Reg. No. : | | | | | | | | | | |

R 3466

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Sixth Semester

(Regulation 2004)

Mechanical Engineering

ME 1353 — AUTOMOBILE ENGINEERING

(Common to Production Engineering)

(Common to B.E. (Part-Time) – Fifth Semester – Regulation 2005)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — ($10 \times 2 = 20$ marks)

1. How automobiles are classified according to their body type?

2. What do you mean by Electronic Engine Management system?

3. What do you mean by 'Boost Venturi"?

4. What are the advantages of Lead-Acid battery used in an automobile?

5. Write short notes on the importance of universal and slip joints for the transmission system of an automobile.

6. What are the functions of a differential?

7. What do you mean by "Toe-in"?

8. Write short notes on Anti-lock Braking System.

9. What are the advantages of Hydrogen fueled vehicles?

10. Briefly discuss about the emission from gasohol based vehicles.

PART B — (5 × 16 = 80 marks)

11. (a) With the help of neat sketch explain in detail about the construction and working of different engine components?

Or

(b) (i) What are the functions of a cooling system? (2)

(ii) Sketch and explain different types of lubrication systems used in automotive engines. (14)

12. (a) (i) Differentiate Electronic Fuel Injection system from Conventional Fuel Injection system. (4)

(ii) Describe about Multi Point Fuel Injection System of an automotive engine. (12)

Or

(b) With the help of neat sketches explain in detail about Battery, Magneto coil and Electronic Ignition Systems.

13. (a) Explain in detail about any one type of Synchromesh Gear Box with neat sketches.

Or

(b) (i) What are the effects of wheel bearing layout on axle loading? (8)

(ii) What do you mean by double reduction axle? Explain in detail (8)

14. (a) With the aid of neat sketches, Explain in detail about construction and working of disk brake system.

Or

(b) Explain in detail about a typical front suspension with neat sketches.

15. (a) Discuss in detail about different alternate fuels for automotive engines with respect to the following aspects :

(i) Emission

(ii) Cost

(iii) Reliability

(iv) Availability

(v) Engine modifications needed.

Or

(b) (i) What is fuel cell? What are the advantages of Fuel Cells? (4)

(ii) Explain in detail about different types of Hybrid vehicle constructions with neat sketches. (12)

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