

**1. Soil and Water Conservation**

- 1.1. Problem Soils of Nepal and their Management.
- 1.2. Land degradation and its consequences on productivity.
- 1.3. Erosion susceptibility of different land use and land systems of Nepal
- 1.4. Understanding Geology and Geological processes.
- 1.5. Soil organic matter and its importance in productivity.
- 1.6. Importance of microbial activities in soil
- 1.7. Engineering Geological hazards like, landslides, floods and their mitigation measures.
- 1.8. Nitrogen cycle, nitrification, and ammonification.
- 1.9. Conservation farming methods: strip cropping, cover cropping, mulching, zero tillage, crop rotation, green manuring and terracing.

**2. Hydrology and Watershed Management.**

- 2.1. Hydrological Cycle in managing the mountain watersheds and techniques to control water induced erosion and floods.
- 2.2. Immerging problems of Churia (Siwaliks) watershed and present practice of water harvesting and its scope of replication in conservation and livelihood improvement.
- 2.3. Watershed Condition and its relation to ecological and socio-economic aspects
- 2.4. Importance and contribution of watershed management for sustainable wetland ecosystem.
- 2.5. Highland and Lowland linkages of watershed management and their benefit of resource sharing and conflict management.
- 2.6. Managing Mountain Watersheds for hydropower, irrigation, food and fuel, biodiversity, medicinal plants and eco-tourism development
- 2.7. Institutional arrangement in watershed management and capacity building.
- 2.8. Basin Approach of Integrated Watershed Management
- 2.9. Sustainable criteria of Watershed Management for improved rural livelihood.
- 2.10. Indigenous technology and knowledge in soil conservation, nutrient management, land productivity, water harvesting and water use.
- 2.11. Participatory Watershed Management Approach in Conservation and Development of Watershed Resources.

**3. Land use**

- 3.1. Different types of land use, and their Conflicts and Resolution in Watershed Management.
- 3.2. Land Use and Land Capability Classification (USDA) system and its applicability to mountain landscapes of Nepal.
- 3.3. Highland- Lowland Eco-system management.
- 3.4. Different agro-forestry practices and their role in soil conservation and watershed management

**4. Soil Conservation Engineering**

- 4.1. Different types of Soil Conservation Engineering Methods: Gully plugging, check dams, spill ways, chutes, embankment, spurs, etc.
- 4.2. Application of Bio-Engineering Techniques in stabilizing mountain watershed and roadside slopes.

## लोक सेवा आयोग

नेपाल वन सेवा, स्वायत्त एण्ड वाटर कन्जरभेशन समूह, राजपत्राङ्कित प्रथम श्रेणी, खुला र आन्तरिक  
प्रतियोगितात्मक लिखित परीक्षाको पाठ्यक्रम

- 4.3. Water Run-off, its processes and methods for estimation.
- 4.4. Ways and means to conserve soil and water resources in Churis hills.
- 4.5. Role of Drainage Density, Infiltration, Percolation, Evapo-transpiration in soil conservation.

### **5. Environment**

- 5.1. Importance of IEE, EIA and SEA in planning process for sustainable development and environment conservation.
- 5.2. Eco-tourism development
- 5.3. Payment for Environmental Services (e.g., carbon trading)
- 5.4. Management of mountain forestry resources with particular reference to the development of rural economy and protection of the mountain environment and biodiversity.
- 5.5. Impact of Global Climate Change in the Himalayan region.

### **6. Planning, Research, Extension and Conservation Education**

- 6.1. General Issues in extension and education programs for soil conservation and watershed management.
- 6.2. Coordination mechanism for integration of agriculture, forestry, livestock and water resource development.
- 6.3. Decentralization planning process in Nepal.
- 6.4. Participatory Action Research in watershed management.
- 6.5. Logical Frame Work approach to project planning.
- 6.6. Inclusion of women, disadvantaged groups, indigenous and other minority groups in planning, implementation and benefit sharing in watershed management.
- 6.7. Role of multiple stakeholders in resources Conversation (Water and soil)

### **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 (RRA) and Participatory Rural appraisal. Tools and techniques applied for socio economic studies.
- 7.5 Medicinal and aromatic plants of Nepal.

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