

Foundations of Civil Engineering

Civil Engineering · Answer Key · 10 Questions

1. Which of the following is a primary function of a civil engineer in the design of a bridge?

- A) Developing the aesthetic paint scheme.
- B) Ensuring structural integrity and load-bearing capacity.**
- C) Sourcing and negotiating material prices.
- D) Managing public relations for the project.

2. What is the primary role of a soil test (e.g., geotechnical investigation) before constructing a building?

- A) To determine the optimal location for landscaping.
- B) To assess the soil's ability to support the foundation loads.**
- C) To identify underground utility lines for relocation.
- D) To measure the groundwater salinity.

3. In the context of water supply systems, what is the main purpose of a reservoir?

- A) To purify water through filtration.
- B) To store water and regulate its supply.**
- C) To generate hydroelectric power.
- D) To transport water to treatment plants.

4. Which type of concrete mix is commonly used for structural elements that require high strength and durability, such as bridge decks or high-rise building columns?

- A) Lightweight concrete
- B) High-strength concrete**
- C) Pervious concrete
- D) Foam concrete

5. What is the primary objective of traffic engineering when designing road intersections?

- A) To maximize the number of lanes for unrestricted flow.
- B) To ensure safe and efficient movement of vehicles and pedestrians.**
- C) To implement aesthetic landscaping around the intersection.
- D) To provide ample parking spaces adjacent to the intersection.

6. What structural component is designed to transfer loads from a building's superstructure to the foundation?

- A) Roof truss
- B) Wall panel
- C) Column**
- D) Plaster ceiling

7. Which of the following is a key material used in the construction of railway tracks?

- A) Asphalt
- B) Reinforced concrete
- C) Steel**
- D) Wood

8. What is the primary function of a wastewater treatment plant?

- A) To desalinate seawater.
- B) To remove pollutants from sewage before discharge.**
- C) To supply potable water to urban areas.
- D) To create artificial rain.

9. What is the term for the process of planning, designing, and managing the construction of infrastructure projects?

- A) Urban planning
- B) Project management**
- C) Environmental impact assessment
- D) Surveying

10. Which civil engineering discipline focuses on the study and design of earthworks, such as dams, embankments, and tunnels?

- A) Structural engineering
- B) Transportation engineering
- C) Geotechnical engineering**
- D) Environmental engineering