



VIT

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

SLOT: A2 + TA2

REG.NO.:

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

Programme Name & Branch : B.Tech& Mechanical Engineering
Course Code : BMEE401L
Course Name : Computer Integrated Manufacturing
Faculty Name(s) : Devendiran S, SuyaPrem Anand P, Venkatesan S, Deepa A
Class Number(s) : VL2025260102213, VL2025260102210,
VL202560103470, VL2025260102211
Date of Examination : 17.08.2025
Exam Duration : 90 minutes
Maximum Marks: 50

General instruction(s):

- Answer All Questions
- M - Max mark; CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)
- Course Outcome Statements:

CO 1: Differentiate the concepts of automation, CIM, CAD, and CAM.

CO2: Develop CNC part programs.

Q.No	Question	M	CO	BL
1.	Analyse the role of each level of automation and evaluate how advanced functions like adaptive control and error recovery improve a manufacturing system's efficiency and safety.	10	1	4
2.	Elaborate the significance of Collaborative Product Development (CPD) and explain how they integrate to improve product development efficiency?	10	1	4
3.	Explain the principal elements of a CNC system, describing the function of each component from the part program to the Machine Control Unit (MCU).	10	2	2
4.	Describe the concept of a Parallel Kinematic Machine (PKM) and discuss its primary advantages and disadvantages over traditional serial kinematic machines.	10	2	2
5.	Illustrate practical design considerations for CNC machining directly impact cost and quality and also evaluate the trade-offs of advantageous versus disadvantageous part features.	10	2	2
