

प्रदेश लोक सेवा आयोग

गण्डकी प्रदेश

स्थानीय इन्जिनियरिङ्ग सेवा, सिभिल समूह, अधिकृत नवौं तहका पदको खुला, अन्तरतह र आन्तरिक
प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

द्वितीय पत्र : - सेवा सम्बन्धी प्राविधिक विषय

पूर्णाङ्क:- १००

1. Building and Settlement

20%

- 1.1. History of Nepalese architecture
- 1.2. Efforts in developing indigenous technology in building design and construction
- 1.3. Building bye laws
- 1.4. Present status of government office buildings in Nepal and the need for standardization
- 1.5. Housing scenario in Nepal, opportunities and constraints
- 1.6. Energy efficient building design
- 1.7. Universal accessibility in public building design
- 1.8. Modern practices in settlement planning
- 1.9. Informal settlement: issues and challenges
- 1.10. Comprehensive land use plan
- 1.11. Urban regeneration /conservation
- 1.12. Methods of urban land development

2. Transportation, Bridges, Tunnel and Trail Bridges

20%

- 2.1. Institutional background of the road transport sector
- 2.2. Methods of road construction technology including agricultural roads and low-cost road
- 2.3. Concept of roadside drainage and its management
- 2.4. Factors affecting slope stability, slope stabilization measures including bio-engineering works
- 2.5. Policies and strategies in current plan regarding trail bridge
- 2.6. Design standard of suspension and suspended bridge including maintenance of trail bridge
- 2.7. Transport master plans for planning and management of federal, provincial and local roads
- 2.8. Labour based, Environment friendly and Participatory (LEP) Approach for rural road development
- 2.9. Maintenance fund and maintenance of roads
- 2.10. Current issues and problems of transport sectors in Gandaki Province and Nepal
- 2.11. Types of pavement and its design, design of road structures and bridges
- 2.12. Special design consideration in hill road construction, hair pin bend design
- 2.13. Purposes of tunnel, construction technology and design consideration
- 2.14. Traffic management, road accident and road safety measures

3. Water supply and sanitation

20%

- 3.1. Present status of water supply and sanitation in Gandaki Province and Nepal
- 3.2. Current issues of water supply and sanitation sector
- 3.3. National standard of rural and urban water supply
- 3.4. Rural water supply system planning and design concept

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- 3.5. Water supply sources and their management
- 3.6. Water quality, water demand & supply, sources protection
- 3.7. Intakes, design of transmission and distribution system (Gravity and Lift), reservoir sizing
- 3.8. Operation, maintenance and legal aspects of water supply systems and water safety plan
- 3.9. Waste water: Concept, Types, Sewerage System including rain water
- 3.10. Concept and design of waste water treatment system: conventional and decentralized system
- 3.11. Public Health Engineering: pathogens infection transmission routes, water related diseases, on site sanitation system (eco-san, pour flush, septic tank, soak pit) off site sanitation system (waste stabilization pond, constructed wetland)
- 3.12. Air pollution: types and control measures
- 3.13. Types of solid waste, handling, processing and disposal process
- 3.14. Design consideration of sanitary landfill site and issues including management

4. Irrigation and drainages

20%

- 4.1. Status of irrigation development in Gandaki Province and Nepal
- 4.2. Current issues and problems of irrigation sectors
- 4.3. General irrigation system planning
- 4.4. Design of lift irrigation systems
- 4.5. Participatory approach in irrigation system management
- 4.6. Operation and maintenance of irrigation systems
- 4.7. Institutional aspects of irrigation system management
- 4.8. Preventive and remedial measures of water logging
- 4.9. Flood analysis, sediment transport, control and its necessity
- 4.10. Surface, subsurface, sprinkler and drip methods of irrigation, their suitability and problems of sprinklers
- 4.11. River training works
- 4.12. Specific considerations in design, operation, maintenance and management of hill irrigation systems in Nepal
- 4.13. Land drainage for agriculture, excess water and relation to drainage, drainage methods
- 4.14. Farmers managed irrigation system

5. Miscellaneous

20%

- 5.1. Federal, Provincial and Local Level Periodic Plan Regarding Building and Settlement, Water and Sanitation, Irrigation and transportation sectors
- 5.2. Concept of environmental assessment, Brief Environmental Study (BES), Initial Environmental Examination (IEE) and Environmental Impact Assessment (EIA), EIA principles, types, impacts, methods and report writing, Monitoring and Auditing.
- 5.3. Engineering Estimation, Specifications, Norms and Rate analysis

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- 5.4. Construction planning and scheduling
- 5.5. Planning & Quality Control: Design and Construction phase
- 5.6. Tests of construction materials, tools and equipment used in Quality Control
- 5.7. Construction safety measures
- 5.8. Contract disputes and contract management
- 5.9. Private sector involvement and social mobilization in infrastructure development
- 5.10. Assets management
- 5.11. Value engineering and life cycle cost

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