

FACULTY OF ENGINEERING
B.E. 2/4 (AE) I – Semester (Suppl.) Examination, July 2014

Subject: Automotive Electrical and Electronics

Time: 3 Hours

Max.Marks: 75

Note: Answer all questions from Part A. Answer any five questions from Part B.

PART – A (25 Marks)

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| 1 | What is trickle charging? | 2 |
| 2 | What is (i) Earth return system (ii) Insulated return system? | 3 |
| 3 | What are the applications of DC series motor? | 2 |
| 4 | Draw the characteristics of a D.C shunt generator. | 3 |
| 5 | Draw the schematic diagram of a solenoid switch. | 3 |
| 6 | What is an alternator? Compare it with a generator. | 2 |
| 7 | What are the principle aims of an engine developer? | 3 |
| 8 | What are the requirements of electronic onboard diagnostic system? | 3 |
| 9 | What are the application of a stepper motor? | 2 |
| 10 | What is a microprocessor? | 2 |

PART – B (50 Marks)

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| 11 | Write short notes on the following:
a) Specific gravity test
b) Horn and wiper system | 10 |
| 12 | a) What is principle of D.C. series motor and draw its characteristics.
b) Briefly mention the maintenance aspects of starter motor. | 7
3 |
| 13 | What are various sensors that can be used for displacement and position sensing an engine? Briefly explain them. | 10 |
| 14 | Discuss briefly about inertia type Bendix drives. | 10 |
| 15 | Discuss the construction and principle of operation of an alternator for automobile charging system. | 10 |
| 16 | a) Discuss about EMI and EMC.
b) Write a note on current trends in automotive electronic engine management system. | 7
3 |
| 17 | Write short notes on the following:
a) Voltage and current regulators
b) Care and maintenance of a lead acid battery. | 10 |
