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**1. The heaviest I-section for same depth is**

- a) ISMB
- b) ISLB
- c) ISHB
- d) ISWB

Ans: c

**2. Bending compressive and tensile stresses respectively are calculated based on**

- a) net area and gross area
- b) gross area and net area
- c) net area in both cases
- d) gross area in both cases

Ans: b

**3. If the thickness of thinnest outside plate is 10 mm, then the maximum pitch of rivets in tension will be taken as**

- a) 120 mm
- b) 160 mm
- c) 200 mm
- d) 300 mm

Ans: b

**4. In a gusseted base, when the end of the column is machined for complete bearing on the base plate, then the axial load is assumed to be transferred to base plate**

- a) fully by direct bearing
- b) fully through fastenings
- c) 50% by direct bearing and 50% through fastenings
- d) 75% by direct bearing and 25% through fastenings

Ans: c

**5. When the axis of load lies in the plane of rivet group, then the rivets are subjected to**

- a) only shear stresses
- b) only tensile stresses
- c) both (a) and (b)
- d) none of the above

Ans: a

**6. When the axis of load lies in the plane of rivet group, then the most heavily loaded rivet will be the one which**

- a) is at the maximum distance from CG of the rivet group
  - b) is at the minimum distance from CG of the rivet group
  - c) gives the maximum angle between the two forces  $F_a$  and  $F_m$
  - d) gives the minimum angle between the two forces  $F_a$  and  $F_m$
- where,  $F_a$  is the load shared by each rivet due to axial load and  $F_m$  is the shearing load due to moment in any rivet.

Ans: d

**7. Which of the following types of riveted joint is free from bending stresses ?**

- a) lap joint
- b) butt joint with single cover plate
- c) butt joint with double cover plates
- d) none of the above

Ans: c

**8. The difference between gross diameter and nominal diameter for the rivets up to 25 mm diameter is**

- a) 1.0 mm
- b) 1.5 mm
- c) 2.0 mm
- d) 2.5 mm

Ans: b

**9. As compared to field rivets, the shop rivets are**

- a) stronger
- b) weaker
- c) equally strong

d) any of the above  
Ans: a

**10. If the thickness of plate to be connected by a rivet is 16 mm, then suitable size of rivet as per Unwin's formula will be**

- a) 16 mm
- b) 20 mm
- c) 24 mm
- d) 27 mm

Ans: c