ADDITIONAL EXAM. COMMON FOR ALL BRANCHES
B.TECH. SEM. - I (CBCS 2014 COURSE) : WINTER- 2019
SUBJECT: ENGINEERING GRAPHICS

Thursday 26-12-2019
10:00 AM-02:00 PM

W-11249-2019
Max. Marks: 60

N.B.

1) All questions are **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.
3) Only half imperial size drawing sheets should be used as answer book.
4) Assume suitable data if necessary.

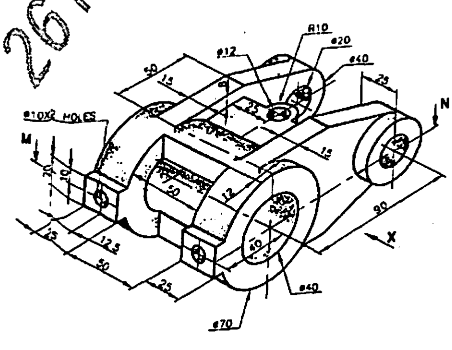
Q.1 A point P is moving around the surface of a lone of base 80mm and height 90mm. If the point P starting from the apex. Reaches the periphery of cone base in one and half turns draw the projections of path of 'P'. Assume that the axial descent of the point is uniform with its rotation. **(10)**

OR

A 100mm long link AB is oscillating about its midpoint. The angle of oscillation is 150^0 and rate is 300^0 per second. A point P, initially at 'A' on the link, moves along the link (to and fro) at the rate of 200 per second. Assuming both the motions taking place simultaneously draw the locus of point 'P' for a period of one second. **(10)**

Q.2 A pictorial drawing of a machine part is shown in Fig. Draw using full size scale, the following views of it, Use first angle method of projection and insert all dimensions. **(10)**

a) An elevation, looking in the direction of arrow X
b) Sectional plan, on section plane M-N and
c) An end – view

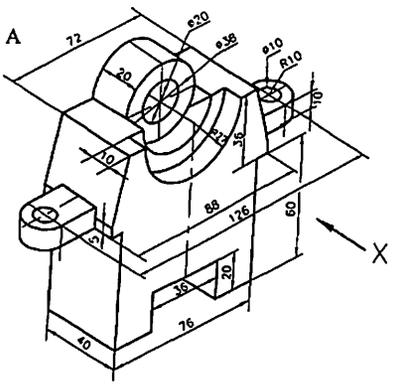


P.T.O

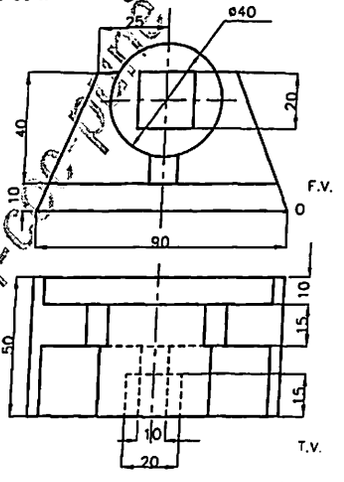
OR

A pictorial view of a block is shown if figure, Draw to scale the following views (10)

a) Front view in the direction of arrow X
b) Top view
c) Sectional left side view, along section A- A



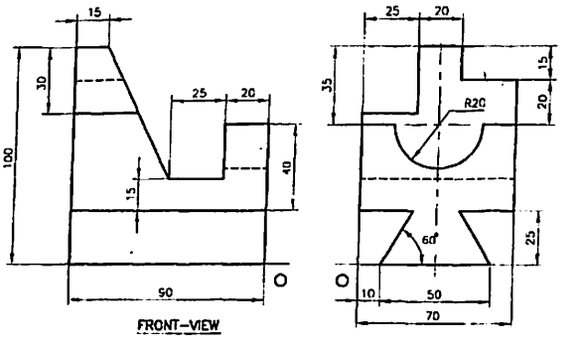
Q.3 Figure shows Orthographic views of the casting Draw the isometric view of the casting (10)



OR

Draw the isometric view of an object from the given Front View and Side View. (10)

Take 'O' as a origin.



P.T.O.

Q.4 A line AB 75mm long has end 'A' in H.P. and end 'B' in V.P. the line is inclined at 30^0 to H.P. and 45^0 to V.P. Draw the projections and determine its traces. **(10)**

OR

A line PQ appears of 80 mm in plan. The line is inclined at 40^0 to H.P. and 30^0 to V.P. The end of the line is 80 mm in front of V.P. The vertical trace of the line is 15 mm below H.P. Draw the projections and find the true length of line and the horizontal trace. **(10)**

Q.5 Triangular plane ABC has its base AB 60 mm long and is on ground and inclined to V.P. at 30^0. Its altitude length is 80 mm. The plane is lifted on AB such that AC lies on a plane perpendicular to both H.P. and V.P. Draw the projections of the plane. Find out angles of inclination of the plane with H.P. and V.P. **(10)**

OR

A trapezium ABCD having larger parallel side AB = 60 mm, smaller parallel, side CD = 30 mm and height 50 mm is kept in V.P. on its side AB in such a way that its elevation appears as another trapezium of same parallel sides but of height 30 mm. Draw the projections of the trapezium when the side in V.P. makes an angle of 50^0 with H.P. **(10)**

Q.6 A square pyramid, side of base 30 mm and axis length 70 mm is kept on the H.P. on a corner of its base in such a way that the slant edge opposite to the corner on H.P. is perpendicular to V.P. Draw the projections of the pyramid. **(10)**

OR

A cone of diameter 70 mm and axis length 70 mm is kept on the ground on its curved surface. It is cut by an *AIP* in such way that the true shape of the section is an ellipse of major and minor axis 55 mm and 30 mm respectively. Draw F.V., sectional top view and show the true shape of the section. **(10)**

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