

**Paper II: Technical Subject**  
**Section (A) - 45 Marks**

**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. Demography**

- 3.1 Demography & health
- 3.2 Sources of demographic data, population structure, characteristics and population growth.
- 3.3 Population movement, demographic cycles, demographic transition
- 3.4 Population growth rates, population projection, and methods of population standardization
- 3.5 Measures of fertility/mortality/migration, urbanization, nuptiality & their relationships
- 3.6 Human development index

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान, सेवा आयोग  
प्राज्ञिक सेवा, सामुदायिक स्वास्थ्य विज्ञान समूह, सहायक प्राध्यापक नौ(ख) (९ ख) तहको  
खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

- 3.7 Relationship between population, ecology & development
- 3.8 Migration: Push and Pull factors, Internal and external migration, seasonal migration, cross border migration, international migration.
- 3.9 Relation between Migration and socio-economic conditions.
- 3.10 Population policy and program in Nepal.

**4. Recent advances in evidence-based public health practices**

- 4.1 Evidence-based public health
- 4.2 Advances in public health system research
- 4.3 Appraisal of roles of public health discipline in health and national development

**Section (B) - 55 Marks**

**5. Health Education and Promotion**

- 5.1 Introduction
- 5.2 National and international discourse in health promotion and education
- 5.3 Frameworks/models/theories of health promotion and education
- 5.4 Settings in health promotion and education
- 5.5 Strategies of health education and promotion and their application in individual, groups (school, community) and mass situations.
- 5.6 Planning, implementation and evaluation of health education and promotion programs and feedback mechanism.
- 5.7 Health communication
- 5.8 Health Promotion Policy and Principles
- 5.9 Roles of health promotion and education in public health programs
- 5.10 Community participation in public health promotion and education
- 5.11 Group dynamics and leadership

**6. Medical Sociology and Anthropology**

- 6.1 Introduction to sociology/anthropology
- 6.2 Social problems
- 6.3 Social and cultural factors in health
- 6.4 Medical Systems
- 6.5 Provider-consumer relationship
- 6.6 Health politics
- 6.7 Research methods of sociology/anthropology applied to public health

**7. Family Health**

- 7.1 Women and Child health (Safe motherhood, Family planning, STIs, HIV/AIDS, ASRH; child health)
- 7.2 Gender and health (Gender issues in health, GBV, Girls trafficking, Aging and health)
- 7.3 Community mental health

## 8. Nutrition

- 8.1 Nutrition science
- 8.2 Nutritional requirements in different stages of life
- 8.3 Nutrition policy, strategies, and nutritional deficiency disease

## 9. Environmental Health

- 9.1 Environment and health
- 9.2 Water and health
- 9.3 Sanitation and health
- 9.4 Waste management
- 9.5 Food security/quality/hygiene and sanitation/ food act
- 9.6 Air pollution and its impact
- 9.7 Noise pollution and its impact
- 9.8 Housing and health
- 9.9 Other environmental issues- Global environmental problem (radiation, global warming, acid raid, ozone depletion, deforestation), Natural and man-made disasters, urbanization
- 9.10 Environmental policy and planning, Environmental Act & Role of Role of Private Sector
- 9.11 Infectious and tropical diseases control: bacteria and parasites of public health importance, public health entomology/control of vector borne diseases,

## 10. Occupational Health

- 10.1 Occupation health & its components
- 10.2 Occupational environment and Hazards (Physical, Chemical, Biological, Mechanical, Psychosocial)
- 10.3 Occupational safety, occupational health situation (occupational disease) in Nepal
- 10.4 Ergonomics and workers compensation

## 11. Health System, Health Planning and Management and Health Care Services

- 11.1 Models of health system around the world
- 11.2 Health care delivery system
- 11.3 Health information system
- 11.4 Infrastructure and logistics management
- 11.5 Organizational diagnosis and managing change in an organization
- 11.6 Hospital management
- 11.7 Concept of health systems management (management theories)
- 11.8 Management process / managerial functions: Planning, organizing, directing, coordinating and controlling (PODCC) perspectives.
- 11.9 Concept of planning, Strategic planning (need and process)
- 11.10 Health care policy
- 11.11 Structure and function of health system
- 11.12 Human resource and financial management
- 11.13 Information management system and their use

**12. Health Economics**

- 12.1 Health economics and health care finance
- 12.2 Demand and supply theory
- 12.3 Health care financing
- 12.4 National health budget
- 12.5 Private and public spending in health
- 12.6 Equity and the evaluation of health care interventions and program
- 12.7 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

**13. Public Policy & Health Policy**

- 13.1 Theory and practice of health policy
- 13.2 Human resource management policy
- 13.3 Education in health and curriculum development policy
- 13.4 Training policy
- 13.5 Review of health policies in Nepal
- 13.6 Health system and policy research

**14. International Health and Primary Health Care**

- 14.1 Primary health care and other initiatives
- 14.2 Globalization and health and global institutional players
- 14.3 Recent advancement in international health

**15. Project design & Project work**

- 15.1 Project management knowledge and skills
- 15.2 Project life cycle
- 15.3 Project planning tools and application
- 15.4 Project quality management
- 15.5 Social entrepreneurship
- 15.6 The role of project manager

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