गोदावरी नगरपालिका, नगर कार्यपालिकाको कार्यालय, कैलाली
वातावरण अधिकृत पदको लिखित परीक्षाको पाठ्यक्रम

विषय	पूर्णाङ्क	उत्तिर्णाङ्क	परीक्षा प्रणाली	प्रश्न संख्या*अङ्क	समय
General Awareness & General Ability Test, General Technical Subject and Technical Subject	१००	४०	बस्तुगत बहुबैकल्पिक प्रश्न (MCQs)	१०० प्रश्न*१ अङ्क	१ घण्टा १५ मिनेट
अन्तर्वार्ता	२०	-	मौखिक	-	३० मिनेट

General Subject

General Awareness & General Ability Test

1. **General Awareness and Contemporary Issues**
   - 1.1 Physical, socio-cultural and economic geography and demography of Nepal
   - 1.2 Major natural resources of Nepal
   - 1.3 Geographical diversity, climatic conditions, and livelihood & lifestyle of people
   - 1.4 Notable events and personalities, social, cultural and economic conditions in modern history of Nepal
   - 1.5 Current periodical plan of Nepal
   - 1.6 Information on sustainable development, environment, pollution, climate change, biodiversity, science and technology
   - 1.7 Nepal's international affairs and general information on the UNO, SAARC & BIMSTEC
   - 1.8 The Constitution of Nepal (From Part 1 to 5 and Schedules)
   - 1.9 Governance system and Government (Federal, Provincial and Local)
   - 1.10 Provisions of civil service act and regulation relating to constitution of civil service, organisational structure, posts of service, fulfillment of vacancy and code of conduct
   - 1.11 Functional scope of public services
   - 1.12 Public Service Charter
   - 1.13 Concept, objective and importance of public policy
   - 1.14 Fundamentals of management : planning, organizing, directing, controlling, coordinating, decision making, motivation and leadership
   - 1.15 Government planning, budgeting and accounting system
   - 1.16 Major events and current affairs of national and international importance

2. **General Ability Test**

   2.1 **Verbal Ability Test**

   Jumble words, Series, Analogy, Classification, Coding-Decoding, Matrix, Ranking Order Test, Direction and Distance Sense Test, Common Sense Test, Logical Reasoning, Assertion and Reason, Statement and Conclusions

   2.2 **Numerical Ability Test**

   Series, Analogy, Classification, Coding, Arithmetical reasoning/operation, Percentage, Ratio, Average, Loss & Profit, Time & Work, Data interpretation & Data verification

   2.3 **Non-verbal/Abstract Ability Test**

   Figure Series, Figure Analogy, Figure Classification, Figure Matrix, Pattern Completion/Finding, Analytical Reasoning Test, Figure Formation and Analysis, Rule Detection, Water images, Mirror images, Cubes and Dice &Venn-diagram

General Technical Subject

1. ENVIRONMENTAL FACETS

1.1 Environment: Concept, Scope and Practices

1.1.1 Development of human society and environment
1.1.2 Physical, biological and socio-economic aspects of environment and their interrelationships
1.1.3 Environmental degradation and manifestations (land, water and air)
1.1.4 Environmental movements and environmental ethics

1.2 Ecology

1.2.1 Population characteristics and regulations
1.2.2 Community characteristics, regulation and succession
1.2.3 Ecosystem dynamics: energy flow, biogeochemical cycles
1.2.4 Terrestrial biomes and characteristics

1.3 Environmental Geology

1.3.1 Geological materials and structures
1.3.2 Weathering and erosion: types, cycle and control
1.3.3 Mass movement: causes and mechanisms
1.3.4 Fluvial, glacial and aeolian environmental processes

1.4 Climatology and Hydrometeorology

1.4.1 Horizontal and vertical temperature distribution
1.4.2 Mechanisms of wind development, air masses dynamics
1.4.3 Climatic systems, distribution and classifications
1.4.4 Floods: classification, causes, triggering factors

1.5 Global Environmental Issues

1.5.1 Global warming
1.5.2 Green economy
1.5.3 Payment for ecosystem services
1.5.4 Ozone layer depletion and acid rain

2. ENVIRONMENTAL RESOURCES

2.1 Water Resources

2.1.1 Water resources: sources, extent and assessment
2.1.2 Integrated Water Resource Management (IWRM)
2.1.3 Water resources of Nepal
2.1.4 Problems of water resource management in Nepal

2.2 Food Resources

2.2.1 Major food resources and production
2.2.2 Human nutrition and health
2.2.4 Food resources of Nepal

2.3 Energy Resources

2.3.1 Energy resources: sources and classification
2.3.2 Alternative energy resources
2.3.3 Environmental issues of energy use
2.3.4 Energy resource conservation practices

2.3.5 Energy resources of Nepal

2.4 Forest and Biodiversity

2.4.1 Forest types and biodiversity status of Nepal
2.4.2 Ex-situ and in-situ conservation
2.4.3 Biodiversity conservation approaches
2.4.4 Carbon sequestration

2.5 Resource Economics

2.5.1 Micro-economic analysis for accounting environmental resources
2.5.2 Environmental Kuznets curve, cost benefit analysis and resource accounting
2.5.3 Economic and regulatory instruments to control pollution

3. ENVIRONMENTAL POLLUTION AND ENGINEERING

3.1 Water Pollution

3.1.1 Point and non-point sources and categories of water pollutants
3.1.2 Water pollutants effect on human health and ecosystems
3.1.3 Standard methods of water analysis
3.1.4 Water and wastewater treatment technologies

3.2 Air Pollution

3.2.1 Sources and categories of air pollutants
3.2.2 Emission, transport, receptors of air pollutants, criteria air pollutants
3.2.3 Air pollutants effects on human health, property and visibility
3.2.4 Air pollution measurement and emission estimates
3.2.5 Air pollution control technologies

3.3 Noise Pollution

3.3.1 Noise sources and criteria
3.3.2 Health effects of noise and control mechanisms

3.4 Waste Management

3.4.1 Sources, types and composition of solid wastes
3.4.2 Solid waste management systems
3.4.3 Issue, generation and management of e-waste, hazardous and hospital waste
3.4.4 Management of industrial and agricultural chemical pesticides

3.5 Toxicology and Eco-toxicology

3.5.1 Acute, sub-acute and chronic toxicity
3.5.2 Dose and frequency response relationships
3.5.3 Bioassays and attributes for predicting species response to pollution stress

3.6 Climate Change

3.5.1 Climate variability and theories of climate change
3.6.2 Climate models and model based projections of greenhouse effect
3.6.3 Climate change impacts: agriculture and food security, water resources, energy, human health, biodiversity, settlement and infrastructure and livelihood
3.6.4 Vulnerability assessment of climate change and mitigation and adaptation approaches (NAPA, LAPA)

4. ENVIRONMENTAL MANAGEMENT SYSTEMS

4.1 Environmental Assessment

4.1.1 Environmental assessment: evolution in global and national perspectives
4.1.2 Environmental assessment: process, practices, methods and tools
4.1.3 Strategic environmental assessment for decision making and integrated planning

4.2 Environmental Management Systems (EMS) & Modeling

4.2.1 Concept, components and stages of EMS
4.2.2 ISO 14000 series, standards and certification systems
4.2.3 Life cycle assessment and environmental labeling
4.2.4 Types and importance of environmental models

4.3 4.3 Remote Sensing & GIS

4.3.1 Concept, scope and stages in remote sensing and GIS
4.3.2 Remote sensing image: acquisition, resolution, analysis and interpretation
4.3.4 GIS applications in assessing environmental studies

4.4 Environmental Statistics

4.4.1 Sampling, data analysis and interpretation
4.4.2 Central tendency, measures of dispersion
4.4.3 Correlation and regression
4.4.4 Parametric and non-parametric tests

4.5 Environmental Governance

4.5.1 Institutional arrangement (organogram) and environmental governance; concerned stakeholders and networks
4.5.2 Governance tools and strategies
4.5.3 Adaptive management and sustainability

5. LEGAL FRAMEWORKS

5.1 Guidelines and Standards

Guidelines and Standards Relating to Air (Ambient, Indoor and Stack) and Water (Tolerance Limits for Industrial Effluents to be Discharged into Public Sewers and Inland Surface Waters); Specific Industrial Effluent Standards

5.2 Existing Legislations

Constitution of Nepal; Environmental Protection Act; Environment Protection Rules; National EIA Guidelines; EIA Guidelines for Forestry Sector; EIA Guidelines for Industry Sector; Plant Protection Act; National Parks and Wildlife Conservation Act; Water Resources Act; Forest Act; Soil and Watershed Management Act; Solid Waste Management Act; Pesticides Act; Pesticide Regulation; Hydropower Development Policy; Climate Change Policy

5.3 International Treaties, Protocols & Conventions

Convention on Biological Diversity, 1992; United Nations Framework Convention on Climate Change, 1992; United National Convention to Combat Desertification, 1994; Kyoto Protocol, 1997; Vienna Convention for the Protection of the Ozone Layer, 1985; Montreal Protocol on Substances that Deplete Ozone Layer,1987; Basel

Convention on the Control of Transboundary Movements of Hazardous Waste and Their Disposal, 1989; Stockholm Convention on Persistent Organic Pollutants, 2004

6. CURRENT ENVIRONMENTAL ISSUES

6.1 Urban Environment

6.1.1 Urbanization and its implications on environment (sanitation, solid and hazardous waste, air pollution, water pollution, groundwater depletion, food security)

6.1.2 Urbanization infrastructures and environment (housing, water supply and sanitation, waste management, transportation, electricity, markets and commercial areas, religious and heritage sites, open spaces and recreational areas)

6.1.3 Concept of urban planning and sustainable cities

6.2 Land use and Watershed Management

6.2.1 Land use and environment (land use pattern and zoning; Guided Land Development (GLD) and land pooling)

6.2.2 Principles of land use and land reclamation

6.2.3. Factors governing land utilization and land use pattern

6.2.4 Scenario of watershed management in Nepal

6.2.5 Development and conservation challenges in watershed management

6.2.6 Watershed as ecosystems; Upstream-downstream linkages; Measures for watershed conservation

6.3 Agriculture and Food Security

6.3.1 Farming systems

6.3.2 Modern agriculture and its impacts on environment, green revolution

6.3.3 Sustainable agriculture and food aid policies

6.3.4 Food security in Nepal

6.4 Disaster Risks & Vulnerability Assessment

6.4.1 Hazard, disaster, risk, exposure and vulnerability analysis

6.4.2 Disasters due to earthquake, landslide and river bank erosion, flood, GLOF, drought, epidemics, fire and industrial accidents

6.4.3 Disaster risk management and practices