

प्रदेश लोक सेवा आयोग, मधेश प्रदेश
वन सेवा, स्वायत्त एण्ड वाटर कन्जरभेशन समूह, अधिकृत नवौं तहको खुला र अन्तर सेवा
प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम ।

द्वितीय पत्र : सेवा सम्बन्धी प्राविधिक विषय

Full Marks: 100

1. Soil and Water Conservation

- 1.1. Physical and biological properties of soil and introduction to problem soils.
- 1.2. Factors responsible for soil formation and their development processes, understanding soils of Nepal.
- 1.3. Universal Soil Loss Equation and its use in predicting soil loss.
- 1.4. Concept of Geology and Geological process and understanding the Geology of Nepal.
- 1.5. Concept of Geology and Ecosystems of Chure range.
- 1.6. Concept of Engineering Geological hazards like: landslides, floods, etc.

2. Hydrology and Watershed Management

- 2.1 Understanding Hydrology and its process.
- 2.2 Basic concepts of hydrological cycle and its relationships to watershed management
- 2.3 Integrated Sub-Watershed Management Planning (ISWMP) and its participatory applications.
- 2.4 Concept of hydrograph, methods to prepare hydrograph and its importance in watershed management.
- 2.5 Basin Approach of Integrated Watershed Management
- 2.6 Participatory monitoring and evaluation of watershed management.

3. Land use

- 3.1 Define land use and explain different types of land uses and their conflicts in Watershed Management in Nepal.
- 3.2 Erosion susceptibility of different land use and land systems of Nepal.
- 3.3 Sloppy Agriculture Land Technology (SALT) and its application in sustainable management of watersheds.
- 3.4 Different forms of agro-forestry practices and their roles in forest and watershed management
- 3.5 Understanding traditional land use systems, land capability classification and their significance in Nepal.

4. Soil Conservation Engineering

- 4.1. Different types of soil conservation engineering devices: gully plugging, check dams, spill ways, chutes, embankment, spurs, contour trenching, bunding. diversion channel, shelter belt/ green belt and run-off control etc.
- 4.2. Run-off, its processes and methods for estimating run-off and the use of conservation ponds in the watersheds.
- 4.3. Ways and means to conserve water and minimize erosion in the Siwaliks
- 4.4. Ways and means to conserve and recharge water in Chure region.
- 4.5. Low-cost bio-engineering techniques and their application for soil conservation and river training program.

5. Environment

- 5.1 Understanding Initial Environmental Examination (IEE), Environmental Impact Assessment (EIA) and Strategic Environment Assessment (SEA) and their application in the planning process.
- 5.2 Point source and non-point source of water pollution and methods to mitigate them.
- 5.3 Role of vegetation in carbon sequestration.
- 5.4 Tourism and Environment, in relation to mountaineering and trekking, and concept of Eco-tourism.
- 5.5 Highlight on the evolution of environmental assessment process in development planning.
- 5.6 Climate change and carbon trading related issues.

6. Planning, Research, Extension and Conservation Education

- 6.1 Concept, importance and need for Extension and Conservation Education in Nepal.
- 6.2 Roles and responsibilities of motivators and extension workers in watershed management.
- 6.3 Research in watershed management in Nepal, with particular reference to Chure region.
- 6.4 Application and use of GIS, Remote Sensing, aerial photographs, topographical maps for delineation, measurement and assessment of watershed, natural resources.
- 6.5 Application and use of Object Oriented Project Planning (ZOPP) Technique in participatory project formulation.
- 6.6 Capacity building of local farmers, professionals and institutions in Integrated Watershed Management.
- 6.7 Mitigating measures to address environmental issues.

7. Different issues and tools regarding natural resources Conversation

- 7.1. Wild-life conservation issues in Nepal.
- 7.2. NTFP, Bamboo and Rattans and income Generating Activities.
- 7.3. Appropriate and Intermediate Technologies for Rural Development in Nepal.
- 7.4. Sampling Technologies, Rapid Rural Appraisal and Participatory Rural Appraisal. Tools and techniques applied for socio economic studies.
- 7.5. Medicinal and aromatic plants of Nepal.