17328

16117

4 Hours / 100 Marks Seat No. | | | | | | | | |

Instructions : *(1)* ***All*** *questions are* ***compulsory****.*
(2) Figures to the ***right*** *indicate* ***full*** *marks.*
(3) Assume suitable data, if ***necessary****.*

Marks

1. A) Attempt **any one** of the following : **(1×12=12)**

a) A vertical square prism base 60 mm side is completely penetrated by a horizontal square prism base 40 mm side, so that their axes are 15 mm apart. The axis of the horizontal prism is parallel to V.P. Draw the projections showing lines of intersection.

b) Draw free hand sketch of a riveted base gusset for a column (two views)
Prepare a bill of material for the above.

B) Attempt **any one** of the following : **(1×8=8)**

a) Draw conventional representation of the following welded joints.

i) Square butt weld

ii) Backing weld

iii) Spot weld

iv) Seam weld.

b) List different types of supports used for erection. Draw neat sketch of them.

2. Attempt **any two** of the following : **(2×8=16)**

a) Draw the symbol of the following :

i) Globe valve

ii) Check valve

iii) Gate valve

iv) Angle valve.

P.T.O.

Marks

b) Show by neat proportional sketches when a column ISLB 200 is connected to similar column.

c) Draw double riveted butt joint (double strap) in two views.

3. Attempt **any one** of the following : **(1×16=16)**

a) A cone with base diameter 60 mm and height of axis 80 mm is kept on H.P. on its base. It is penetrated by a horizontal cylinder of dia. 30 mm with its axis parallel to V.P. and intersecting the axis of cone at a distance 20 mm above base of cone. Draw projections of solids showing curves of intersection.

b) i) Draw a plate girder of I-Section made out of 15 mm plate. Show welding symbol. Assume suitable dimension of web and flange. Provide upper cover and bottom cover of 10 mm thick plate. **12**

ii) Draw a neat sketch of the following : **4**

i) Elbow ii) Tee

4. Attempt **any two** of the following : **(2×8=16)**

a) Draw ISNL150, b = 80, L = 10. Give suitable corner radius.

b) Convert the single line piping drawing in the fig. A into double line piping joint (Refer fig. A).

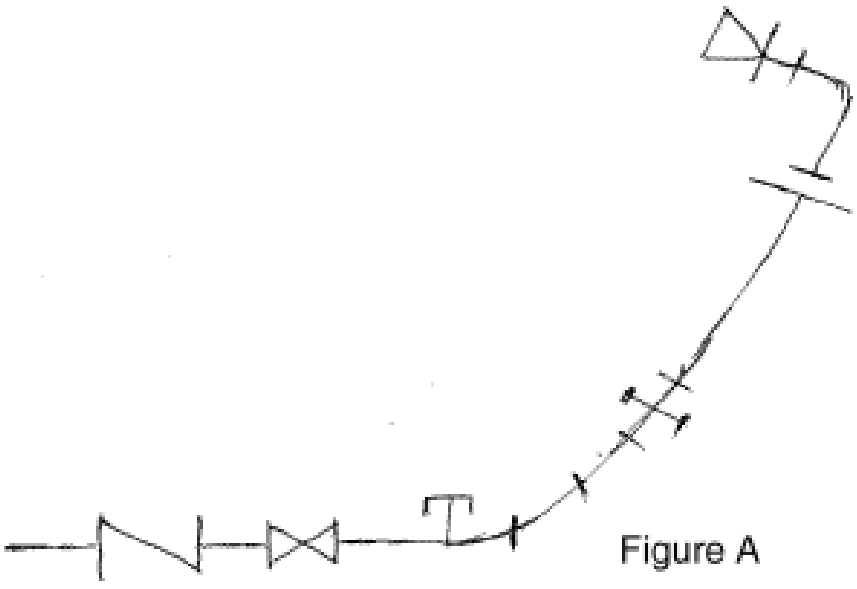


Figure A

Marks

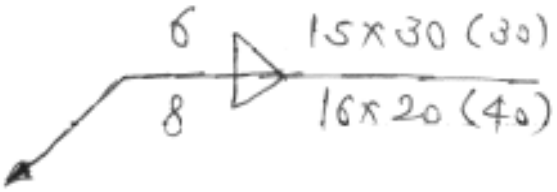
c) Draw using conventional symbol of

– Single riveted (Single strap) butt joint

– Double riveted (single strap) butt joint

5. Attempt **any two** of the following : **(2× 16=32)**

a) i) A welded joint symbol is shown as per B.I.S. Draw dimensional cross section view of the joint. **12**



ii) Draw hanger type pipe support. **4**

b) i) A vertical vessel 7 m height and 4 m dia. is erected at a height of 10.5 m from the ground. Prepare erection drawing in two views. Assume suitable cross section for structure. **12**

ii) Draw a conventional symbol of flat head and conical head riveted joint. **4**

c) i) A vertical cylinder 80 mm diameter is penetrated by another cylinder of 60 mm diameter the axis of which is parallel to the H.P. and V.P. Draw the curves of projection. Length of both the cylinders 100 mm. **8**

ii) Draw the pratt truss made by angle section having span 18 m and height 5 m represent riveted and welded joint symbolically. **8**
