

2019
ENGINEERING DRAWING
(Theory)

Full Marks : 70

Pass Marks : 21

Time : Three hours

Instructions :

- (i) Attempt all the questions.
- (ii) All dimensions are in millimeters.
- (iii) Missing and mismatching dimensions, if any may be suitably assumed.
- (iv) Use both sides of the drawing sheet if necessary.
- (v) Follow the SP : 1988 Codes, (With first angle method of projection) if not mentioned.

1. (a) Construct an Isometric scale. 4
 - (b) Construct the isometric projection of a frustum of a hexagonal pyramid, base side = 30 mm, top side = 25 mm and height of the axis = 70 mm, resting on H.P. on its base, with one of the base sides parallel to V.P. and the axis is Perpendicular to H.P. Draw the axis and indicate the direction of viewing. Give all dimensions. 8
 - (c) A pentagonal prism of base side 40mm and height 35mm, is resting on its pentagonal base on H.P. and a rectangular face nearer the observer parallel to V.P. A square pyramid of base side 30 mm and height 50 mm, is resting centrally on it, with two of its base sides perpendicular to V.P. Draw the isometric projection of the combination of these solids, keeping their common axis perpendicular to H.P. Draw its isometric projection. Give all dimensions. 13
2. (a) Draw to scale 1:1 the standard profile of a square thread, taking pitch = 40 mm. Give standard dimensions. 9

P.T.O.

OR

Draw to scale 1:1, the front view and top view of a T-head bolt of size M20, keeping its axis perpendicular to H.P. Give standard dimension.

- (b) Draw to scale 1:1, the front view and top view of a cheese head screw of size M20, keeping its axis perpendicular to H.P. Give standard dimensions. 6

OR

Draw to scale 1:1, the front view and left hand side view of a 60° countersunk flat head rivet of diameter 25mm, keeping its axis parallel to H.P. Give standard dimensions.

3. The Figure 1. shows the details of a knuckle joint. Assemble the parts correctly and draw the top half sectional front view looking in the direction of arrow A in scale full size (1 : 1). Print titles, scale used and give dimensions. 30

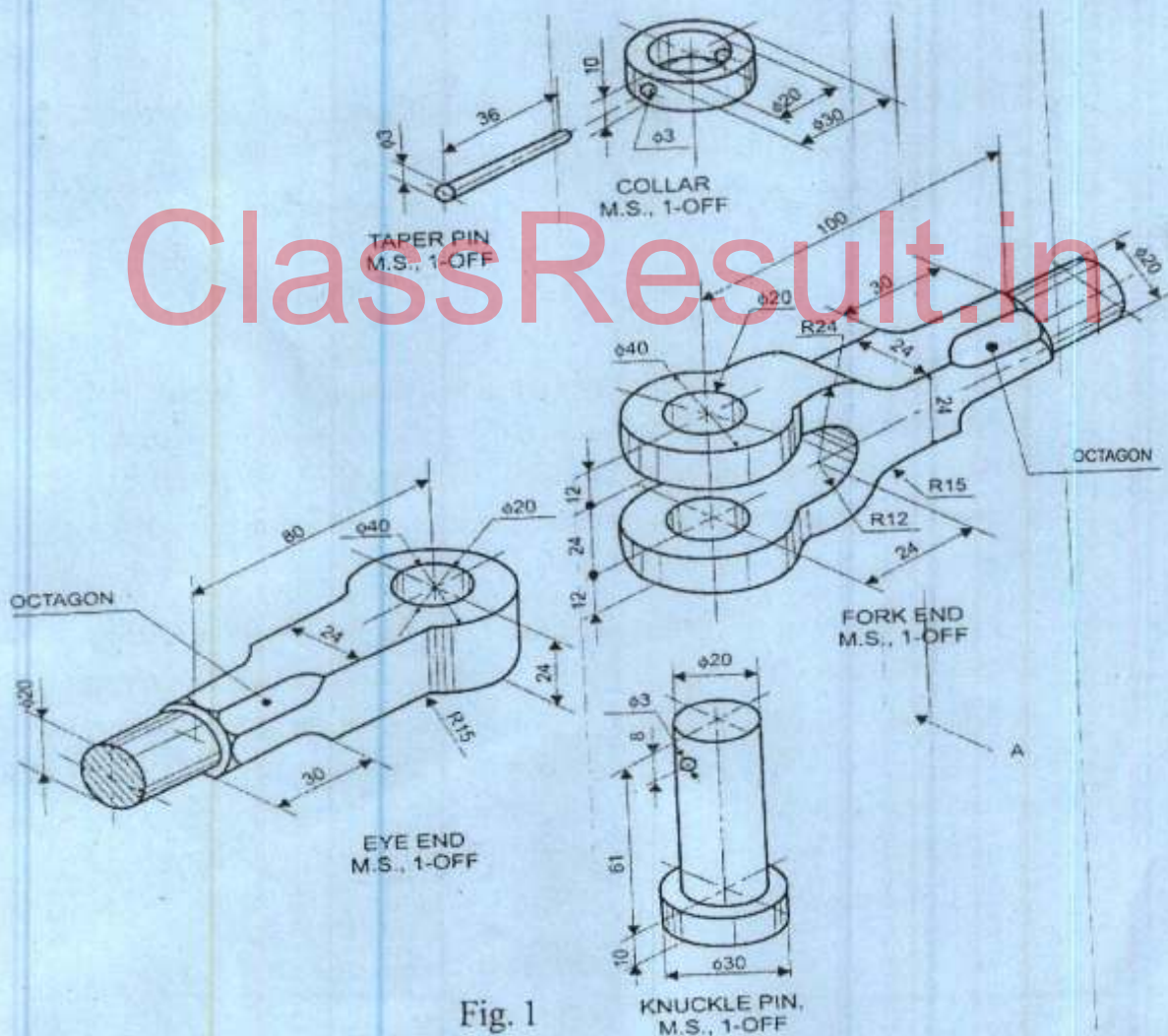


Fig. 1

OR

The figure 2 shows the details of the parts of Flange Pipe joint. Assemble these parts correctly and then draw the following views to scale full size. 30

- (a) Sectional front view, top half in section.
 - (b) Side view, as seen from left ;
- Print title, scale used and give dimension.

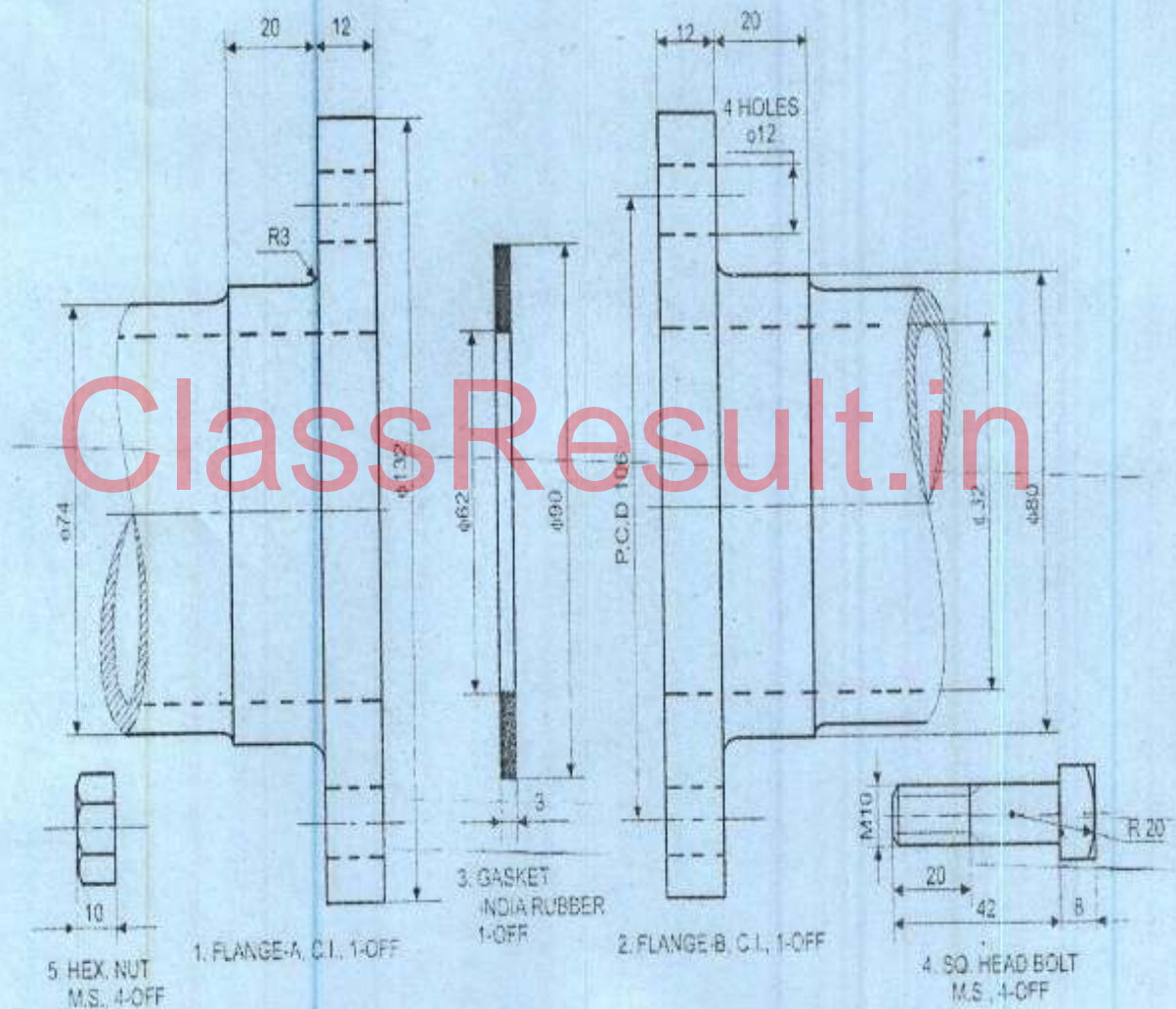


Fig. 2