



VIT

Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

SLOT: C2+TC2 SLOT

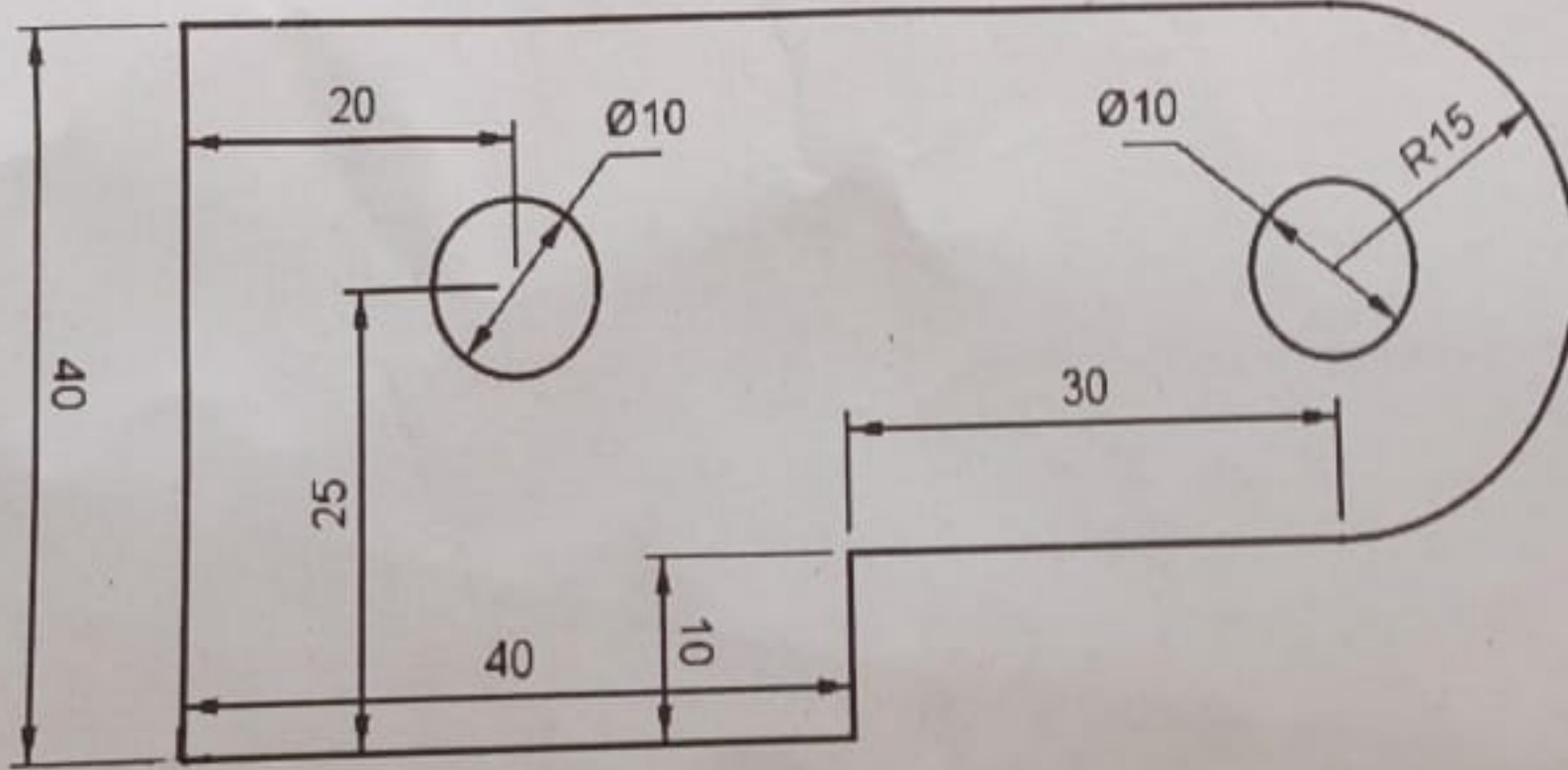
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SCHOOL OF MECHANICAL ENGINEERING
CONTINUOUS ASSESSMENT TEST (CAT) -II
FALL SEMESTER 2025-2026

Programme Name & Branch : B.Tech & [BCE]
Course Code : BAEEE101
Course Name : Basic Engineering [CLOSED BOOK EXAM]
Faculty Name(s) : Dr. A. Vinoth Jebaraj, Dr. Y. Raja Sekhar, Dr. M. Sharan Chandran, Dr. Bibin John, Dr. S. Senthil Kumaran, Dr. G. Nataraj, Dr. S. Babu, Dr. Jambeswar Sahu
Class Number(s) : VL2025260106176, 6183, 6191, 6187, 6185, 6179, 6181, 6189
Date of Examination : 07 - 10 - 2025
Exam Duration : 90 minutes **Maximum Marks: 50**

General instruction(s):

- Answer All Questions
- All dimensions of figures provided in the questions are in millimeters (mm)
- Lettering, Numbering, and Dimensioning must be done as per the Bureau of Indian Standards (BIS).
- Orthographic projections must be drawn in landscape orientation within the answer booklet.
- Plan the layout before drawing to ensure adequate space for all required views, including the side view where applicable.
- M - Max mark; CO - Course Outcome; BL - Blooms Taxonomy Level (1 - Remember, 2 - Understand, 3 - Apply, 4 - Analyse, 5 - Evaluate, 6 - Create)
- Course Outcomes 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	Question	M	CO	BL
1.	Read the dimensioned drawing shown in Fig.1. Identify the incorrect dimensioning practices. Redraw the same to full size and dimension it as per Indian Standards.  Fig.1.	10	3	3
2.	A hexagonal prism of side 20 mm and height 60 mm is resting on HP on one of its hexagonal faces such that the axis is parallel to VP and perpendicular to HP. The nearest rectangular face is parallel	10	3	3



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	to VP and is at a distance of 20 mm in front of VP. Draw its orthographic projections.			
3.	Pictorial view of an object is shown in Fig. 2. Using first angle projection, draw its (a) front view (b) top view and c) Right side view. FRONT VIEW DIRECTION Fig.2.	10	3	3
4.	A cylinder of diameter 55 mm and height 65 mm is resting on HP on one of its base with its axis parallel to VP and perpendicular to HP. Draw its isometric view.	10	3	3
5.	(i) Briefly explain the purpose of following elements of casting process. (a) Pattern (b) Core (c) Riser [5 Marks] (ii) With the help of neat sketches, compare the direct and indirect extrusion processes. [5 Marks]	10	4	2
