

Question Paper Code : 91096

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014

Fifth Semester

Automobile Engineering

AT 2302/AU 52/10122 AU 504 — AUTOMOTIVE ELECTRICAL AND ELECTRONICS

(Regulation 2008/2010)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Why lead acid batteries are used in automobiles?
2. What is meant by hybrid battery?
3. Why a cut out is needed in automotive charging system?
4. What is a third brush generator?
5. When the ignition timing has to be advanced and retarded?
6. What is meant by hot and cold spark plugs?
7. What are the limitations of battery coil and magneto ignition systems?
8. What is meant by contact less ignition system?
9. How coolant temperature indicator is working?
10. Mention the color codes used for automotive wiring system.

PART B — (5 × 16 = 80 marks)

11. (a) Explain the constructional details and working during charging and discharging process of a lead acid battery.

Or

- (b) Describe the various charging methods of automotive storage batteries.

12. (a) (i) Discuss the various requirements of automotive starter motor. (8)
(ii) Explain the different types of switches and solenoids used in automotive starters. (8)

Or

- (b) Explain the working of current voltage regulator with neat circuit diagram.
13. (a) Draw the wiring diagram for the battery coil ignition system of a six cylinder SI engine and explain the working of it.

Or

- (b) With the aid of sketches explain the working of centrifugal and vacuum advance mechanisms.
14. (a) Explain the capacitive discharge ignition and distributor less ignition systems with neat wiring diagrams.

Or

- (b) Describe the features of digital ignition system and its control strategy.
15. (a) (i) Explain in detail about the head light dazzling and its preventive measures. (10)
(ii) Sketch and describe the working of electronic fuel feed pump. (6)

Or

- (b) Explain the working of electric horn and wiper motor with neat sketches.
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