

Roll No.

24411

B. Tech. 6th Semester (AUE)

Examination – May, 2019

**AUTOMOTIVE ELECTRICAL SYSTEMS AND
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 : Attempt *five* question in all, selecting *one* question from each Section. Question No. 1 is *compulsory*. All question carry equal marks.

1. (a) Discuss briefly about how batteries are rated.
 - (b) Discuss Electrical fuel-pump.
 - (c) Explain Throttle position sensors.
 - (d) Explain the electronic warning system used in automobile.
- $5 \times 4 = 20$

SECTION – A

2. (a) Discuss in detail the construction and working of lead acid battery using neat diagrams. 12
- (b) Explain the constructional details of starter motor. 8

3. Explain the construction and working of pre-engaged type starter with neat sketch. 20

SECTION – B

4. Discuss in detail the construction and working of head lamp and trafficator with neat sketches. 20
5. Describe the construction and working of alternator charging system and its control using neat sketches. 20

SECTION – C

6. Explain the construction and working of oxygen sensor and vehicle speed sensor with neat sketches. 20
7. (a) Discuss the various actuators with necessary sketch and its application in automobile. 12
- (b) Explain the construction and working of cut-out relay. 8

SECTION – D

8. (a) Give the classification of ignition system. Draw a neat-labelled sketch of a typical spark plug. 12
- (b) Explain the Digital Engine Control System. 8
9. Write short notes on :
- (a) Open loop and Closed loop system
- (b) Carburetor system
- (c) Advantage of electronic ignition system
- (d) Fuel injection system