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

SCHOOL OF MECHANICAL ENGINEERING

CAT-I, Jan- 2020

B.TECH. (*Automotive, Mechanical*)

Winter Semester, 2020

Course Code	: MEE1035	Duration	: 90 Minutes.
Course Name	: Automotive Electricals	Max. Marks	: 50
Faculty-In-Charge	: Dr.B.Ashok	Slot	: G1

Part - A (6 x 5 = 30 Marks)

1. Discuss the active and passive elements in a circuit with an example. Explain the electricity carrier with its element involved. Discuss with an example. (CO:1)
2. What are the different entities present in the software portion of an ECU? Explain each entity with an example. (CO:1)
3. Discuss about signal conditioning and driver circuit in a typical ECU. (CO:1)
4. Discuss the battery charging and discharging process with the required equation. (CO:2)
5. What is meant by EBS sensor? Discuss the characteristic features of such sensor for batteries along with the advantages and disadvantages. (CO:2)
6. Discuss about the diagnostic system of an ECU. (CO:1)

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Part - B (2x 10 = 20 Marks)

7. What are the different components present in a typical ECU? Discuss the working principle of an ECU with an neat schematic sketch. (CO:1)
8. List the components of automotive battery. Discuss the construction of the automotive battery in detail with necessary sketch. (CO:2)