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Question Paper Code :80667

B.E/B.Tech. DEGREE EXAMINATION, NOV/DEC 2016.

Sixth Semester

Mechanical Engineering

ME 6602 – AUTOMOBILE ENGINEERING

(Regulation 2013)

Time: Three hours

Maximum: 100 marks

Answer ALL questions.

PART – A (10 x 2= 20 marks)

1. List the classification of chasses name according to its control method.
2. What are the main components of I.C engine?
3. Define “Intermittent injection” of petrol engine.
4. What are emission norms of Euro BS IV for petrol vehicle (in g/Km)
5. What is the use of slip joint?
6. List the types of Automobile clutches.
7. Name any four types of suspension spring.
8. Describe the advantages of steering geometry.
9. What is the working principle of Fuel cell?
10. What do you understand by the term of Hybrid Vehicle?

Part – B (5 x 16 = 80 marks)

11. (a) Explain the construction of various chasses frames used in automobile with neat figure. **(16)**

(Or)

- (b) Explain with suitable sketches and valve timing diagram, the working of a various valve timing (VVT) system used in automobiles. **(16)**

12. (a) (i) What are the main function of ECU? **(4)**

- (ii) Describe the construction details of distributor type diesel fuel injection pump with neat sketch. **(12)**

(Or)

- (b) (i) What are the types of electronic ignition system used in S.I engine? **(2)**
(ii) Draw and explain the circuit diagram of electronic ignition system using a magnetic pick up method. **(14)**
13. (a) (i) What are the function of the transmission system? **(8)**
(ii) Sketch and explain the working method of fluid flywheel. **(8)**
(Or)
(b) Describe the line diagram of synchromesh unit and mention the component (spring with ball type system) **(16)**
14. (a)(i) What are the functions of steering system? **(4)**
(ii) Discuss in detail working method of steering linkage system with suitable sketches. **(12)**
(Or)
(b)(i) What are the requirements of a good braking system? **(8)**
(ii) Explain the merits of independent suspension system. **(8)**
15. (a) What are the engine modifications to be undertaken in the S.I engine for Alcohols or Ethanol as alternative fuel? **(16)**
(Or)
(b)(i) What are the advantages of Hybrid Electric Vehicle? **(8)**
(ii) Explain the construction and working of the PEM fuel cell with sketch. **(8)**