

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/MANAGEMENT/  
COMMERCIAL PRACTICE - APRIL 2022**

**MACHINE DRAWING**

(Maximum Marks:100)

(Time: 3 Hours)

- [ Note:- 1. All dimensions are in mm  
2. First angle projections is to be followed  
3. Missing data if any may be suitably assumed  
4. Both sides of the drawing sheet may be used  
5. Sketches accompanied ]

**UNIT - I**

**Marks**

- I. Two metal plates of 30 mm thick each are bolted by using 20 mm diameter hexagonal headed bolt, nut and a washer. Show the sectional view of the assembly showing the plate in section and an end view looking from the nut side. Assume that bolt has a spherical end. Take bolt length = 90 mm and thread length = 40 mm. Also designate the bolt with nut as per standard.

(15)

**OR**

- II. Draw sectional front view and top view of a single riveted double cover butt joint ( chain type). Take thickness of plate as 10 mm. Show at least three rivets in palm and insert all dimensions in terms of the diameter of the rivet. Use snap head rivet.

(15)

**UNIT - II**

- III. An isometric view of a gib and cotter joint is shown in Fig.I, Draw the top half sectional elevation and left side view.

(30)

**OR**

- IV. Isometric view of an unprotected type flanged coupling is shown in Fig.2. Draw the top half sectional elevation and end view from left side.

(30)

UNIT – III

- V. Detailed view of a stuffing box is shown in Fig.3. Assemble the parts and draw left half sectional elevation and prepare bill of materials. (40)

**OR**

- VI. Detailed view of a footstep bearing is shown in Fig.4. Assemble the parts and draw the right half sectional elevation. (40)

UNIT - IV

- VII. Draw the weld joints and symbols of the following.

- a) Square butt weld
- b) Single – V butt weld
- c) Single –U butt weld
- d) Single bevel butt weld
- e) Fillet weld. (15)

**OR**

- VIII. Draw the flanged and welded single line orthographic symbol of the following pipe fittings

- a) 90° Elbow
- b) Coupling
- c) Reducer
- d) Tee
- e) Dead end (15)



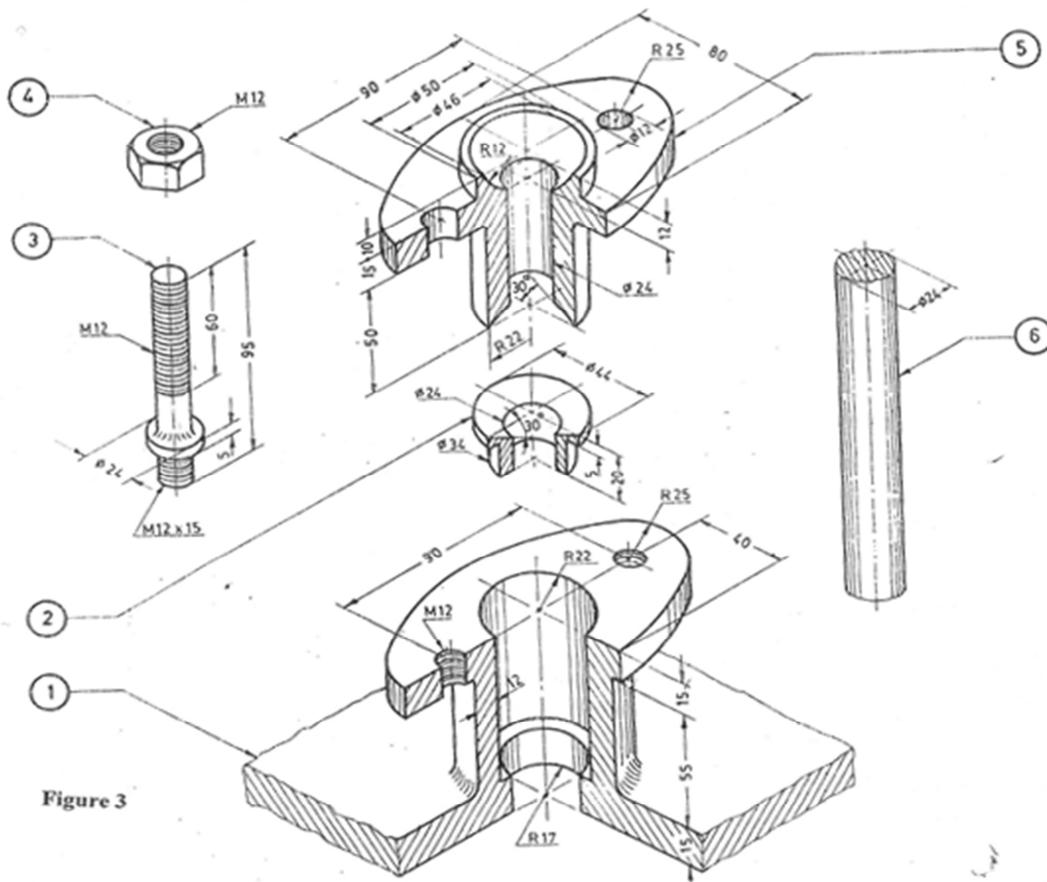


Figure 3

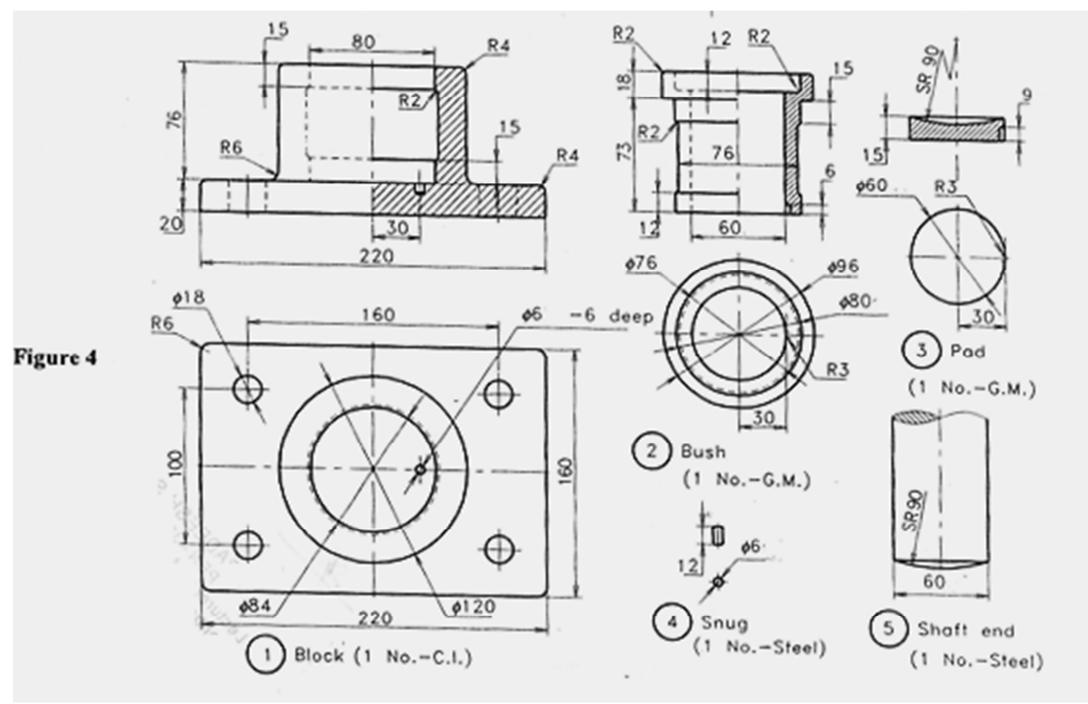


Figure 4

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