

## Structures Level 3 Quiz - Answer Key

### 1) What were the earliest materials used for building bridges?

**Select one:**

- a) Wood, Steel, and Concrete
- b) **Trees, Rocks, and Vines**
- c) Sand, Cement, and Stone
- d) Girders and Beams

### 2) What caused the collapse of the Kansas City indoor walkway in 1981?

**Select one:**

- a) Earthquake
- b) **Faulty design and structural stress**
- c) Corrosion of materials
- d) Overloaded piers

### 3) Which force involves tearing and sliding actions on a bridge?

**Select one:**

- a) Compression
- b) Torsion
- c) **Shear**
- d) Bending

### 4) What is the primary issue with using early natural materials for bridges?

**Select one:**

- a) Lack of flexibility
- b) Heavy weight
- c) **Susceptibility to rot and deterioration**
- d) High cost

### 5) Which modern material is excellent under compressive forces but weak under tensile forces?

**Select one:**

- a) Steel
- b) **Concrete**
- c) Aluminum
- d) Timber

### 6) What type of bridge is the least expensive and easiest to build?

**Select one:**

- a) Suspension bridge
- b) Arch bridge
- c) Truss bridge
- d) **Beam bridge**

7) What feature of suspension bridges allows them to cover very long distances?

Select one:

- a) Beam structures
- b) Curved abutments
- c) **Suspended road surface with cables**
- d) Solid piers resting on bedrock

8) Which type of bridge was used by the Romans for aqueducts?

Select one:

- a) Suspension bridge
- b) **Arch bridge**
- c) Beam bridge
- d) Truss bridge

9) What is a box girder bridge known for?

Select one:

- a) Simplicity and low cost
- b) **Wind resistance and rigidity**
- c) Use of cables for suspension
- d) Decorative designs

10) What are caissons used for in bridge construction?

Select one:

- a) As a structural material for towers
- b) To distribute loads to abutments
- c) **For underwater bridge foundations**
- d) To anchor suspension cables