each theory paper and not less than 50% cumulatively in all the four papers for degree examination and three papers in diploma examination shall be mandatory. Obtaining of 50% marks in Practical examination shall be mandatory for passing the examination as a whole in the said degree/diploma examination as the case may be. Hence a candidate shall secure not less than 50% marks in each head of examination which shall include Theory and Practical including clinical and viva voce examination. No grace mark is permitted in Postgraduate Examination either for Theory or for Practical.

For all Post Graduate Examination, the minimum number of Examiners shall be four, out of which two shall be External Examiners, who shall be invited from other universities from outside the State. An examiner shall ordinarily be not appointed for more than two consecutive regular examinations for the same Institution

### **RECOMMENDED READING BOOKS**

1. *Public Health and Preventive Medicine* (Maxcy-Rosenau-Last Public Health and Preventive Medicine) by Robert B. Wallace
2. *Basic Epidemiology*. R Bonita, R Beaglehole, T Kjellstrom. World Health Organization Geneva.
3. *Epidemiology*, by Leon Gordis.
4. *Oxford Textbook of Public Health*. Holland W, Detel R, Know G.
5. *Practical Epidemiology*, by D.J.P Barker
6. *Park's Textbook of Preventive and Social Medicine*, by K.Park
7. *Principles of Medical Statistics*, by A. Bradford Hill
8. *Interpretation and Uses of Medical Statistics*, by Leslie E Daly, Geoffrey J Bourke, James MC Gilvray.
9. *Epidemiology, Principles and Methods*, by B. MacMahon, D. Trichopoulos
10. *Hunter's Diseases of Occupations*, by Donald Hunter, PAB Raffle, PH Adams, Peter J. Baxter, WR Lee.
11. *Epidemiology and Management for Health Care*, by Sathe PV and Doke PP.
12. *Vaccines*, by Stanley A. Plotkin.
13. All reports and documents related to all National Programmes from the Ministry of Health and Family Welfare.

### **B. JOURNALS:** 03-05 international Journals and 02 national (all indexed) journals **Journals**

1. Indian Journal of Community Medicine.
2. Indian Journal of Public Health.



3. Indian Journal of Community Health.
4. Journal of Communicable Diseases.
5. Indian Journal of Maternal and Child health.
6. Indian Journal of Preventive and Social Medicine.
7. Indian Journal of Occupational Health and Industrial Medicine.
8. Indian Journal of Medical Research.
9. National Medical Journal of India.
10. Indian Journal of Malariology.
11. Indian Journal of Environmental Health.
12. Indian Journal of Medical Education.
13. Journal of Indian Medical Association.
14. Journal of Medicine, Pediatrics, OBG, Skin & STD, Leprosy, Tuberculosis and Chest Diseases (For reference)
15. Journal of Family Medicine and Primary Care.

### **International Journals**

1. WHO Publications – All
2. Journal of epidemiology and Community Health
3. Tropical Diseases Bulletin.
4. Vaccine
5. American Journal of Public Health
6. Lancet
7. New England Journal of Medicine
8. International journal of epidemiology
9. BMJ

### **C.COMMITTEE REPORTS AND POLICY DOCUMENTS – MEDICAL EDUCATION AND HEALTH POLICY:**

1. Bhore Committee Report (1946) Health Survey and Development committee, Govt. of India, Delhi.
2. Mudaliar Committee Report (1961) Health Survey and planning Committee, Govt. of India, Delhi.
3. Shrivastav Report (1974), Health services and Medical Education – A Programme for immediate action, Group on Medical Education and Support Manpower, Ministry of Health and Family welfare, Govt. of India, New Delhi.
4. ICSSR/ICMR (1981) Health for All – An alternative strategy – Report of a Joint Study group of ICSSR/ICMR, Indian Institute of Education, Pune.
5. National Health Policy, (1982) Ministry of Health and Family Welfare, government of India, New Delhi.
6. Compendium of Recommendations of various committees on Health and Development (1943-1975), Central Bureau of Health Intelligence (1985), Directorate General of Health Services, Ministry of Health and Family Planning, New Delhi.
7. Bajaj, J.S. etal (1990) Draft National education Policy for Health Sciences, I.J.M.E. Vol. 29, No. 1 & 2 (Jan – August 1990)



## ADDITIONAL READING

1. Compendium of recommendations of various committees on Health and Development (1943 – 1975). DGHS, 1985 Central Bureau of Health Intelligence, Directorate General of Health services, min. of Health and Family Welfare, govt. of India, NirmanBhawan, New Delhi. P – 335.
2. National Health Policy, Min. of Health and Family Welfare, NirmanBhawan, New Delhi, 1983.
3. Santosh Kumar, the elements of Research, writing and editing 1994, Deptt of Urology, JIPMER, Pondicherry
4. Srinivasa D K etal, Medical Education Principles and Practice, 1995. National Teacher Training Centre, JIPMER, Pondicherry
5. Indian Council of Medical Research, "Policy Statement of Ethical considerations involved in Research Human Subjects", 1982, I.C.M.R., New Delhi.
6. Code of Medical Ethics framed under section 33 of the Indian Medical Council Act. 1956. Medical Council of India, Kotla Road, New Delhi.
7. Francis C.M. Medical Ethics, J P Publications, Bangalore, 1993.
8. Indian National Science Academy, Guidelines for care and use of animals in Scientific Research. New Delhi, 1994
9. Internal National Committee of Medical Journal Editors, uniform requirements for manuscripts submitted to Biomedical journals, N Engl J Med 1991; 424-8.
10. Kirkwood B R, Essentials of Medical Statistics, 1<sup>st</sup> Ed., Oxford; Blackwell Scientific Publications 1988.
11. Mahajan B K, Methods in Bio Statistics for Medical Students, 5<sup>th</sup> Ed. New Delhi, Jaypee Brothers Medical Publishers, 1989.
12. Raveendran B Gitanjali, A Practical Approach to PG Dissertation, New Delhi, JP Publications, 1998.