

Foundations of Civil Engineering

Civil Engineering · Answer Key · 15 Questions

1. Which material is most commonly used as the primary structural component in reinforced concrete?

- A) Aluminum
- B) Steel**
- C) Copper
- D) Brass

2. What is the primary function of a foundation in a building structure?

- A) To add aesthetic value
- B) To transfer loads to the ground**
- C) To store rainwater
- D) To conduct electricity

3. Which property of concrete describes its ability to resist crushing forces?

- A) Tensile strength
- B) Compressive strength**
- C) Elasticity
- D) Flexibility

4. What is the term for the vertical support member used to carry loads in a building?

- A) Beam
- B) Column**
- C) Truss
- D) Slab

5. Which force is primarily resisted by a suspension bridge cable?

- A) Torsion
- B) Shear
- C) Tension**
- D) Compression

6. What is the main chemical binder used in modern concrete?

- A) Portland cement**
- B) Asphalt
- C) Gypsum
- D) Lime

7. Which of the following is a naturally occurring material often used for road base and foundation layers?

- A) Plastic
- B) Aggregate**
- C) Glass
- D) Polystyrene

8. What is the primary scientific purpose of a truss structure in bridges?

- A) To increase weight
- B) To distribute loads efficiently using triangles**
- C) To make the bridge look modern
- D) To block wind flow

9. Which state of matter is water in the context of hydraulics, which civil engineers study for water supply?

- A) Solid
- B) Gas
- C) Liquid**
- D) Plasma

10. What is the scientific term for the study of the properties and behavior of soil in engineering?

- A) Geotechnical engineering**
- B) Structural engineering
- C) Environmental engineering
- D) Urban planning

11. Which tool is historically used by civil engineers to measure horizontal and vertical angles?

- A) Theodolite**
- B) Microscope
- C) Stethoscope
- D) Telescope

12. In building physics, what is the process of heat transfer through solid materials called?

- A) Convection
- B) Radiation
- C) Conduction**
- D) Evaporation

13. Which structural shape is considered the most rigid and stable for support systems?

- A) Circle
- B) Square
- C) Triangle**
- D) Rectangle

14. What type of load refers to the weight of the structural elements of a building itself?

- A) Live load
- B) Dead load**
- C) Wind load
- D) Seismic load

15. Which material is commonly added to water in municipal supply systems to improve dental health?

- A) Fluoride**
- B) Magnesium
- C) Iron
- D) Salt