

**QUIZ NO: 458**

**TOPIC: STRUCTURAL ANALYSIS**

**DATE: 22/06/2021**

1. The maximum deflection of a cantilever beam of span  $L$  subjected to a clockwise moment “ $M$ ” at the free end is given by:

[A]  $ML^2/2EI$

[B]  $ML^2/8EI$

[C]  $2ML^2/EI$

[D]  $ML/4EI$

**Answer: A**

2. The maximum positive bending moment of a fixed beam carrying uniformly distributed load is at

[A] Mid span

[B]  $1/3$  span

[C]  $1/4$  span

[D] At supports

**Answer: A**

**3. Muller Breauslau's principle is used to draw the following diagram:**

- [A] Influence line diagram
- [B] Bending moment diagram
- [C] Shear force diagram
- [D] Mohr's diagram

**Answer: A**

**4. The core of an eccentrically loaded column of Square section is:**

- [A] Parallelogram
- [B] Rhombus
- [C] Circle
- [D] Rectangle

**Answer: B**

**5. The ratio of equivalent length to the actual length of a column having both ends hinged is:**

- [A] 1:1
- [B] 2:1
- [C] 1:2
- [D] 1: $\sqrt{2}$

**Answer: A**

**6. Shear span is defined as the zone where:**

- [A] Bending moment is zero
- [B] Shear force is zero
- [C] Shear force is constant
- [D] Bending moment is constant

**Answer: C**

**7. The ratio between the fully plastic moment and yield moment of a rectangular section in flexure is:**

- [A]  $3/2$
- [B]  $2/3$
- [C] 1
- [D] 2

**Answer: A**

**8. The shape factor of a diamond shaped cross-section is:**

- [A] 1.75
- [B] 2.00
- [C] 2.50
- [D] 3.00

**Answer: B**

9. For a propped cantilever of span “L” subjected to a point load at mid span, the collapse load is:

[A]  $8Mp/L$

[B]  $12Mp/L$

[C]  $6Mp/L$

[D]  $4Mp/L$

**Answer: C**

10. If a cantilever beam carries a uniformly varying load zero intensity at the free end and  $s/\text{unit length}$  at the fixed end then the shape of the BM diagram is a:

[A] Cubic parabola

[B] Quadratic parabola

[C] Straight line

[D] Triangle

**Answer: A**

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