

## **Paper II: Technical Subject**

### **A. Epidemiology, Statistics and Research**

1. Epidemiology
  - 1.1. Definition and commonly accepted concepts, approaches, methods, incidence, prevalence, association and causation, disease prevention and control
  - 1.2. Aim and use of epidemiology
  - 1.3. Epidemiology of diseases (Infectious and non-communicable disease)
  - 1.4. Dynamics of disease transmission-source of reservoir, Mode of transmission susceptible host, immunity and immunizing agents.
  - 1.5. Investigation of an epidemic
  - 1.6. Screening of diseases
  - 1.7. Health Indicators.
2. Diseases Control
  - 2.1. Prevention and control of communicable and non-communicable disease.
3. Health Statistics
  - 3.1. Sources of health information; Health Management Information System.
  - 3.2. Tabulation graphic and diagrammatic representation of data.
  - 3.3. Statistical methods: averages, dispersion distribution, sampling and sampling size test significance, correlation and regression.
4. Demography
  - 4.1. National population policy
    - 4.1.1. Population trends – World and Nepal
    - 4.1.2. Measure of population dynamics
    - 4.1.3. Factors affecting fertility, mortality and migration
    - 4.1.4. Urbanization
    - 4.1.5. Life expectancy
5. Research Methodology
  - 5.1. Operational and health system research
  - 5.2. Research proposal development
  - 5.3. Literature review
  - 5.4. Objectives and hypothesis setting
  - 5.5. Priorities in health research
  - 5.6. Nepal Health Research Council
  - 5.7. Budgeting

### **B: Health Service Delivery**

1. National Health Programs
  - 1.1. Epidemiology and Disease Control Programme: Malaria Tuberculosis, Leprosy, JE, Zoonosis, sexually Transmitted Diseases, HIV/AIDS etc.
  - 1.2. Reproductive Health- Safe motherhood, new borne care, family planning Adolescent reproductive health, safe abortion, care of elderly women, RTI/STD/HIV/DIS, infertility prevention and treatment.

- 1.3. Child health
  - 1.3.1. Care of the newborn; Integrated Management of childhood illness.
  - 1.3.2. Growth and development
  - 1.3.3. Care of the under fives
  - 1.3.4. Right of the child
  - 1.3.5. Management and control of child illness
  - 1.3.6. Immunization
- 1.4. Nutrition
  - 1.4.1. Food and nutrients with nutritional profiles
  - 1.4.2. Nutritional problems
  - 1.4.3. Nutritional factors in selected diseases
  - 1.4.4. Assessment of nutritional status
  - 1.4.5. Food toxication, additives, fortification
  - 1.4.6. Nutritional programs
2. Environmental Health
  - 2.1. Internal and external and ecological factors responsible for impairing health.
  - 2.2. Management and control of basic and fundamental environmental factors-
    - 2.2.1. Water, Air, Ventilation, Lighting, Noise, Housing
    - 2.2.2. Solid waste disposal and control
    - 2.2.3. Excreta disposal and control
  - 2.3. Medical entomology-mosquito, housefly, sand-fly, lice, fleas, bugs etc. control
  - 2.4. Insecticides-safe use and resistance
  - 2.5. Rodents control
3. Occupational Health
  - 3.1. Occupational Environment
  - 3.2. Occupational hazards
  - 3.3. Health problems due to industrialization
  - 3.4. Management, Prevention (medical, engineering and legislation) and control of
    - 3.4.1. Occupational diseases and conditions like Pneumoconiosis, lead poisoning, cancers, and dermatitis and radiation hazards
    - 3.4.2. Occupational hazards of agricultural workers
    - 3.4.3. Accidents in industries
    - 3.4.4. Measures for the general health protection of workers.
4. School health
  - 4.1. Curriculum, instruction and training
  - 4.2. Health school environment
  - 4.3. School community cooperation for better health
5. Essential Care Services (EHCS)
  - 5.1. EHCS at the district level and below
  - 5.2. Health care services beyond district level-tertiary and specialized care.

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