Unit - IV

4. Design the bolt for the bracket shown in figure 3. Working tensile stress is 80 MPa and shear stress is 45 MPa. 14

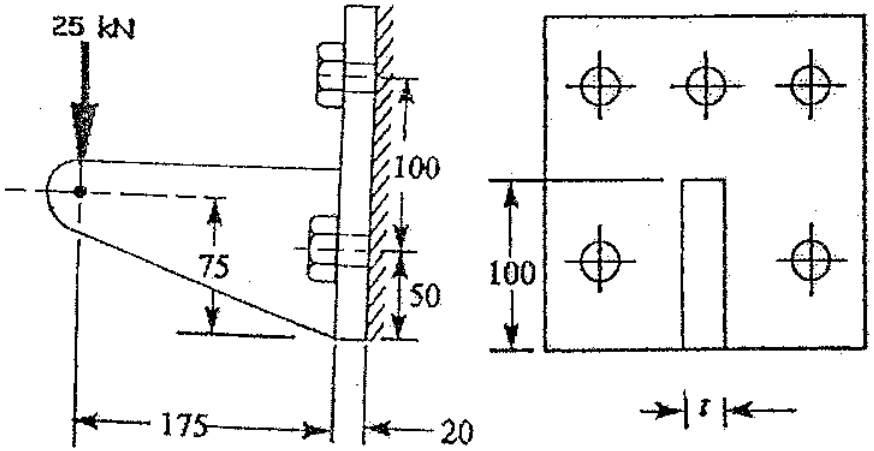

Figure-3

OR

Design a knuckle joint to connect two rods which transmits a tensile load 50 kN. Working stress 80 MPa and 40 MPa in compression, tension and shear respectively. 14

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Roll No .....

AU/IP/ME/PR-305

B.E. III Semester

Examination, June 2014

Machine Drawing And Design

Time : Four Hours

Maximum Marks : 70

Note: Total number of questions 4. Attempt one question from each unit. Attempt suitable data if necessary and mention the same proper justification.

Unit - I

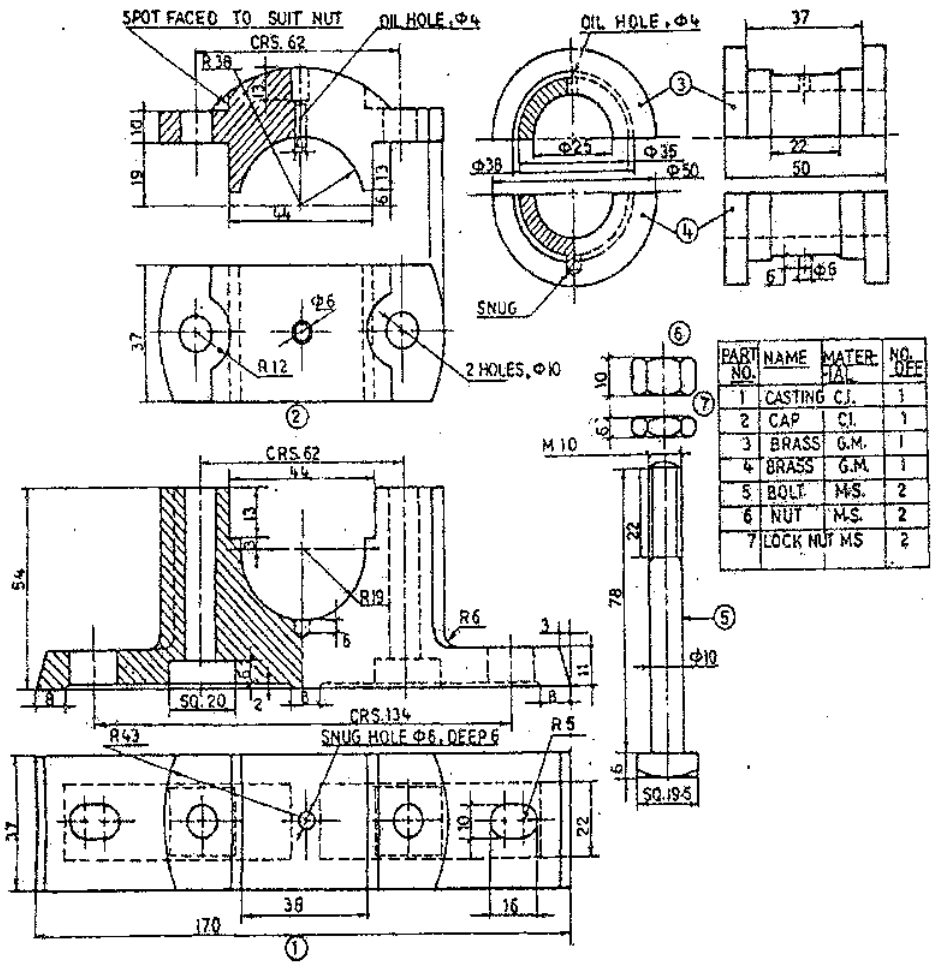
1. a) What do you understand by tolerance? 4
   b) Show applications of different types of lines using a appropriate sketch. 10

   OR

   c) Draw sectional front and top view of double riveted lap joint with zig-zag riveting for plate thickness of 12mm. 10

Unit - II

2. Draw the assembled half sectional front view and top view of pedestal bearing shown in figure 1. 28



PART NO.	NAME	MATERIAL	NO. OFF
1	CASTING	C.I.	1
2	CAP	C.I.	1
3	BRASS	G.M.	1
4	BRASS	G.M.	1
5	BOLT	M.S.	2
6	NUT	M.S.	2
7	LOCK NUT	M.S.	2

Figure-1

OR

Draw the sectional front view, top view and side view of trunk piston of IC engine shown in figure 2. 28

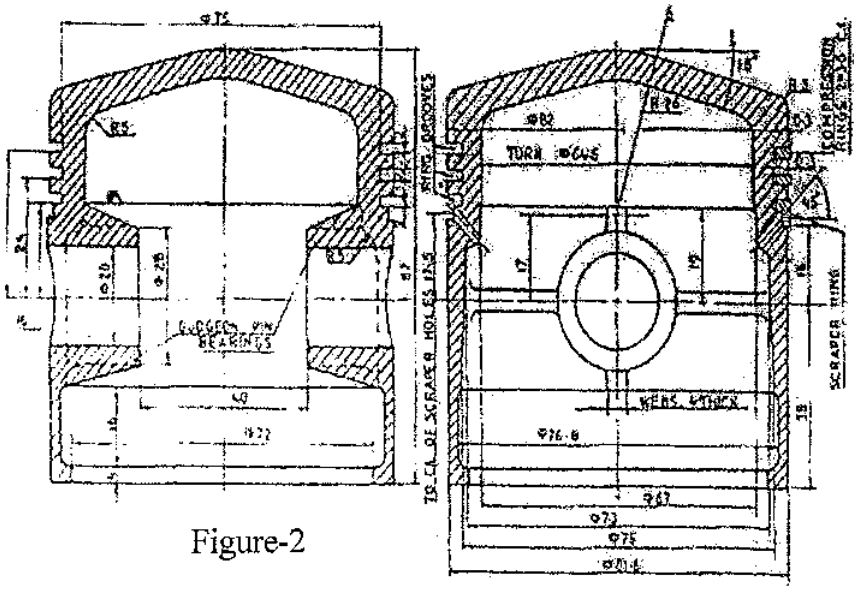


Figure-2

Unit - III

3. a) State use of fillet and chamfer tool in 3D drafting software. 2
   b) What do you understand by problem formulation in design? 2
   c) Distinguish between static and dynamic loading with example. 3
   d) Draw a flow chart showing general process of design. 7

OR

Explain rational and empirical design process. 7