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B.E. / B.TECH. DEGREE EXAMINATIONS, DEC 2019

Fifth Semester

AE16503 – AUTOMOTIVE ELECTRICAL AND ELECTRONICS SYSTEMS*(Automobile Engineering)***(Regulation 2016)****Time: Three Hours****Maximum : 100 Marks**Answer **ALL** questions**PART A - (10 X 2 = 20 Marks)**

	CO	RBT
1. How batteries are rated ?	1	U
2. Write the advantages of Bendix type of starter motor drive?	1	R
3. Differentiate between DC Generators and Alternators.	2	R
4. How do you reduce headlight dazzling?	2	U
5. State the need for centrifugal advance mechanism.	3	U
6. What are the reasons for automotive engines equipped with gasoline injection system?	3	U
7. What do you mean by Hall Effect?	4	U
8. What is Keyless entry system?	4	U
9. What are the advantages of central locking system?	5	U
10. What is Passive safety?	5	U

PART B - (5 X16 = 80 Marks)

11. (a) Explain in detail the various tests that are conducted on battery. Also discuss about care and maintenance that are required for a battery. (16) 1 R

(OR)

- (b) Explain the construction and working details of solenoid operated pinion drive of starter motor with a sketch. (16) 1 R

12. (a) Explain the working principle of alternator with its three stator circuits. State the advantage of it over DC generator. (16) 2 R

(OR)

- (b) (i) Explain the construction of head lamp with a neat sketch. (8) 2 U
(ii) How does an electric horn work? (8) 2 U

13. (a) Illustrate the battery coil ignition system and brief about the components. (16) 3 U

(OR)

- (b) Discuss in detail the various components of an electronically controlled Gasoline Direct Injection system with a neat sketch. (16) 3 U

14. (a) Explain the construction and working of EGO sensor with relevant sketches. (16) 4 R

(OR)

- (b) Explain how a vehicle can be controlled for safe and fast travel using GPS. (16) 4 R

15. (a) Briefly explain active and passive safety systems in automobile. (16) 5 U

(OR)

- (b) Explain the construction and working principle of an air bag with electronic activating system. (16) 5 U