No. of Printed Pages : 4 + Drawing Sheet **BIME-003**

01182

B.Tech. MECHANICAL ENGINEERING (BTMEVI)

Term-End Examination

December, 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) What are the two systems of placing dimensions on a drawing ? Explain them with suitable sketches. **6**

(b) Draw the front view, top view and side view of the hexagonal prism with 50 mm side and 200 mm height. Assume one face of the prism is parallel to vertical plane. **8**

2. (a) Two 8 mm thick plates are bolted by passing the 10 mm major diameter bolt through 11 mm diameter hole. The nut is tightened on top. Draw the dimensioned front view. **8**

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

3. (a) What is a rivetted joint ? Classify the rivetted joints and explain any one of the rivetted joint with the help of neat sketch. 6

(b) Sketch neatly a knuckle joint for connecting two 40 mm diameter rods. Show all important dimension. 8

4. (a) Draw neat sketches to show the circumferential and longitudinal joints between two rings of shell plates in a boiler. 6

(b) Sketch neatly any type of flanged coupling suitable for a 60 mm diameter line shaft of an engineering workshop. Also show important dimensions of the coupling. 8

5. (a) What is key ? Explain various types of keys with neat sketches. 6

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

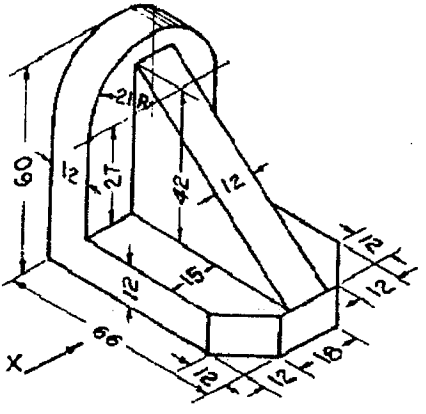

Fig. (1)

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

(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	Remark
5.	Studs and nuts	3	C - 30	Equally spaced
4.	Neck bush	1	Brass	at 120°
3.	Stuffing box	1	C.I.	
2.	Gland bush	1	Brass	
1.	Gland	1	C.I.	

Table - 1

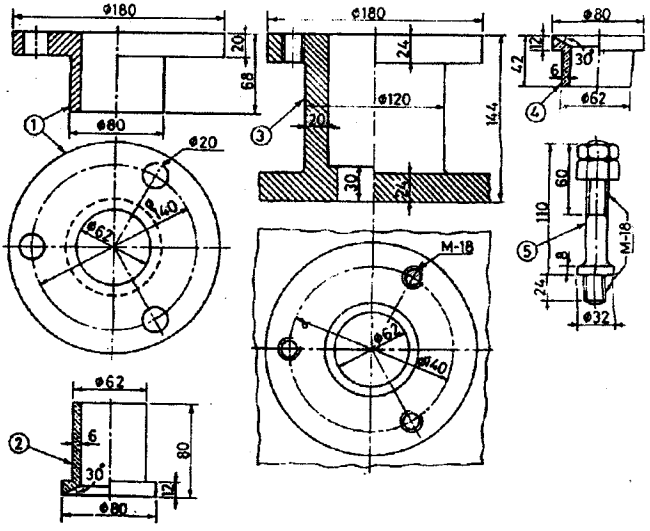

Fig. (2)

7. Write short notes on ***any two*** of the following : **7x2=14**

(a) Surface Modelling

(b) First Angle and Third Angle Projection

(c) Oblique Projection and Isometric Projection

(d) Foundation bolt