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170764

6th Sem./ Civil
Subject : Steel structure Drawing

Time : 3 Hrs. **M.M. : 100**

SECTION-A

Note : Attempt any four questions. (4x25=100)

Q.1 Draw the front elevation and other detail of joint in a single fink Roof truss showing the following design detail of various elements like

Principal rafter 2-ISA 60 x 60 x 6 mm
Main tie (Bottom chord) 2-ISA 60 x 60 x 6 mm
Strut (Central chord) -single angle ISA 60 x 60 x 6 mm
Cleat and purlin angle-single ISA 90 x 60 10 mm
Shoe angle -2 Nos ISA 50 x 50 x 6 mm
Bearing Plate 300 mm x 400 x 12 mm
Rag bolts 15 mm θ
Cement concrete block(1:1.5:3) 300 mm x 400 mm x 200 mm
Thickness of Wall = 400 mm
Gusset plate 8 mm
Roof covering material : corrugated G. 1 Sheets

Q.2 Draw the front and side elevation of an equal column splicing arrangement from the following data:

Columns : ISHB 350@710.2N/m
Cover plates = 400 mm x 250 mm x 15 mm

Diameter of rivets= 20 mm

Q.3 Draw the plan and front elevation of column base from the following data:

Column = ISHB 250@ 500.3 N/m
Cover plate = 10 mm thick
Base plate = 700 mm x 600 mm x 20 mm
Web Cleat angle = ISA 90 x 90 x 10 mm
Flange cleat angle = ISA 90 x 90 x 10 mm
Holding down bolts = 18 mm ϕ-4 Rag bolts
Diameter of Rivets = 16 mm
RCC slab = 900 x 800 x 500 mm
Reinforcement in base slab = 12mm ϕ @150 mm c/c both ways

Q.4 Draw front and side elevation of a framed beam to beam connection from the following data

Main beam = ISWB 450@ 778.9 N/m
Secondary beam = ISLB 250@273.7 N/m
Web Cleat angle =2-ISA 80 x 80 x 8 mm
Nominal Diameter of rivets = 20 mm

Q.5 Draw front view and side view of a framed connection of abeam with that of a flange of a column with the following data :

Column = ISHB 300@576.8 N/m
Beam = ISLB 250@273.7 N/m
Cleat angle = 2-ISA 90 x 90 x 8mm
Diameter of Rivets = 20 mm