

THIRD SEMESTER DIPLOMA EXAMINATION IN ENGINEERING/
TECHNOLOGY—OCTOBER, 2013

MACHINE DRAWING

(Common for ME and AU)

[Time : 3 hours

(Maximum marks : 100)

- [Note : 1. All dimensions are in mm.
2. First angle projection method to be followed.
3. Missing datas if any may be suitably assumed.
4. Both sides of the drawing sheet may be used.
5. Sketches on 3-4 pages.]

Marks

UNIT – I

- I Draw any two types of foundation bolts—common types. (7½×2 = 15)

OR

- II Draw to full size the thread section of a British Association thread and show all the standard proportions showing at least 3 complete pitch length.
Take pitch = 25 mm. 15

UNIT – II

- III Isometric view of a sleeve and cotter joint is shown in figure I. Draw the following views :
- (a) Elevation (top half in section) 20
- (b) Top view 10

OR

- IV Isometric view of a solid type flanged coupling is shown in figure II. Accommodate the coupling and then draw the following views :
- (a) Top half sectional elevation. 20
- (b) Left hand side view. 10

UNIT – III

- V Isometric view of a bushed bearing is shown in figure III. Draw to full size :
- (a) Left half sectional elevation looking in the direction of 'F'. 25
- (b) Top view. 15

OR

- VI Full sectional elevation of a Non-return valve is given in figure IV.
- (a) Copy the figure IV given. 25
- (b) Draw the top view. 15

UNIT - IV

VII Draw schematically, the following types of welded joints :

- (a) Butt joint
- (b) Lap joint
- (c) Tee joint
- (d) Corner joint
- (e) Edge joint.

(5×3=15)

OR

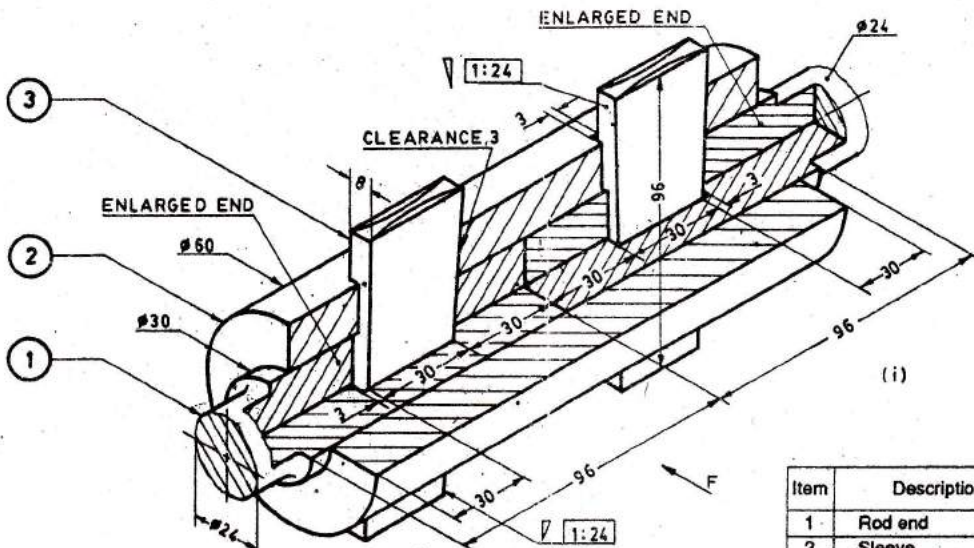
VIII Give the single line orthographic symbols of the following pipe fittings :

- (a) 90° elbow – flanged type
- (b) 45° elbow – screwed type
- (c) Joint/coupling – flanged type
- (d) Tee – screwed type
- (e) Reducer coupling screwed type.

(5×3=15)

TED-10-3040 - sketch to be accomplished.

FIG-1. SLEEVE AND COTTER JOINT.



Sleeve & cotter joint

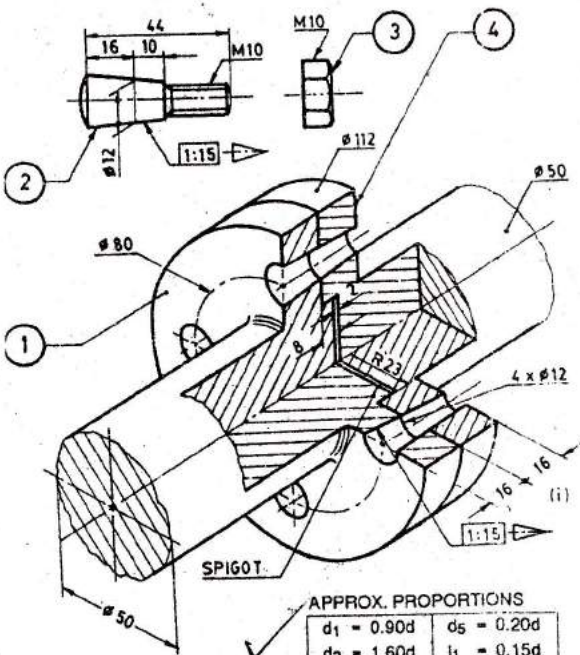
FIG-I

ITEM LIST

Item	Description	Qty.	Material
1	Rod end	2	M. S.
2	Sleeve	1	M. S.
3	Cotter	2	M. S.

Flanged coupling

(solid type)



APPROX. PROPORTIONS

$d_1 = 0.90d$	$d_5 = 0.20d$
$d_2 = 1.60d$	$l_1 = 0.15d$
$d_3 = 2.25d$	$l_2 = 0.33d$
$d_4 = 0.25d$	$c = 2 \text{ mm}$

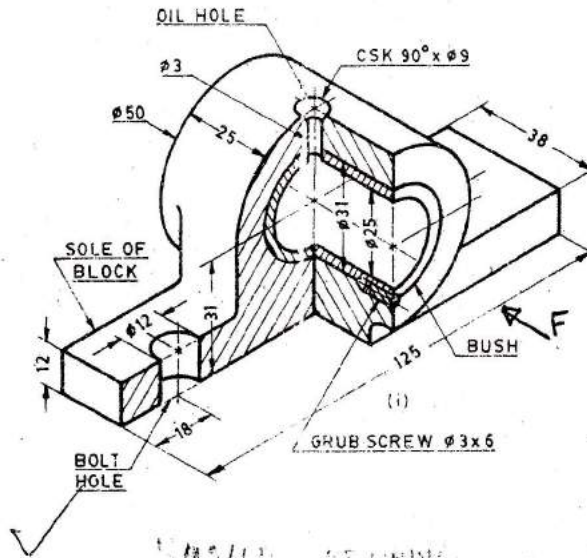
Item	Description	Qty.	Material
1	Flange (Male)	1	Steel
2	Taper bolt	4	M. S.
3	Nut	4	M. S.
4	Flange (Female)	1	Steel

Fig. 2 FLANGED COUPLING (SOLID TYPE)

FIG-2

TSD-10-3040.

FIG. III BUSHED BEARING



APPROX. PROPORTIONS

$d_1 = 2.00d$	$l_1 = 0.50d$
$d_2 = 0.50d$	$l_2 = 1.25d$
$d_3 = 1.25d$	$b_1 = 1.50d$
$l_1 = 0.75d$	$b_2 = 2.00d$
$l_2 = 3.50d$	

ITEM LIST

Item	Description	Qty.	Material
1	Body	1	C. I.
2	Valve seat	1	G. M.
3	Valve	1	G. M.
4	Cover	1	C. I.
5	Nut	6	M. S.
6	Stud	6	M. S.
7	Set screw	1	M. S.

FIG. IV Non-Return Valve

4 Fig. NON-RETURN VALVE

