Roll No. Total No. of Pages: 05

Total No. of Questions: 09

B.Tech.(AE) (2011 Onwards) (Sem.-3) MACHINE DRAWING

Subject Code: BTAE-306 Paper ID: [A1156]

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.
- 3. SECTION-C contains THREE questions carrying TEN marks each and student has to attempt any TWO questions.

#### **SECTION-A**

### Q1. Write briefly:

- a. list out the various types of assembly drawings.
- b. List out the various principles to be followed while dimensioning a drawing.
- c. What type of thread is used for the screw jack and lathe lead screw and why?
- d. Why are the annular recesses provided at the side of flanges in a protected flange coupling?
- e. What is the purpose of providing an expansion joint in the pipe line, carrying hot fluids?
- f. How riveted joints are made air-tight?
- g. By what means, the location of a weld is specified?
- h. What is a snug? What is the function of it in the bearing?
- i. What is an unilateral tolerance and a bilateral tolerance?
- j. What is the function of friction clutch?



#### **SECTION-B**

- Q2. The dimensions of a shaft and a hole are given below: Shaft, Basic size = 60mm and given as 60 0.020 Hole, Basic size = 60mm and given as 60 0.005 Find out :
  - a. Tolerance of shaft
  - b. Tolerance of hole
  - c. Maximum allowance
  - d. Minimum allowance
  - e. Type of fit
- Q3. Sketch the conventional representation of the following materials :
  - a. bronze.
  - b. cast iron.
  - c. concrete.
  - d. wood.
  - e. white metal.
- Q4. Draw (i) sectional view from the front, (ii) the view from above and (iii) the view from the right of the vice body shown in Fig. 1.

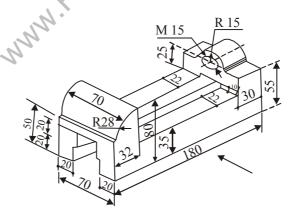


Fig. 1

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- Q5. Draw the three views of a hexagonal headed bolt of nominal diameter 25 mm and length 100 mm; with a hexagonal nut and washer.
- Q6. Draw the orthographic projections of flange coupling with suitable diameter of shaft. Assembly is shown in Fig.2.

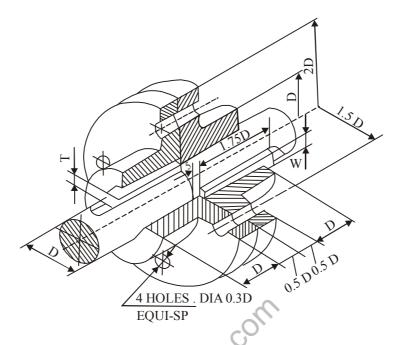


Fig. 2

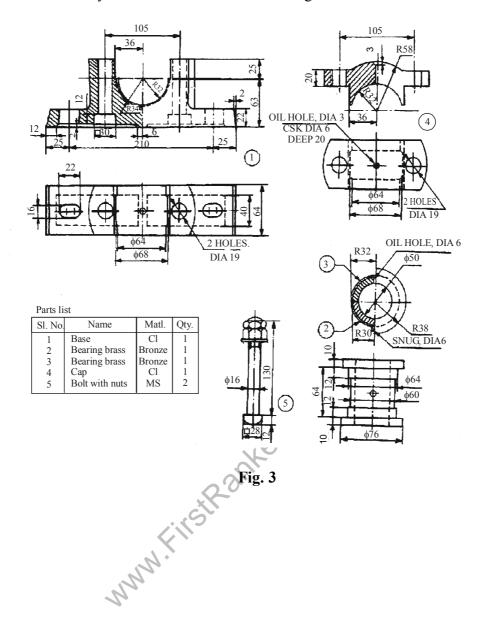
# **SECTION-C**

Q7. Draw (a) sectional view from the front and (b) view from above, of the double riveted, double strap, chain butt joint, to join plates of thickness 10 mm.

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## Q8. Draw the assembly of Plummer block shown in Fig. 3.



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Q9. Draw the assembly of screw jack shown in Fig. 4.

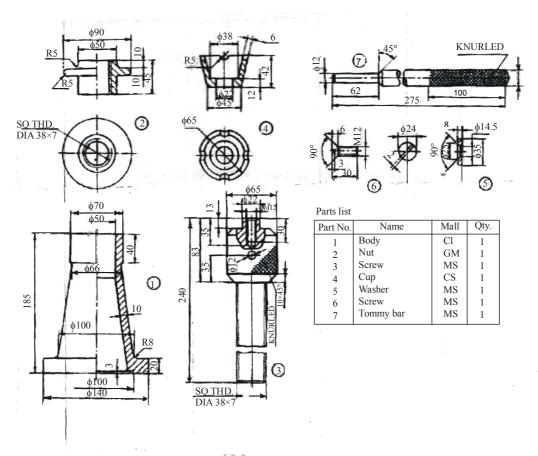


Fig. 4

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