



KL
UNIVERSITY

**KONERU LAKSHMAIAH
EDUCATION FOUNDATION**
(Deemed to be University, Estd. u/s. 3 of UGC Act 1956)

B.Tech - Even Sem : End Semester Exam
Academic Year:2021-2022

18EE4142 - ELECTRIC VEHICLE FAULT DIAGNOSIS AND CONTROL
Set No: 3

Max.Marks: 100

Time:

S.NO

Answer All Questions

Choice

Options

Marks

CO

CO
BTL

COI
BTL

| S.NO | Answer All Questions | Choice | Options | Marks | CO | CO BTL | COI BTL |
|------|---|----------------|---------|---------|-----|-----------|------------|
| 1. | Describe the working procedure of a Piezoelectric acceleration sensors. | choice Q-2 | | 10Marks | CO1 | 2 | 2 |
| 2. | Tabulate the advantages and disadvantages of sensors in EV. And List out the Performance Considerations to improve the resolution of any sensor. | | | 10Marks | CO1 | 2 | 2 |
| 3. | Educate the Chassis control systems in vehicle. | choice Q-4 | | 15Marks | CO1 | 2 | 2 |
| 4. | Discuss on Solenoid and Thermal actuators with neat diagram. | | | 15Marks | CO1 | 2 | 2 |
| 5. | With neat diagram, Describe the working procedure of a Multi-stage watchdog timer in a micro controller. | choice Q-6 | | 10Marks | CO2 | 2 | 2 |
| 6. | Tabulate the advantages and disadvantages of Computer- controlled ignition systems. | | | 10Marks | CO2 | 2 | 2 |
| 7. | Describe the procedure to control the engine using Fuel maps/tables and Ignition maps/tables. | choice Q-8 | | 15Marks | CO2 | 2 | 2 |
| 8. | State the Principle of operation of a Absorption dynamometers and explain Pre-crash system in EV. | | | 15Marks | CO2 | 2 | 2 |
| 9. | Illustrate how a TCP connection is established and closed? | choice Q-10 | | 10Marks | CO3 | 3 | 2 |
| 10. | Discuss the LAN Communication in general in EV. | | | 10Marks | CO3 | 3 | 2 |
| 11. | Describe the architecture and physical layer specifications of IEEE802.11 standard. Tabulate the different Commination protocols in the automotive systems. | choice Q-12 | | 15Marks | CO3 | 3 | 3 |
| 12. | Describe the architecture, MAC sub layer, addressing mechanisms of wireless LANS. | | | 15Marks | CO3 | 3 | 3 |
| 13. | Classify the advantages and disadvantages of Onboard and off-board diagnostics in Automobiles. | choice Q-14 | | 10Marks | CO4 | 3 | 3 |
| 14. | Discuss on any two Electric diagnostic techniques to identify the faults. | | | 10Marks | CO4 | 3 | 3 |
| 15. | Describe the procedure to find the fault in a Automotive systems. and Illustrate the following a)UDS protocol b) KWP 2000 protocol. | choice Q-16 | | 15Marks | CO4 | 3 | 3 |
| 16. | Describe the different developments in self diagnos is with respect to OBD. and Tabulate the different Diagnostic tools in automotive systems. | | | 15Marks | CO4 | 3 | 3 |

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