



GANDAKI UNIVERSITY

गण्डकी विश्वविद्यालय

SYLLABUS FOR WRITTEN EXAMINATION

Open Competition

Post: Assistant Professor of Civil Engineering

Subject: Second Paper (Full Marks: 100)

Objectives:

This written examination syllabus is designed to assess candidates' knowledge, analytical ability, research aptitude, and teaching competence in Civil Engineering, as well as their awareness of emerging technologies and contemporary national and global issues relevant to the discipline.

Examination Weightage:

SN	Component	Weight (%)
1	Fundamental and core knowledge of the Bachelor's Degree curriculum in Civil Engineering	70
2	Recent trends, emerging technologies, and advances in Civil Engineering	15
3	National and global trends, issues, and professional practices in Civil Engineering	15
	Total	100

1. Fundamental and core knowledge of the Bachelor's Degree curriculum in Civil Engineering (70%)

Candidates are expected to demonstrate a sound understanding of the following subject areas, based on the standard Bachelor of Civil Engineering curriculum prescribed by Nepalese universities.

A. Structural Engineering

- Strength of Materials,
- Structural Analysis,
- Steel Structures,
- Reinforced Concrete Structures and
- Structural Dynamics and Earthquake Engineering

B. Geotechnical Engineering

- Soil Mechanics,
- Foundation Engineering,
- Engineering Geology

C. Transportation and Construction Engineering

- Transportation Engineering,
- Construction Management,
- Estimation and Costing,
- Surveying,

- Construction Materials
- Building Technology
- Concrete Technology and
- Masonry Structures

D. Water Resources and Environmental Engineering

- Fluid Mechanics,
- Hydraulics,
- Hydrology,
- Irrigation,
- Hydropower
- Water Supply and Sanitation Engineering,
- Environmental Engineering

E. Civil Engineering Related Problems and Solutions

- Contemporary Challenges in Civil Engineering Education,
- Research, Industry, and Professional Practice, and
- Appropriate Strategies to Address Them

2. Recent Advances and Emerging Technologies in Civil Engineering (15%)

Candidates should be able to understand the recent advances, emerging technologies, and innovative applications in Civil Engineering, and their ability to relate these developments to teaching, research, and professional practice.

- Building Information Modelling (BIM),
- Artificial Intelligence and Machine Learning in Civil Engineering,
- Smart Infrastructure,
- Advanced Construction Materials,
- Digital Construction,
- Remote Sensing and
- GIS

3. National and global trends, issues, and professional practices in Civil Engineering (15%)

Candidates should be familiar with the policy, industrial, research, and societal aspects of Civil Engineering in Nepal and globally, including:

- Sustainable Development Goals (SDGs),
- Nepal National Building Code,
- Professional Ethics,
- Infrastructure Development in Nepal,
- Occupational Health and Safety,
- Contemporary Global Challenges in Civil Engineering,
- Climate Change Adaptation and
- Disaster Risk Reduction