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

SLOT: C2+TC2

REG.NO.:

SCHOOL OF MECHANICAL ENGINEERING
CONTINUOUS ASSESSMENT TEST (CAT) - I
FALL SEMESTER 2026-2027

Programme Name & Branch	**: B. Tech BMV**
Course Code	**: BAMEE405**
Course Name	**: Automotive Electrical and Electronics**
Faculty Name(s)	**: Dr P Suresh Kumar**
Class Number(s)	**: VL2026270101338**
Date of Examination	**: 11th August 2026**
Exam Duration	**: 90 minutes** **Maximum Marks: 50**

General instruction(s):

- Answer All Questions
- Course Outcome Statements:

  CO 1: Analyse the construction and functional characteristics of automotive batteries, starting systems, and charging systems.

  CO 2: Evaluate the working principles of vehicle lighting systems and electrical accessories related to safety, comfort, and convenience.

Q. No	Question	M	CO
1.	Explain the design and functional requirements of an automotive battery, using suitable diagrams.	10	CO1
2.	Discuss the construction of an EV battery pack and explain the function of each component. Explain the factors affecting battery positioning in electric vehicles	10	CO1
3.	Describe the construction and working principle of a starter motor used in an Internal Combustion Engine (ICE) vehicle with a neat diagram.	10	CO1
4.	Compare the various types of auxiliary lamps used in automobiles. Discuss the construction, working, advantages, and applications of fog lamps, DRLs, cornering lamps, driving lamps, spot lamps, and work lamps. central light tractors car	10	CO2
5.	Explain the construction and working of the central locking system used in modern automobiles. Discuss its advantages and limitations. Also, describe the working principle of a Smart Keyless Entry System. Explain its components, operation, advantages, and security features.	10	CO2