Sample Questions

Civil Engineering

1. In a lifting machine with efficiency 80% and velocity ratio 50, how much effort is required to raise a load of 800 lbs?
   a. 10 lbs
   b. 20 lbs
   c. 30 lbs
   d. 80 lbs

2. A blanket of impermeable material is laid for some length along the downstream ground surface. What is the purpose of this step in piping?
   a. To increase factor of safety
   b. To add clearance
   c. To prevent the pipes from rusting
   d. Any of the above
   e. None of the above

3. What is the maximum deflection of a fixed beam carrying a central load W?
   a. \( \frac{WL^3}{48EI} \)
   b. \( \frac{WL^3}{96EI} \)
   c. \( \frac{WL^3}{198EI} \)
   d. \( \frac{5WL^3}{384EI} \)

4. Which of the following activities is/are a constituent of track construction?
   a. Earth work
   b. Ballasting
   c. Plate laying
   d. All of the above.
5. Whenever a number of columns are to be constructed in a row, which of the following will be preferred?

   a. Strip  
   b. Pile  
   c. Strap  
   d. Raft

6. In which of the following situations is compass surveying recommended?

   a. Area is large and crowded  
   b. Area is small and uncrowded  
   c. Area is suspected of presence of magnetic substances  
   d. None of the above

7. Propagation of an existing crack or joint upward to the new pavement surface is called _____.

   a. Creeping  
   b. Alligator Cracking  
   c. Tearing  
   d. Reflection cracking  
   e. Shear failure

8. For which of the following is the friction drag not more than pressure drag?

   a. An air foil  
   b. A streamlined body  
   c. A circular disc placed normal to the flow direction  
   d. All of the above

9. In which of the following river reach, can head works be constructed usefully?

   a. Hilly  
   b. Sub-mountainous  
   c. Plain  
   d. Both B and C