



VIT

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

SLOT: D1+TD1

REG.NO.: 22BME0186

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

Programme Name & Branch : B.Tech & BME and BMA
Course Code : BMEE325L
Course Name : Internal Combustion Engines
Faculty Name(s) : Dr.K.Nanthagopal
Class Number(s) : VL2025260102350
Date of Examination : 08.10.2025, 2.00 Pm – 3.30 PM
Exam Duration : 90 minutes

Maximum Marks: 50

General Instruction(s):

- Answer all
- 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:
- Course Outcomes Statements:
 - CO. 3: Analyze the emissions from IC engines and its effects on human beings and Environment
 - CO. 5: Identify and critically evaluate different types of alternative fuels for automotive engines.

Q. No	Question	M	CO	BL
1.	Develop the various mitigation techniques that need to be implemented in BSVII Emission norms in light commercial biofuel operated vehicles.	10	3	3
2.	Why does the constant volume sampling method is considered to the best method for emission regulations? Explain in detail in the form of Indian Driving Cycle with suitable illustration.	10	3	3
3.	How is the M15 fuel has been successfully implemented in Karnataka state transport corporation buses. What are the modifications have been carried out for commercial applications.	10	5	4
4.	Develop the various onboard storage techniques for hydrogen utilization in four-wheeler vehicles with suitable illustrations.	10	5	4
5.	How has India progressed on its journey towards sustainability, and what are the key challenges and initiatives shaping this path?	10	5	3
