


<b>Name:</b>	
<b>Enrolment No:</b>	

**UPES**  
**Supplementary Examination, December 2023**

<b>Course : B Tech Automotive Design Engineering</b>	<b>Semester : III</b>
<b>Program : Automotive Manufacturing Assembly Drawing</b>	<b>Time : 03 hrs.</b>
<b>Course Code : MEAD2005</b>	<b>Max. Marks: 100</b>

**Nos. of page(s) : 02**  
**Instructions: Assume Data and draw figures and diagrams, wherever required.**

**SECTION A**  
**(5Qx4M=20Marks)**

S. No.		Marks	CO
Q 1	Sketch and show the following terms with respect to screw threads: (a) pitch (b) major diameter, (c) lead, (d) root and (e) flank.	4	CO1
Q 2	Draw the symbols for the following flanged pipe fittings: (a) reducing socket, (b) globe valve, (c) lateral, (d) check valve and (e) 45° elbow.	4	CO2
Q 3	Draw the conventional representation and explain the following: (a) external threads, (b) internal threads	4	CO1
Q 4	Explain how the following threads are designated as per the BIS norms: (a) Knuckle thread and (b) Buttruss thread.	4	CO2
Q 5	Describe automotive manufacturing drawing and explain how it can be helpful in automotive industries.	4	CO4

**SECTION B**  
**(4Qx10M= 40 Marks)**

Q 1	Describe the significance of limit, fit and tolerance on machine components and differentiate between clearance fit, interference fit and transition fit.	10	CO4
Q 2	Draw neat sketches and their symbols of the following welded joints: Butt joint, Lap joint, Tee joint, Corner joint and Edge joint.	10	CO3
Q 3	Draw the view from front of object shown in Fig. 1 and the view from right of the object in Fig. 2.	10	CO2

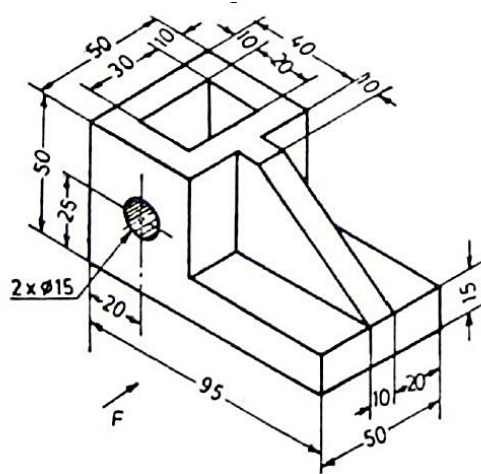


Fig. 1

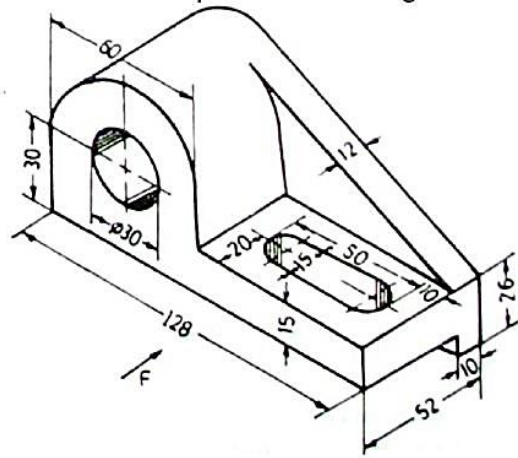


Fig. 2

Q 4 Explain why foundation bolts having importance and where are they used? Sketch neatly, giving proportionate dimensions; the following foundation bolts of diameter 35 mm a) Rag foundation bolt, and (b) Bent foundation bolt.

10

CO1

**OR**

Draw the top view, front view and right-side view of a hexagonal nut for a bolt of 25 mm diameter by following the ISO proportions in first angle projection.

**SECTION-C**  
**(2Qx20M=40 Marks)**

Q 1 A cylinder of 80 mm diameter and 135 mm axis is completely penetrated by a cone of 75 mm diameter and 100 mm long axis horizontally. Both axes intersect & bisect each other. Draw projections showing curve of intersections.

20

CO3

Q 2 A cone 25 mm diameter and 50 mm axis is resting on one generator on VP (lying on VP) which is parallel to HP. It is cut by a Vertical section plane through its base center. Draw sectional top view and front view.

**OR**

Draw the front, side and top views of the following figure no. 3, with proper dimensioning in first angle projection.

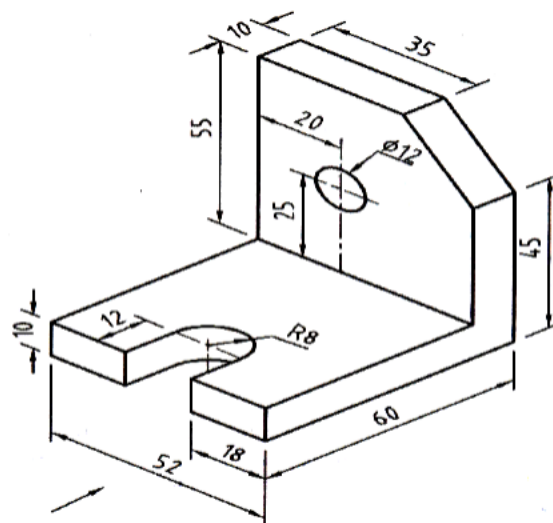


Fig. 3

20

CO4