

2018

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 side of the drawing sheet, if necessary.
- (v) Follow the SP : 46 – 1988 Codes, (With first angle method of projection) if not mentioned.

1. (a) Construct an isometric scale. 4
- (b) A regular pentagonal prism, base side 40mm and length 70mm is resting on one of its rectangular faces on the H.P. and its axis is parallel to H.P. and V.P. Draw its isometric projection. Draw the axis and indicate the direction of viewing. Give all dimension. 8
- (c) A hemisphere of diameter 90mm is having its flat circular face, parallel to H.P. on the upper side. A cube of side 40mm, with two of its vertical faces perpendicular to V.P, is centrally placed on the top circular face of hemisphere, with its square base resting on it and their common axis is perpendicular to H.P and parallel to V.P. Draw the isometric scale. Indicate the direction of viewing. Give all dimension. 13

2. (a) Draw to scale 1:1 the standard profile of a knuckle thread, taking pitch = 40 mm. Give standard dimensions. 9

OR

Draw to full size scale, the F.V. and S.V as seen from threaded end side of a square headed bolt having shank diameter = 24mm, threaded length of the bolt = 54mm, keeping its axis horizontal. Give standard dimension. 9

- (b) Draw to scale 1:1 the front view and left hand side view of a plain stud of size M20, keeping the axis parallel to H.P and V.P. Give standard dimensions. 6

OR

Draw to full size scale, the front view and left hand side view of a hexagonal socket head machine screw of size M20, keeping its axis parallel to H.P and V.P. Give standard dimensions. 6

3.

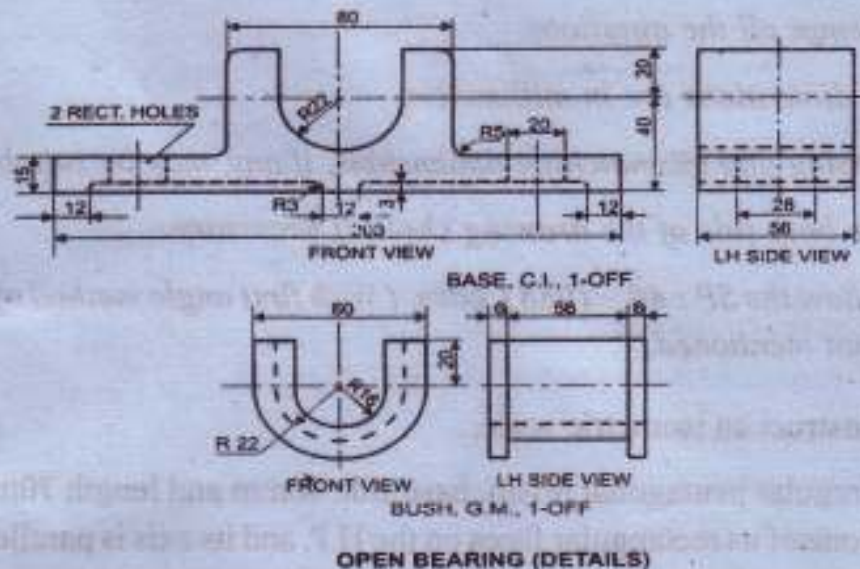


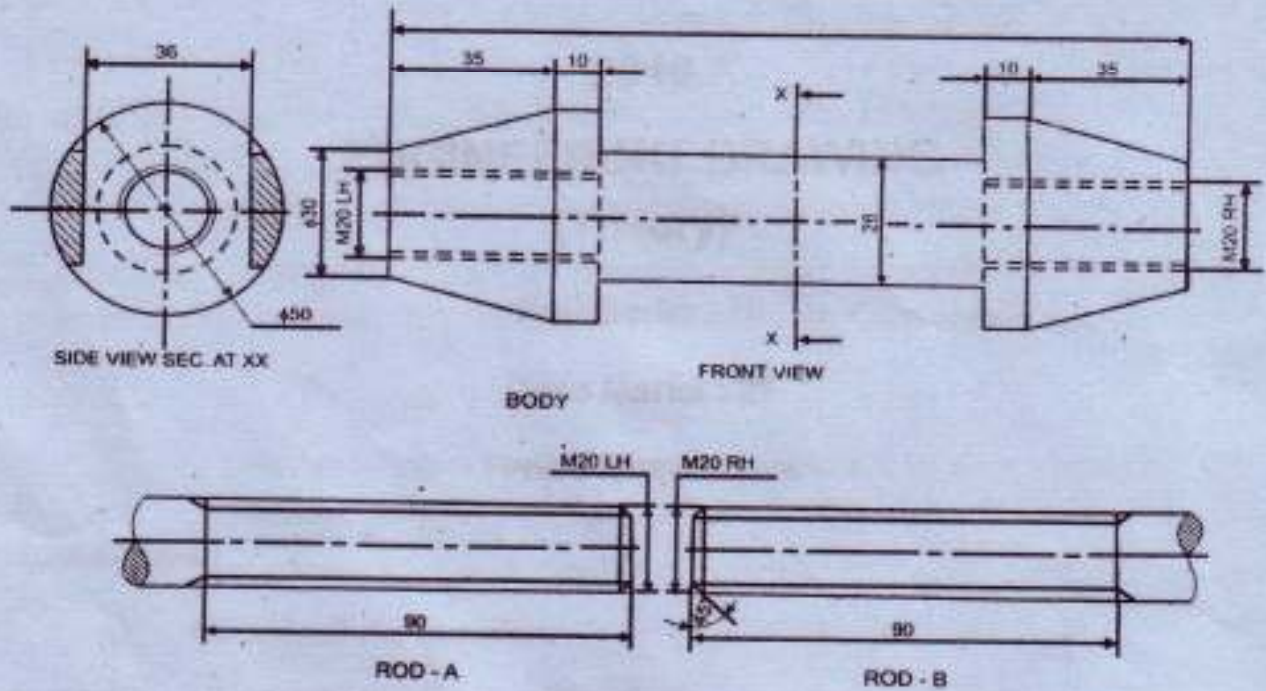
Figure - 1

The figure 1. shows the orthographic views of the details of an "Open Bearing". Assemble these parts correctly and draw to scale 1:1 the following views of the assembly. 30.

- Front view, left half in section
- Top view
- Left hand side view

Write heading and scale used. Draw projection symbol. Give all dimensions.

Or



TURN BUCKLE

Figure - 2

The fig. 2 shows the details of the parts of a "Turnbuckle". Assemble these parts correctly and then draw its following views to scale 1:1, inserting 70 mm threaded portion of each rod, inside the body of the turnbuckle.

- (a) Front view, upper half in section
- (b) Side view as viewed from right
- (c) Top view.

Write heading and scale used. Draw the projection symbol. Give all dimensions.

30