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Multiple Choice Questions   **(1 mark for each ques)**

1) The Principle of Superposition is applicable for
   (a) A linear beam/ frame structure
   (b) A linear truss structure
   (c) Any linear structure   (d) The material of the structure is linearly elastic

2) Maximum Bending Moment in a beam occurs where
   (a) Deflection is zero
   (b) Shear force is maximum
   (c) Shear force is minimum   (d) Shear force changes sign

3) Rate of change of Bending Moment is equal to
   (a) Shear force   (b) slope   (c) deflection   (d) rate of loading

4) Point of contra flexure occurs in a structure where
   (a) Bending moment is zero
   (b) Bending moment changes sign
   (c) Shear force is zero
   (d) All of the above

5) Find reactions at A and B respectively

The beam shown below is supported by a pin at A and roller at B. Calculate the reactions at both supports due to the loading.

20 kN   40 kN

A   B

2 m   3 m   4 m
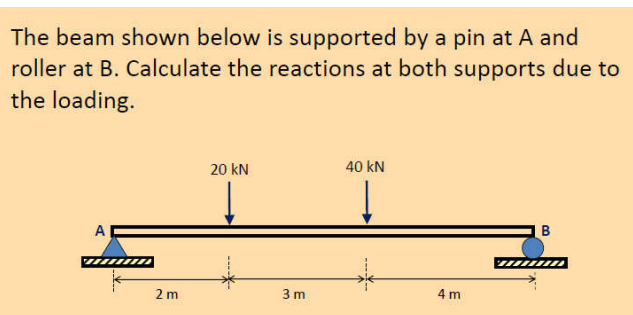
   (a) 33.3KN, 26.7KN
   (b) 26.7KN, 33.3KN
   (c) 30KN, 29KN
   (d) 29KN, 30KN

6) Find support reactions at A and B respectively
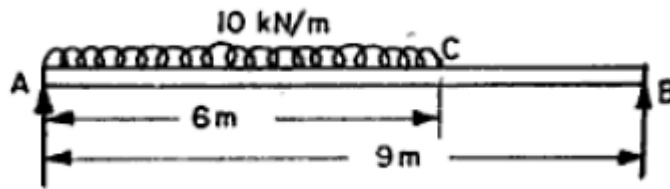
    (a) 40KN,20KN
   (b) 20KN,40KN
    (c) 30KN,30KN
    (d) 25KN, 35KN

7) The diagram showing the axial load variation along the span is called
    (a) Shear force diagram
    (b) Bending moment diagram
    (c) Thrust diagram
    (d) Influence line diagram

8) A statically indeterminate structure is the one which
    (a) cannot be analyzed at all
    (b) can be analyzed using equations of static only
    (c) can be analyzed using equations of compatibility only
    (d) can be analyzed using equations of statics and compatibility equations

9) The total degree of indeterminacy for the bridge truss shown in the fig is :
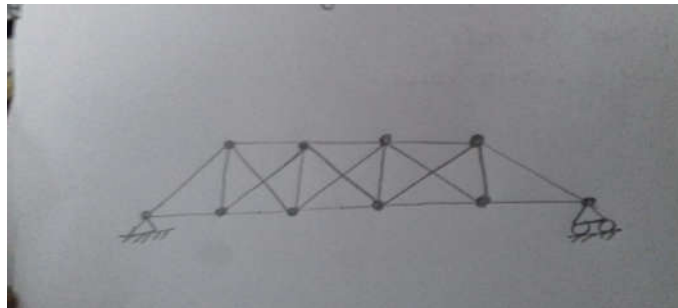
    (a) 1   (b) 2   (c) 3   (d) 4

10) Which one of the following is true example of a statically determinate beam?
    (a) One end is fixed and other end is simply supported
    (b) Both the ends are fixed
    (c) The beam overhangs over two supports
    (d) The beam is supported on three supports