

**DIPLOMA EXAMINATION IN ENGINEERING/TECHNOLOGY/
MANAGEMENT/COMMERCIAL PRACTICE, APRIL – 2023**

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

- I. Draw the elevation and end view of a Hexagonal headed bolt and nut assembly with a washer. Bolt size M20 of total 90mm length and thread length is 40 mm. (15 Marks)

OR

- II. Draw single views of the following revet heads:
(a) Snap head (b) Pan head (c) Mushroom head (15 Marks)

UNIT – II

- III. An isometric view of a Bush or Pin type flange coupling is shown in figure1. Draw the top half sectional elevation and end view. Mark all dimensions. (30 Marks)

OR

- IV. An isometric view of a knuckle joint is shown in figure2. Draw the top half sectional elevation and bottom half sectional plan .Mark all dimensions. (30 Marks)

UNIT - III

- V. An isometric view of a bushed bearing is shown in figure3. Draw the left half sectional elevation and top view. Mark all dimensions and prepare the bill materials.

(40 Marks)

OR

- VI. An isometric view of a foot step bearing is shown in figure4. Draw the right half sectional elevation looking in the direction of F and plan. Mark all dimensions and prepare the bill materials.

(40 Marks)

UNIT – IV

- VII. Draw the elementary welding symbols of the following.

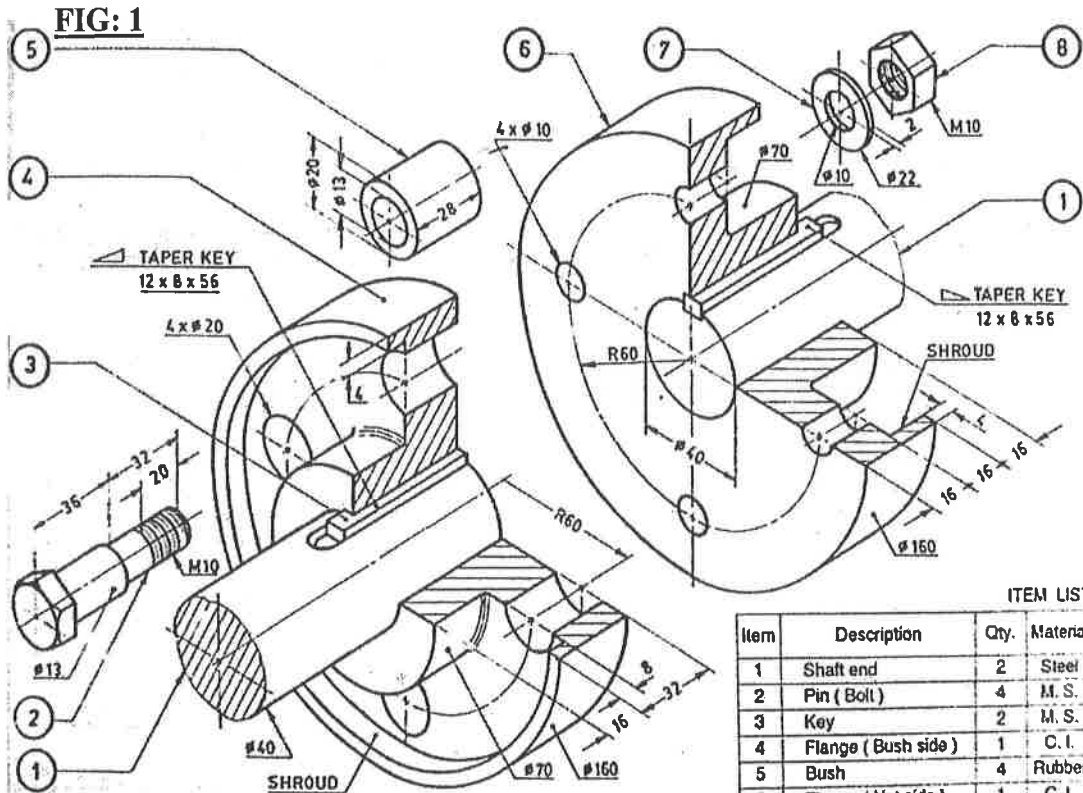
- (i) Square Butt weld (ii) single V- Butt weld
(iii) Single U- Butt weld (iv) Single J- Butt weld
(v) Fillet weld

(15 Marks)

OR

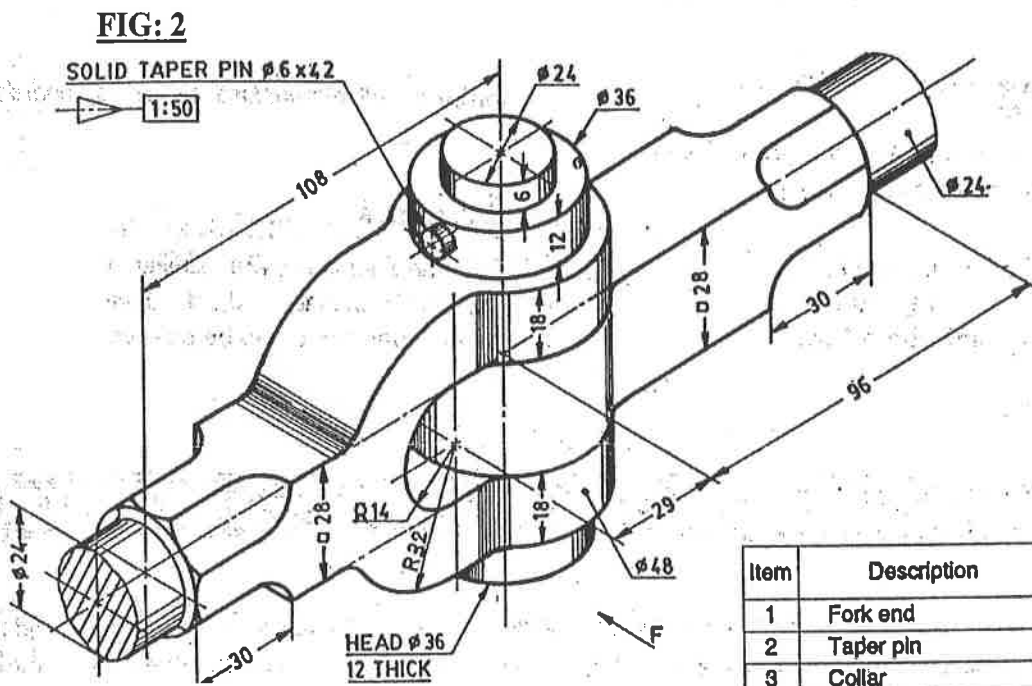
- VIII. Double line orthographic layout for delivery side of water pump is shown in figure5. Draw the single orthographic layout.

(15 Marks)



ITEM LIST

Item	Description	Qty.	Material
1	Shaft end	2	Steel
2	Pin (Bolt)	4	M. S.
3	Key	2	M. S.
4	Flange (Bush side)	1	C. I.
5	Bush	4	Rubber
6	Flange (Nut side)	1	C. I.
7	Washer	4	M. S.
8	Nut	4	M. S.



ITEM LIST

Item	Description	Qty.	Material
1	Fork end	1	M. S.
2	Taper pin	1	M. S.
3	Collar	1	M. S.
4	Pin	1	M. S.
5	Eye end	1	M. S.

FIG : 3

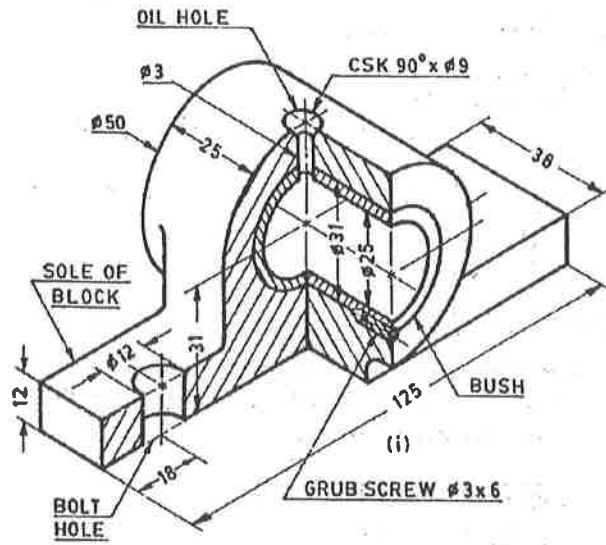


FIG: 4

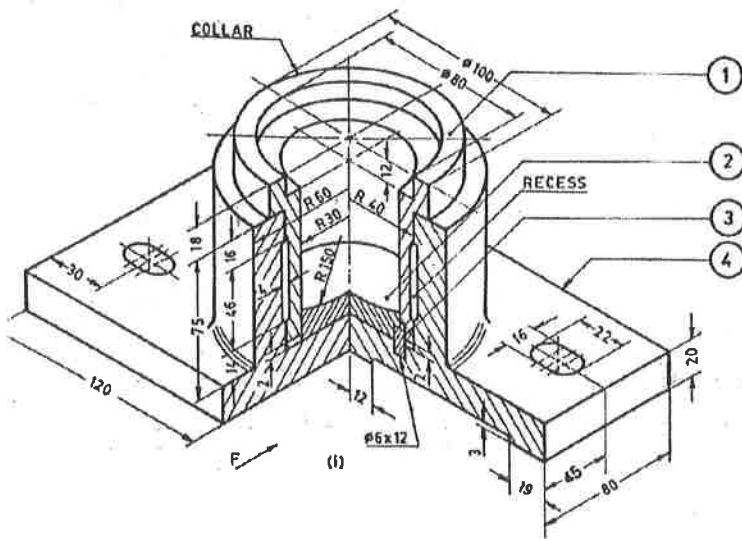


FIG: 5

