Roll No.		Total No. of Pages : 04
		i otal itol ol i agoo i o i

Total No. of Questions: 09

B.Tech.(AE) (2011 Onwards) (Sem.-3)
MACHINE DRAWING
Subject Code: BTAE-306

M.Code: 54114

Time: 3 Hrs. Max. Marks: 60

## **INSTRUCTIONS TO CANDIDATES:**

- SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- SECTION-C contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.

## **SECTION-A**

# 1. Write briefly:

- a) Sketch the conventional representation of:
  - (i) Wood
  - (ii) Concrete
  - (iii) Brass
- b) Define the terms: Diagonal Pitch and margins in case of rivets
- c) Sketch the conventional representation of
  - (i) Internal threads
  - (ii) Bearing
  - (iii) Tension spring
  - (iv) Helical gear.
- d) How are (i) Screw threads and (ii) Tapered features, dimensioned?
- e) State the difference between pitch and lead of a double start thread.

**1** M-54114 (S17)-1370

- f) Draw a free hand sketch of hexagonal threaded bolt.
- g) Enlist the practical applications of pin type flexible coupling.
- h) What is a half section?
- i) What is the function of piston in an IC engine?
- j) What is a cotter and when is it used? What is the purpose of using a gib along with a cotter in a cotter joint?

# **SECTION-B**

- 2. Explain blow off cock with the help of a diagram.
- 3. Discuss the following commands of AutoCAD:
  - a) Array
  - b) Offset
  - c) Extrude
  - d) Trim
  - e) Mirror
- 4. Differentiate between machine drawing and production drawing.
- 5. Draw profile of Knuckle threads by taking pitch of 20 mm. Clearly show the calculations and show dimensions on drawing.
- 6. Draw the sectional front view and top view of a double riveted zig-zag lap joint to join plates of thickness 10 mm.

# **SECTION-C**

7. Sketch a Knuckle joint showing sectional front view and top view for connecting two rods of 40 mm diameter.

**2** | M-54114 (S17)-1370

- 8. Fig. 1 shows the two views of a protected type flanged coupling. Draw the following views on full scale:
  - a) Front view lower half in section
  - b) Side view

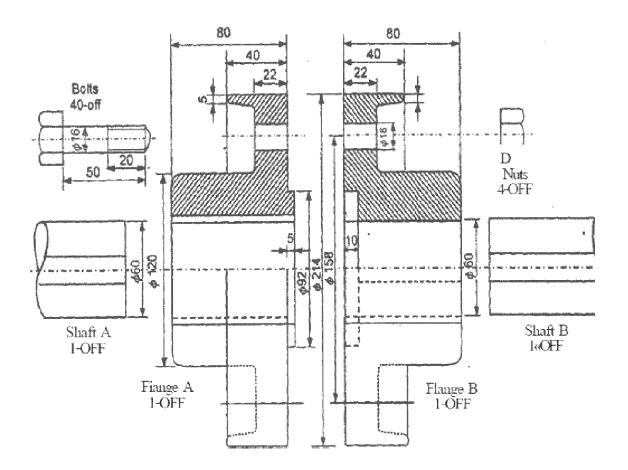


FIG.1

- 9. Fig. 2 shows the details of a screw-jack. Draw the following views of the assembly to some suitable scale :
  - a) Front view-right half in section, and
  - b) Top views

**3** | M-54114 (S17)-1370

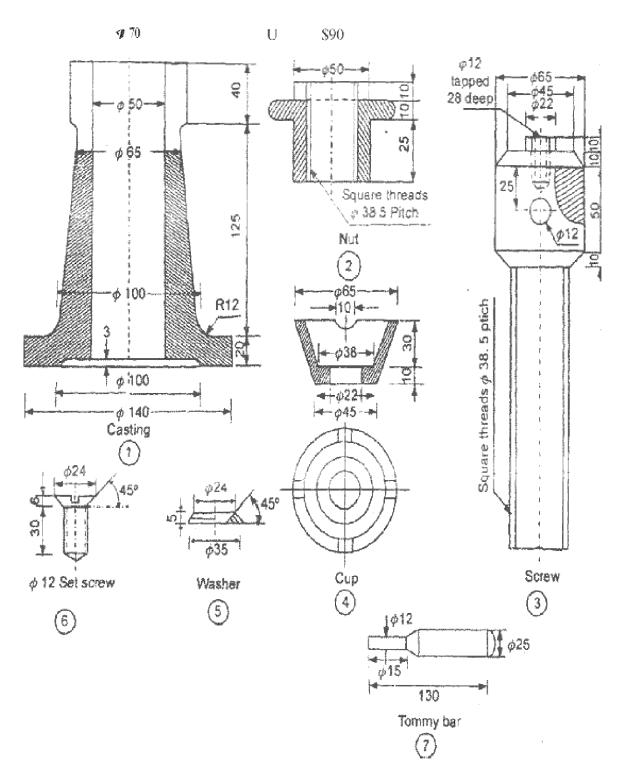


FIG.2

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

**4** M-54114 (S17)-1370