SLOT: D2 + TD2

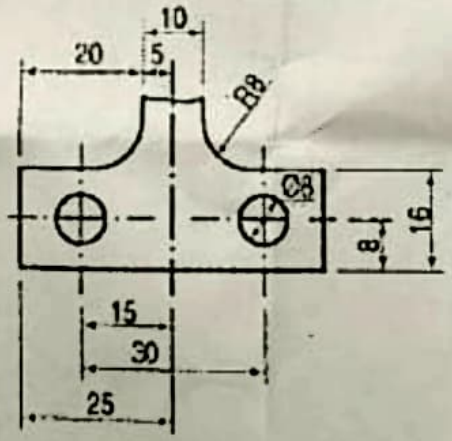
VIT
Vellore Institute of Technology

SCHOOL OF MECHANICAL ENGINEERING
CONTINUOUS ASSESSMENT TEST - I
FALL SEMESTER 2025-2026

Programme Name & Branch	: B.Tech & Electronics and Communication Engineering
Course Code	: BAEEE101
Course Name	: Basic Engineering
Faculty Name(s)	: Senthil Kumar M, Raghuraman D R S, Velu M, Ravi K, Anoop Kumar M, Nishant Tiwari
Class Number(s)	: VL2025260106295 , 6813, 6815, 6818, 6196, 6193
Date of Examination	: 20-08-2025
Exam Duration	: 90 minutes Maximum Marks: 50

General instruction(s):

- M - Max mark; CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)
- Drawings must be drawn neatly with appropriate pencil usage.
- Lettering, Numbering and Dimensioning must be done as per the Bureau of Indian standards.
- Orthographic projections must be drawn in the landscape orientation of the answer booklet.
- Course Outcome Statements:
- CO 3: Apply BIS standards to create basic 2D and 3D representations of engineering components.
- CO 4: Explain the fundamental principles and applications of manufacturing processes, energy conversion systems, and mechanical automation technologies

Q. No	Answer All Questions (5 x 10 =50 Marks)	M	CO	BL
1.	Identify the incorrect dimensioning practices in **Fig. Q1** . Also give reasons for incorrect dimensioning. Redraw the 2D figure and apply all dimensions according to standard dimensioning conventions. All dimensions are in millimetres (mm).  **Fig. Q1**	10	3	1

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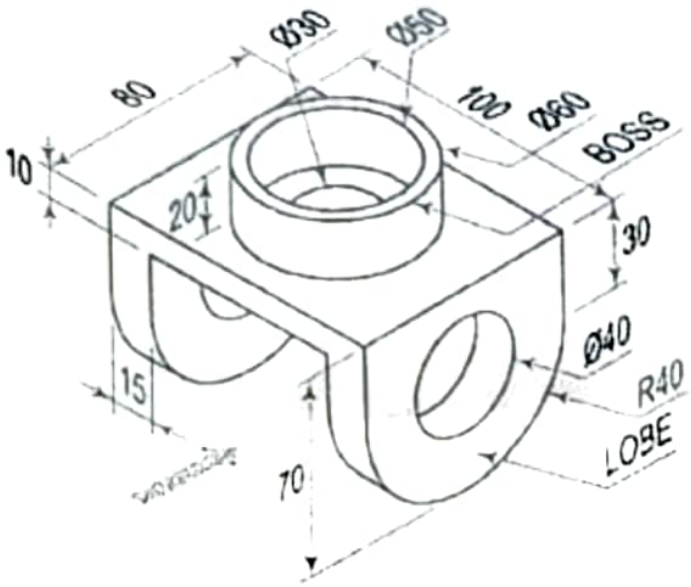
2.	Draw using the first angle method *orthographic projections* (front, top, and side views) of the machine component shown below. Indicate all the dimensions as per the **BIS standard.** Use . All dimensions are in millimetres (mm).  **Fig. Q2**	10	3	2
3.	A pentagonal pyramid of base side 40 mm and height 60 mm is resting on HP on its base with one of its base edges 35° inclined to V.P. The base corner nearer to VP is at 20 mm from it. Draw its projections.	10	3	2
4.	Draw the isometric view of a cone having base diameter 50 mm and height 65 mm. Assume the cone is resting on HP on its base.	10	3	2
5.	(a) What are the main steps involved in the sand-casting process? Explain with a typical cross-sectional view of a sand mould showing various elements of it. (b) Explain the extrusion process using a suitable sketch. Also give its applications.	5 5	4	2

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