B.Tech MECHANICAL ENGINEERING (BTMEVI)

Term-End Examination

June, 2011

BIME-003 : MACHINE DRAWING

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt **any five** questions. All questions carry **equal** marks. Assume suitably missing data if any.*

1. (a) Explain the various types of machine drawings with suitable sketches. 6

   (b) Draw half sectional view of upright hollow circular cylindrical shell of height 125 mm with 50 mm and 65 mm as internal and external diameters. 8

2. (a) What is key ? Explain with neat sketch the use of (i) flat saddle key and (ii) sunk key with gib head. 5

   (b) Sketch neatly a knuckle joint for connecting two 40 mm diameter rod. Give all important dimensions. 9

3. (a) Explain various types of revet heads used in reveted joints with suitable sketches. 6

(b) Two 15 mm thick plates are joined in double   8
riveted double plate butt joint. Find the rivet
hole diameter, margin, pitch and back pitch
for diamond riveting. Draw the front
sectional view and plan.

4. (a) Draw two views of a suitable coupling to   8
join two 60 mm diameter shafts, the axes of
which are parallel to each other and 6 mm
apart.

(b) Explain various locking arrangements of   6
nuts with suitable sketches.

5. (a) Draw external thread and internal thread   6
profile for
(i) M52   (ii) M39 × 3

(b) Draw the front view, side view and top view   8
of the object shown in figure 1.
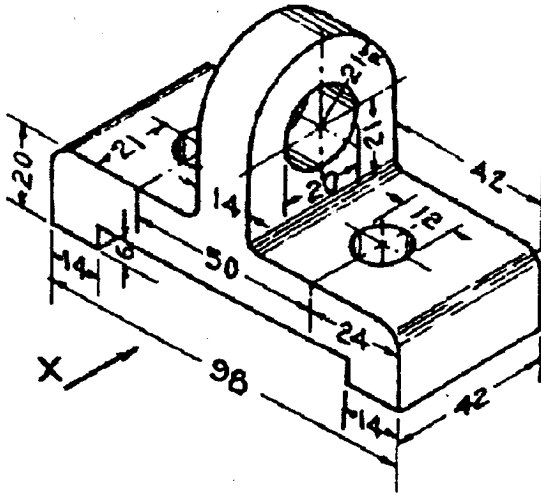
(Fig. (1)

6. Details of a stuffing box are given in figure 2. **14**
    Draw the following views of the stuffing box with
    all parts assembled together :

    (a) Sectional front view

    (b) Top view

    (c) Side view

    The particulars of parts are shown in table 1.

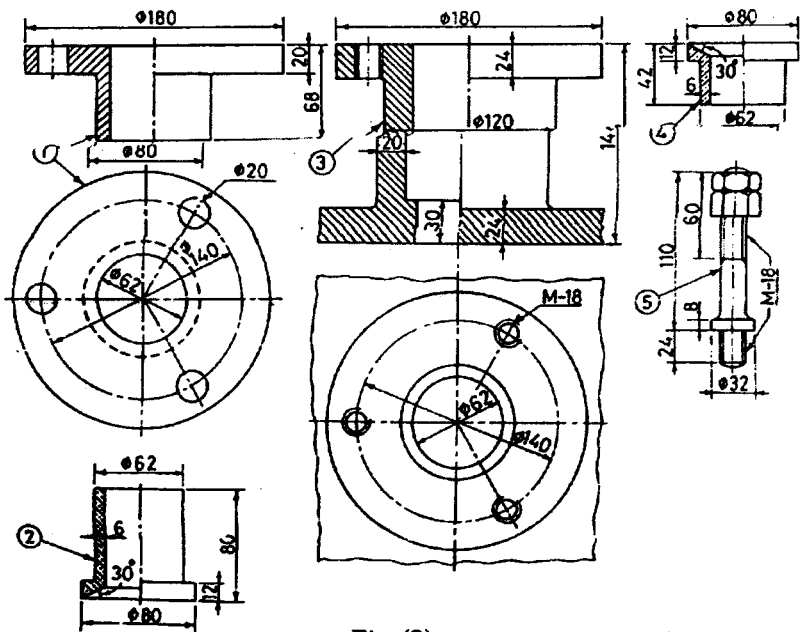| No.	Name of part	No. off	Material	Remak
1.	Gland	1	C.I.	
2.	Gland bush	1	Brass	
3.	Stuffing box	1	C.I.	
4.	Neck bush	1	Brass	
5.	Studs and nuts	3	C-30	Equally spaced at 120°

Fig.(2)

7. Write short notes on *any two* of the following : 7+7

   (a) Orthographic Projection Vs Isometric Projection

   (b) Wire frame Modelling

   (c) Forms of Screw Threads

   (d) Universal Coupling

   ———————