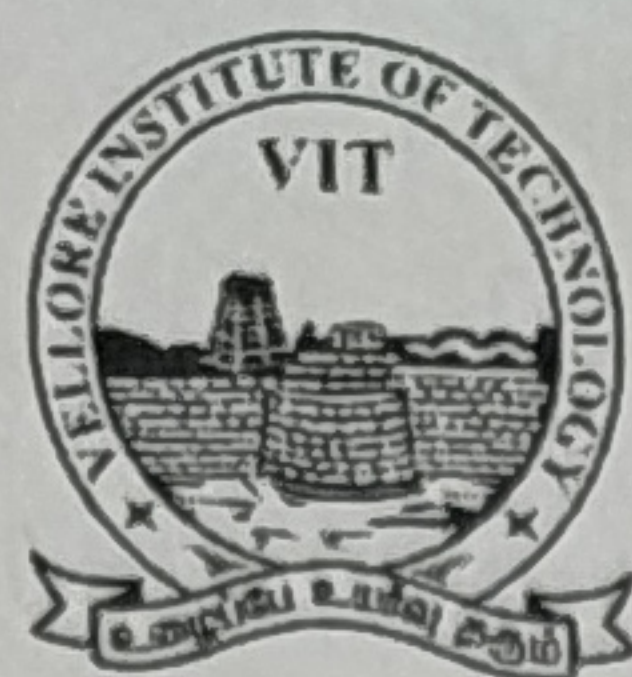




VIT[®]

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 (CAT) -II
FALL SEMESTER 2025-2026**

Programme Name & Branch : B.Tech Mechanical Engineering
Course Code : BMEE401L
Course Name : Computer Integrated Manufacturing
Faculty Name(s) : Prof. Deepa A, Prof. Venkatesan S, Prof. Suya Prem Anand,
Prof. Devendiran S,
Class Number(s) : VL2025260102211, 3470, 2210
Date of Examination : 05-10-2025
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 Outcomes Statements:
 - CO. 2: Develop CNC part programs.
 - CO. 3: Interface real-time simulation with intelligent CNC machine tools using Digital Twins.
 - CO. 4: Apply CAM software tools for solving real time component machining.

Q. No	Question	M	CO	BL
✓1.	A factory is facing bottlenecks in assembly lines. How can a Digital Twin help identify and resolve these issues?	10	3	4
✓2.	A company has implemented CAD and CNC machines, but process planning is still manual. Propose how generative CAPP can bridge the gap and improve integration.	10	3	3
✓3.	Explain how the Opitz coding system helps in reducing design duplication in an engineering organization.	10	4	3
✓4.	A manufacturer wants to build a digital twin of a turbine blade using CAD, CAE, and manufacturing data. Explain how STEP architecture layers support this exchange.	10	4	3