

Roll No.

24411

**B. Tech 6th Semester (AUE)
Examination – May, 2018**

**AUTOMOTIVE ELECTRICAL SYSTEMS &
ELECTRONICS**

Paper : AUE-302-F

Time : Three Hours]

[Maximum Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Question No. 1 is *compulsory*. Attempt *one* question from each of the *four* Sections.

1. (a) Explain difference between timed and continuous Infection system. 4
- (b) Write short note on Third Brush Control. 4
- (c) Write major functions of cut out relay. 2
- (d) What is the purpose of MPFI System ? 2

- (e) Write significance of pinion gear used in starting system. 2
- (f) What are the main pollutants that found in engine exhaust? 2
- (g) Write function of condenser used in Ignition system. 2
- (h) What is the function of horn relay switch? 2

SECTION - A

2. (a) Describe when and how to perform battery load test. 10
- (b) Explain construction and working of permanent magnet starting motor. 10
3. (a) What are the various causes of loss of capacity of battery? Write down their remedies too. 10
- (b) What are the different types of starting drive in current practice? Describe any *two* of them. 10

SECTION - B

4. Describe construction and principle of operation of an alternator in detail. 20

5. (a) Compare Battery Ignition system and Magnate Ignition System. 10
- (b) Describe the flash circuit of an automobile with the help of suitable diagram. 10

SECTION - C

6. (a) Explain Electronic Engines Management System. With the help of block diagram describe the function of every component of EEMS. 10
- (b) Explain function and position of following sensors used in Engine Management System. 10
- (i) Oxygen Sensor
 - (ii) Mass air flow sensor
 - (iii) Inlet air lamp sensor
 - (iv) Crankshaft Position Sensor
7. (a) Explain construction and working principle of stepper motor. Why it has been used in automobiles? 10
- (b) Explain how vehicle motion can be controlled and what is the coordination between Engine Management System and Vehicle Motion Control? 10

SECTION - D

8. (a) Describe Distribution less Ignition System along with it's advantages. 10
- (b) Explain the working principle of simple carburetor with the help of suitable diagram. 10
9. (a) Explain major components of Digital Engine control in detail. 15
- (b) Write short note on Hall effect. 5
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