



(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 147655**

Roll No.

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## B. Tech.

(SEM. VI) THEORY EXAMINATION, 2014-15  
AUTOMOTIVE ELECTRICAL AND AUTOTRONICS

Time : 3 Hours]

[Total Marks : 100

Note: - Attempt all questions.

1. Attempt four questions: (5\*4=20)

A. What do you understand by ignition timing? What is Ampere – hour Rating?

B. Write short note on X-NOR gate. Subtract and Add the binary number 10011101 and 100011.

C. Conversions

a) Convert  $(362)_{10}$  into Hexadecimal equivalent.

b) Convert  $(603)_8$  into Binary Equivalent.

D. What is the function of Contact Breaker and Ignition coil in ignition system?

E. What types of battery are being used in automobiles? How many cells are there in a 12 volt storage battery and why?

2. Attempt any two questions: (10\*2=20)

A. How to convert Decimal number into Hexadecimal number and binary number into Decimal number, write the procedure.

- B. Justify provision of anti-dazzling arrangement in a car headlight. How it can be achieved?
- C. What is referred to as Centrifugal advance? How does this mechanism work?

3. Attempt ***any two*** questions: **(10\*2=20)**

- A. Explain the Construction & Working of Electric Horn with suitable Sketch.
- B. Explain lighting system of a car, Explain its construction & working with suitable Sketch?
- C. Why Fuel Gauge is used in automotive vehicle? Discuss Thermostatic Blade type gauge with suitable sketch.

4. Attempt ***any two*** questions: **(10\*2=20)**

- A. Describe the Working of Battery Charging System in a Vehicle. Explain with Suitable Sketch.
- B. Explain X-OR, NOT, NOR, NAND gate with suitable sketch and truth table.
- C. Explain the Effect of Variation in temp on Electrolyte Density. Explain any Five Faults of the Battery.

5. Attempt ***any two*** questions: **(10\*2=20)**

- A. What is floating point notation? Explain how to represent floating point notation.
- B. Explain the working of Inertia Drive What is the different types of motors used in an automobile?
- C. Write Short note on Battery Maintenance and Discuss the Principle of Operation of a Lead Acid Battery.