

Paper II: Technical Subject

1. Epidemiology

1.1 Basic Epidemiology:

- 1.1.1 Epidemiological measurements
- 1.1.2 Measurements of Burden of disease (DALY, QALY)
- 1.1.3 Standardization – rationale, direct and indirect standardization
- 1.1.4 Epidemiological study design
- 1.1.5 Concept of cause and effect association
- 1.1.6 Natural history and progress of the disease
- 1.1.7 Control and prevention of diseases
- 1.1.8 Disease surveillance
- 1.1.9 Screening

1.2 Applied Epidemiology:

- 1.2.1 Infectious Diseases of public health concern in Nepal
- 1.2.2 Non-communicable diseases common of Nepal
- 1.2.3 Emerging and re-emerging infectious diseases
- 1.2.4 Outbreak investigation
- 1.2.5 Social epidemiology
- 1.2.6 Critical review of scientific papers
- 1.2.7 Critical review current policies/strategies/programs on prevention/control of selected CDs & NCDS in Nepal.

2. Biostatistics and Computer Application

- 2.1 Descriptive statistics
- 2.2 Probability distribution
- 2.3 Correlation and regression analysis
- 2.4 Sampling theory, sampling distribution and estimation
- 2.5 Hypothesis testing
- 2.6 Data analysis software (Epi-info, SPSS)
- 2.7 Data management (coding, processing, importing, exporting)
- 2.8 Data analysis

3. Health Education and Promotion

- 3.1 Introduction
- 3.2 National and international discourse in health promotion and education
- 3.3 Frameworks/models/theories of health promotion and education
- 3.4 Settings in health promotion and education
- 3.5 Strategies of health education and promotion and their application in individual, groups (school, community) and mass situations.

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- 3.6 Planning, implementation and evaluation of health education and promotion programs and feedback mechanism.
 - 3.7 Health communication
 - 3.8 Health Promotion Policy and Principles
 - 3.9 Roles of health promotion and education in public health programs
 - 3.10 Community participation in public health promotion and education
 - 3.11 Group dynamics and leadership
- 4. Medical Sociology and Anthropology**
- 4.1 Introduction to sociology/anthropology
 - 4.2 Social problems
 - 4.3 Social and cultural factors in health
 - 4.4 Medical Systems
 - 4.5 Provider-consumer relationship
 - 4.6 Health politics
 - 4.7 Research methods of sociology/anthropology applied to public health
- 5. Family Health**
- 5.1 Women and Child health (Safe motherhood, Family planning, STIs, HIV/AIDS, ASRH; child health)
 - 5.2 Gender and health (Gender issues in health, GBV, Girls trafficking, Aging and health)
 - 5.3 Community mental health
- 6. Nutrition**
- 6.1 Nutrition science
 - 6.2 Nutritional requirements in different stages of life
 - 6.3 Nutrition policy, strategies, and nutritional deficiency disease
- 7. Demography**
- 7.1 Demography & health
 - 7.2 Sources of demographic data, population structure, characteristics and population growth.
 - 7.3 Population movement, demographic cycles, demographic transition
 - 7.4 Population growth rates, population projection, and methods of population standardization
 - 7.5 Measures of fertility/mortality/migration, urbanization, nuptiality & their relationships
 - 7.6 Human development index
 - 7.7 Relationship between population, ecology & development

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- 7.8 Migration: Push and Pull factors, Internal and external migration, seasonal migration, cross border migration, international migration.
- 7.9 Relation between Migration and socio-economic conditions.
- 7.10 Population policy and program in Nepal.

8. Environmental Health

- 8.1 Environment and health
- 8.2 Water and health
- 8.3 Sanitation and health
- 8.4 Waste management
- 8.5 Food security/quality/hygiene and sanitation/ food act
- 8.6 Air pollution and its impact
- 8.7 Noise pollution and its impact
- 8.8 Housing and health
- 8.9 Other environmental issues- Global environmental problem (radiation, global warming, acid raid, ozone depletion, deforestation), Natural and man-made disasters, urbanization
- 8.10 Environmental policy and planning, Environmental Act & Role of Role of Private Sector
- 8.11 Infectious and tropical diseases control: bacteria and parasites of public health importance, public health entomology/control of vector borne diseases,

9. Occupational Health

- 9.1 Occupation health & its components
- 9.2 Occupational environment and Hazards (Physical, Chemical, Biological, Mechanical, Psychosocial)
- 9.3 Occupational safety, occupational health situation (occupational disease) in Nepal
- 9.4 Ergonomics and workers compensation

10. Health System, Health Planning and Management and Health Care Services

- 10.1 Models of health system around the world
- 10.2 Health care delivery system
- 10.3 Health information system
- 10.4 Infrastructure and logistics management
- 10.5 Organizational diagnosis and managing change in an organization
- 10.6 Hospital management
- 10.7 Concept of health systems management (management theories)
- 10.8 Management process / managerial functions: Planning, organizing, directing, coordinating and controlling (PODCC) perspectives.
- 10.9 Concept of planning, Strategic planning (need and process)

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- 10.10 Health care policy
- 10.11 Structure and function of health system
- 10.12 Human resource and financial management
- 10.13 Information management system and their use

11. Health Economics

- 11.1 Health economics and health care finance
- 11.2 Demand and supply theory
- 11.3 Health care financing
- 11.4 National health budget
- 11.5 Private and public spending in health
- 11.6 Equity and the evaluation of health care interventions and program
- 11.7 Health Insurance and its types, Factors affecting the quantity demanded for health insurance, Government and private sector as health insurer, Moral hazards of health insurance

12. Public Policy & Health Policy

- 12.1 Theory and practice of health policy
- 12.2 Human resource management policy
- 12.3 Education in health and curriculum development policy
- 12.4 Training policy
- 12.5 Review of health policies in Nepal
- 12.6 Health system and policy research

13. International Health and Primary Health Care

- 13.1 Primary health care and other initiatives
- 13.2 Globalization and health and global institutional players
- 13.3 Recent advancement in international health

14. Project design & Project work

- 14.1 Project management knowledge and skills
- 14.2 Project life cycle
- 14.3 Project planning tools and application
- 14.4 Project quality management
- 14.5 Social entrepreneurship
- 14.6 The role of project manager

15. Recent advances in evidence-based public health practices

- 15.1 Evidence-based public health
- 15.2 Advances in public health system research
- 15.3 Appraisal of roles of public health discipline in health and national development