

*Note: All questions are compulsory. Marks are indicated against each question in square brackets. Codes: IS 800:2007 and IS 808 or Steel Table is allowed.*

Q1. With the help of neat diagram, discuss the failures of bolts in bolted connections.

CO-1, CO-2 [2 Marks]

Q2. Explain with the help of diagram, the reason for using correction factors for long joint, large grip length and packing plate, while computing the shear strength of bolts.

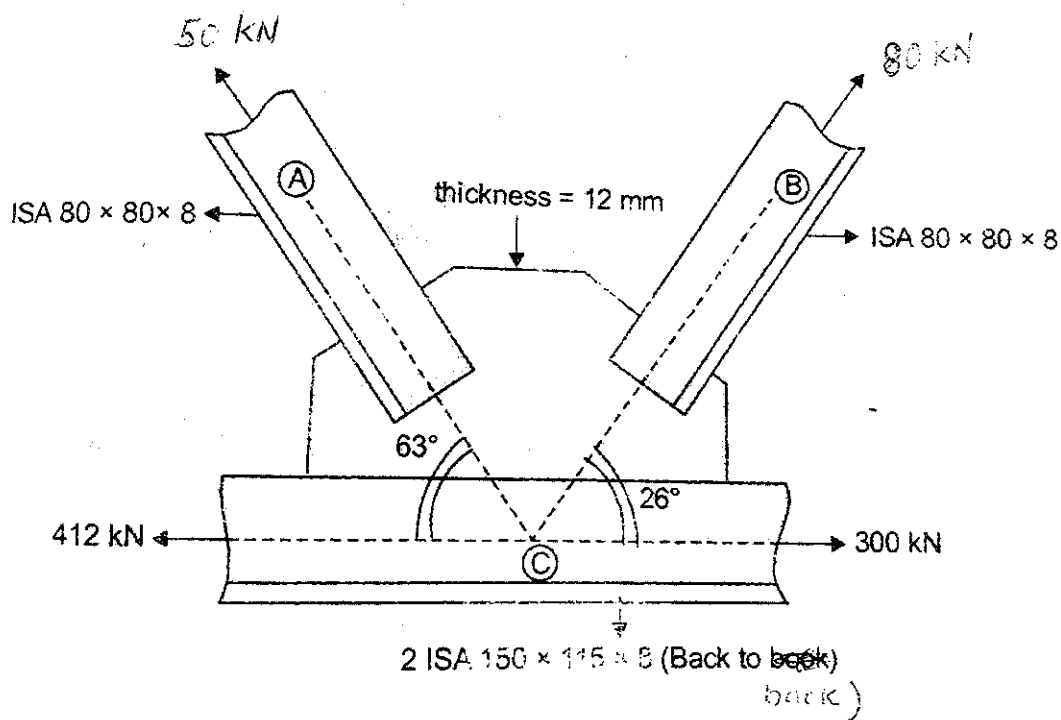
CO-1, CO-2 [2 Marks]

Q3. Design a welded Lap Joint to join two plates of size  $300 \times 10$  mm and  $280 \times 10$  mm of Fe410 grade of steel to mobilize the tensile strength of the plate using field weld.

CO-1, CO-2 [5 Marks]

Q4. Figure given below shows a typical connection of different members (Member A, Member B and Member C) with the help of gusset plate. Service load carried by each member is given. Design the bolted connection of each member with gusset plate.

CO-1, CO-2 [6 Marks]



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