

Roll No.

Total No. of Pages : 2

Total No. of Questions : 09

B.Tech.(AE) (Sem.-5)

AUTOMOTIVE ELECTRICAL AND SYSTEMS

Subject Code : AE-305

Paper ID : [A0715]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students has to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students has to attempt any **TWO** questions.

SECTION-A

1. Write briefly :

- a) What is the function of separators in a battery?
- b) How do you define the capacity of a battery?
- c) What is an alternator?
- d) What are the requirements of a starting motor?
- e) Where is the contact breaker located in the engine?
- f) What is the purpose of providing ignition advance?
- g) What is the use of fog lamps?
- h) Why do we use relay in the horn circuit?
- i) What are fuel cells?
- j) What is the function of Hall effect switch?

SECTION-B

2. What is meant by term sulphation and desulphation? Discuss.
3. Explain the principle of generator in charging circuit.
4. Write the characteristics of series motor.
5. Differentiate between magneto and battery ignition system.
6. Explain electric fuel pump with the help of neat sketch.

SECTION-C

7. Explain the constructional details of a distributor and functions of its various components.
8. Write a note on motor generator in hybrid vehicle and its control.
9. Discuss the principle and construction of starter motor.