

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

**PAPER ID :****Roll No.**

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**B.TECH.****Theory Examination (Semester-VI) 2015-16****AUTOMOTIVE ELECTRICAL & AUTOTRONICS****Time : 3 Hours****Max. Marks : 100****SECTION A****1. Attempt all parts.****(2 × 10 = 20)**

- Draw a neat sketch of an electric horn
- What is the function of a pulse generator?
- What do you mean by aiming of head light?
- What is reserve capacity of a battery?
- Give the requirements of starter motor.
- What is adaptive ignition system?
- Draw the symbol of diode and transistor.
- What is MAP sensor?
- State the purpose of using ignition coil.
- Define the Electronic fuel pump

**SECTION B****2. Attempt any five parts of the following.****(10 × 5 = 50)**

- What is Ignition timing? Explain advanced and retard timing with suitable example and sketch.
- Under what conditions does the automatic headlight dimming works? Give two functions of automatic on/off with time delay.
- Explain with neat sketch the operation of glow lights on dashboard using fibre optics.
- Classify ignition system. Explain source battery and magneto ignition system.
- List two tests carried out for testing of electronic fuel injector. Describe the procedure of any one test.
- Explain the function and necessity of analog to digital converter in automotive computer.
- Draw the circuit diagram for battery coil ignition system of six cylinder four-stroke petrol engine and explain it.
- List the factor affecting the establishment of arc across the spark plug air gap.
- Mention the significance of colour codes in an automobile.

**SECTION C****Attempt any two parts of the following.****(15 × 2 = 30)**

- List out and explain various tests conducted on a lead acid battery used in automobiles.
- Explain the components of a magneto ignition system in detail. Mention the advantages of magneto ignition system over battery coil ignition system.
- Explain the working principle of alternator with its three stator circuits. State the advantages of it over D.C. generator.