PART – B (5×13=65 Marks)

11. a) i) Write short notes on box girders and purlins. (7)

ii) Classify and explain the determination of size of plate. (6)

(OR)

b) Design a single angle strut connected to the gusset plate to carry 180 kN factored load. The length of the strut between centre to centre intersections is 3 m. (13)

12. a) i) Explain about stiffened and unstiffened seat connection. (7)

ii) Discuss the merits and demerits and applications of welded connections. (6)

(OR)

b) Find the efficiency of the lap joint shown in figure 1 with the following data : M20 bolts of grade 4.6 and Fe410 plates are used. (13)

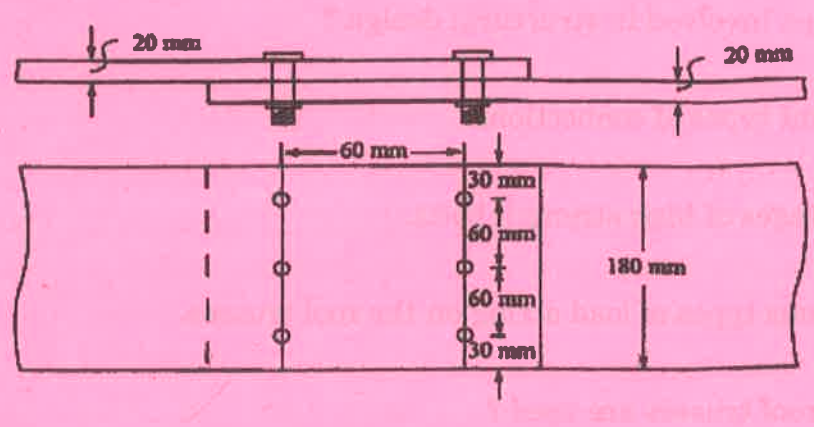

Figure 1

13. a) i) How the trusses are classified according to the pitch ? Explain any two types. (7)

ii) Explain the various types of roof truss with neat sketch. (6)

(OR)

b) A tie member of a roof truss consists of 2 ISA 10075, 8 mm, the angles are connected to either side of a 10 mm gusset plates and the member is subjected to a working pull of 300 Kn. Design the weld connection. Assume connections are made in the workshop. (13)