

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 sides 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) Draw an Isometric projection of a pentagonal prism, lying on H.P. on one of its rectangular faces, with base edges = 26 mm, length = 54 mm. Its pentagonal ends parallel to V.P. Draw the axis. Indicate the direction of viewing. Give all dimensions. 8
  - (c) A cylinder of 27 mm base diameter and 50 mm height, with its axis perpendicular to H.P. is resting centrally over a hexagonal slab of 27 mm base edges and 20 mm height, having two of its rectangular faces parallel to V.P. Draw an Isometric projection of the combination. Keep their common axis vertical. 13
2. (a) Draw to scale 1:1, the standard profile of a External Metric Thread. (Enlarged pitch 50 mm). Give all the standard dimensions. 9

P.T.O.

OR

Draw to scale 1:1, the front view and top view Hook Bolt of size M 20, keeping its axis vertical and parallel to V.P. Give all dimensions. 9

- (b) Sketch freehand the front view and the top view of a round headed machine screw of size M 20, keeping the axis perpendicular to H.P. Give standard dimensions. 6

OR

Draw to scale 1:1, the front view and side view of a Snap head rivet of size M 20. Keep its axis vertical. 6

3. Figure 1. shows the assembly of a Gib and Cotter Joint. Disassemble the parts and draw the views of the following parts to scale 1:1. Keep the same position of parts with respect to H.P. and V.P. 30

- i. Front View, Bottom half in section of fork.
  - ii. Side view, as viewed from right of fork.
  - iii. Front view, full in section of Rod.
  - iv. Top view of Rod.
- Give all important dimensions.

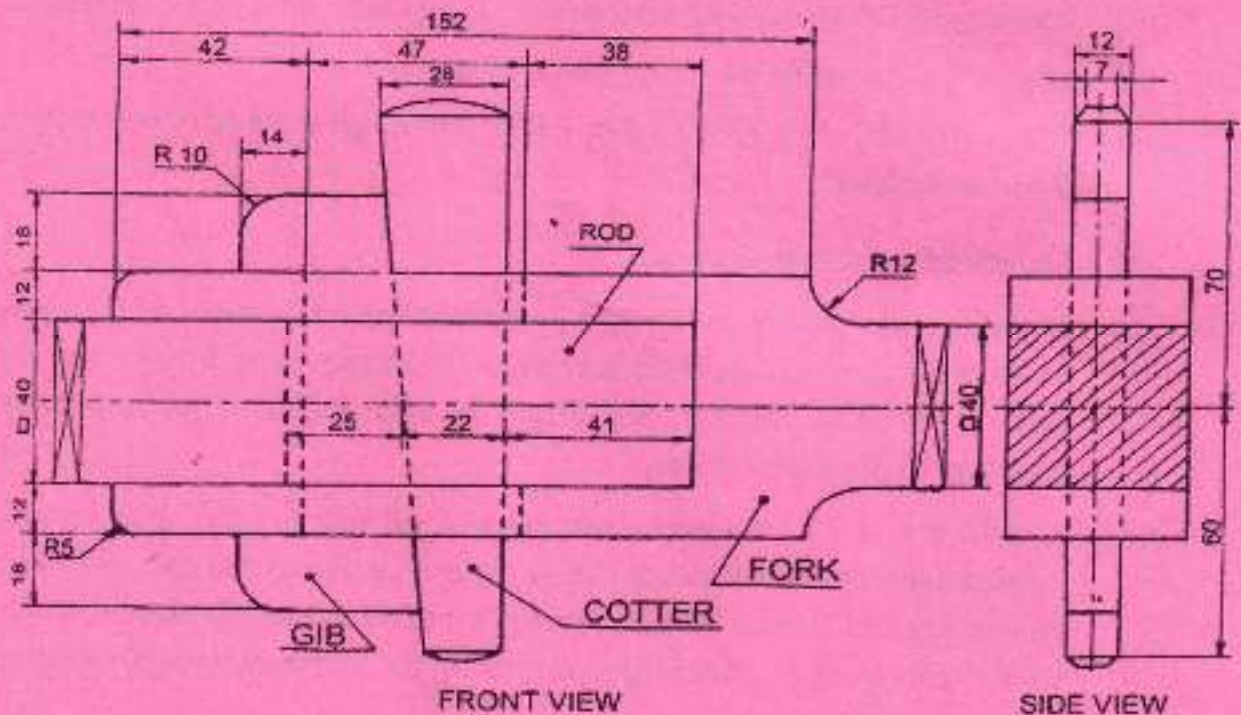


Figure – 1. GIB AND COTTER JOINT

OR

Figure 2. shows the parts of a foot step bearing. Assemble these parts correctly and then draw the front view, left half in section to a scale full size. Print title and scale used. Give all important dimensions.

30

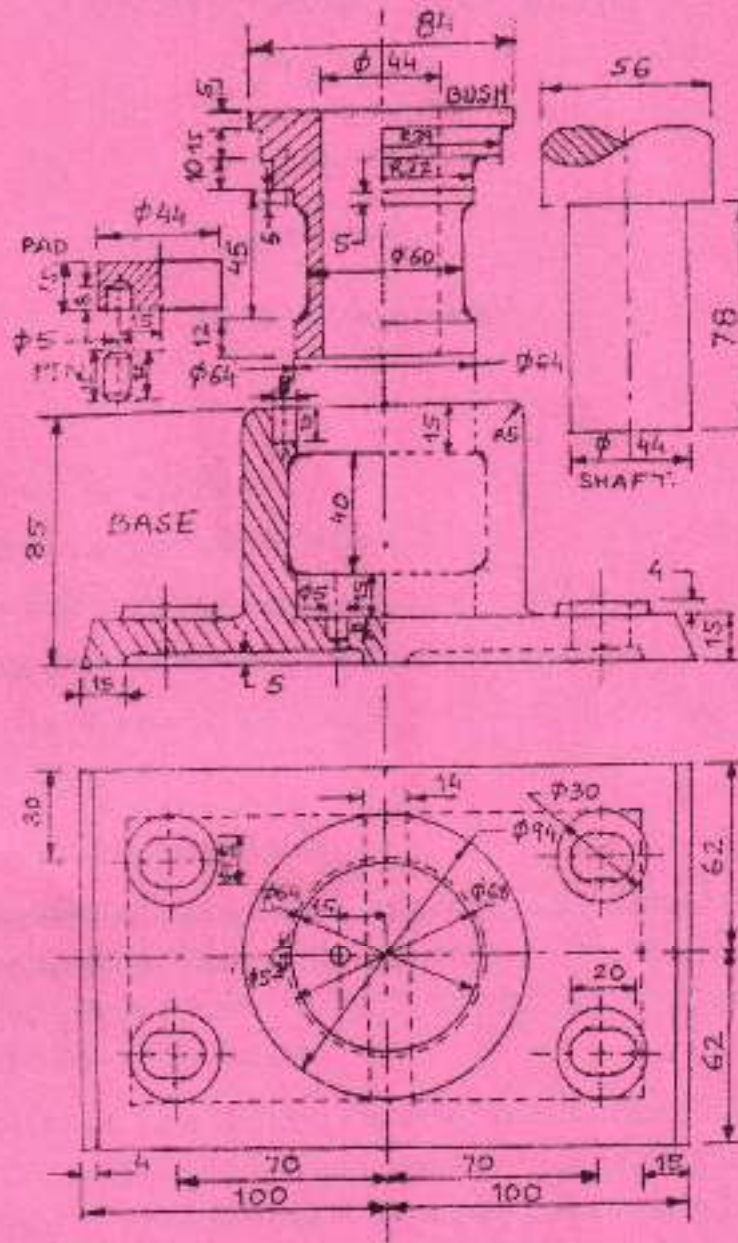


Figure - 2. FOOT STEP BEARING