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Code No: 56085

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, April - 2018

AUTOMOTIVE ELECTRICAL AND AUTOTRONICS

(Automobile Engineering)

Time: 3 hours

Max. Marks: 75

**Answer any FIVE questions
All Questions carry equal marks**

1. What are the different troubles experienced in an automotive battery? Discuss their causes, effect on battery and suggest suitable remedies for them. [15]
2. Discuss in detail the requirement of good Spark Plug. Explain the construction of Spark plug with a neat sketch, describing in particular the material used for its different parts. [15]
- 3.a) Explain in brief the construction and working of Common Rail Injection System.
b) Explain about Bosch L-variation electronic control in Diesel Fuel Injection system. [7+8]
- 4.a) What is the purpose of Cutoff Relay? Explain briefly its construction and operation.
b) Why AC alternators are most popular compared to DC generators? [8+7]
5. With neat sketches explain about Six Volt and Twelve Volts Auto Electrical systems. [15]
6. Discuss briefly about the types of Speedometers used in Automobile systems. [15]
- 7.a) Convert the following numbers.
i) $(13.375)_{10}$ to base 8 and base 2
ii) $(3589)_{10}$ to base 16 and base 8
b) Multiply the binary numbers 1011.10 and 1110.01 [8+7]
- 8.a) Explain the working of Ripple counter along with its advantages.
b) What do you understand by Universal Gate? [8+7]

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