

लोक सेवा आयोग
नेपाल इञ्जिनियरिङ्ग सेवा, सिभिल समूह, हाइड्रोपावर उपसमूह, राजपत्राङ्कित द्वितीय श्रेणीको
(खुला प्रतियोगिता र आन्तरिक प्रतियोगिता) लिखित परीक्षाको पाठ्यक्रम

द्वितीय पत्र - सेवा सम्बन्धी प्राविधिक विषय

पूर्णाङ्क:- १००

1. **Hydropower Development in Nepal**
 - 1.1 Resources base
 - 1.2 Institutional framework
 - 1.3 Status of Hydropower and other Energy
 - 1.4 Hydropower policy
 - 1.5 Participation of private sector in development of hydropower

2. **Water Resources Planning**
 - 2.1 Overall Planning
 - 2.2 Water Resources planning
 - 2.2.1 Integrated Planning
 - 2.2.2 Basin-wise planning
 - 2.2.3 Short, Medium and Long term Planning
 - 2.2.4 Selection of Master Plan

3. **Hydropower Plants**
 - 3.1 Development Objectives
 - 3.2 Production Patterns and Output Profiles
 - 3.3 Cost Characteristics

4. **Investigation of Hydropower Project**
 - 4.1 Investigation purpose
 - 4.2 Basic Investigation
 - 4.3 Specific Purpose Investigation
 - 4.4 Identification of potential projects
 - 4.5 Basis of ranking

5. **Planning of Hydropower Projects**
 - 5.1 Investigation of hydropower projects
 - 5.1.1 Planning parameters
 - 5.1.2 Power market
 - 5.1.3 Environmental issues
 - 5.1.4 Socio-economic consideration
 - 5.1.5 Project Appraisal

 - 5.2 Hydropower Development Phase
 - 5.2.1 Reconnaissance studies
 - 5.2.2 Pre-feasibility studies
 - 5.2.3 Feasibility studies

6. **Evaluation of Hydropower Project**
 - 6.1 Basic Criterion and Assumptions
 - 6.2 Cost comparison
 - 6.3 Benefit assessment
 - 6.4 Risk Analysis
 - 6.5 Cost-Benefit Analysis
 - 6.6 Financial Analysis
 - 6.7 Economic Analysis
 - 6.8 Sensitivity Analysis

7. **Financing Strategies**
 - 7.1 Financing Plan
 - 7.2 Financing Options

8. **Implementation of Hydropower Projects**
 - 8.1 Definitive Study and Final design
 - 8.2 Procurement and Construction
 - 8.3 Quality Control
 - 8.4 Monitoring and Evaluation

9. **Trans-boundary / Bilateral Water Resource Projects**
 - 9.1 Assessment and Sharing of benefits
 - 9.2 Water rights
 - 9.3 Potential for Power Export
 - 9.4 Existing Treaties

10. **Tariffs**
 - 10.1 Principles
 - 10.2 Tariff Design
 - 10.3 Consumer categories
 - 10.4 Rate Formulation Process

11. **Environmental Issues**
 - 11.1 EIA procedure and their implementation
 - 11.2 Environment and Development issues

12. **Independent Power Producers (IPP)**
 - 12.1 Concept and Objectives
 - 12.2 Legal and Regulatory Provisions
 - 12.3 Stakeholders
 - 12.4 Security Packages
 - 12.5 Project Financing
 - 12.6 Risk Analysis and Mitigation
 - 12.7 Concept of Project Agreement
 - 12.8 Concept of Power Purchase Agreement
