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Question Paper Code : 21044

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2012.

Sixth Semester

Mechanical Engineering

080120035 — AUTOMOBILE ENGINEERING

(Regulation 2008)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the types of engine valves?
2. What is the advantage of turbocharger?
3. What is CRDI?
4. What are the components of battery?
5. State the function of clutch.
6. What is synchromesh device?
7. What is steering geometry?
8. What is the use of stub axle?
9. State the advantages of natural gas.
10. What is fuel cells?

PART B — (5 × 16 = 80 marks)

11. (a) (i) Describe the types of an automobile. (8)
(ii) What are the types of lubrication system in an automobile?
Discuss. (8)

Or

- (b) With a neat sketch explain the working principle of three way catalytic controller. (16)

12. (a) Explain the principle of operation of Electronic fuel injection system. (16)

Or

- (b) What are the types of ignition system? With a neat sketch explain the magneto coil type ignition system. (16)

13. (a) (i) What is over drive? Explain. (4)

- (ii) State the difference between Fluid flywheel and Torque convertor. (6)

- (iii) Write short notes on: (6)

(1) Propeller shaft and

(2) Slip joint

Or

- (b) (i) With neat sketch explain the working of differential. (8)

- (ii) Explain the working of Torque tube drive. (8)

14. (a) (i) What is power steering? Give its working principle. (8)

- (ii) What is air suspension? Explain with suitable sketch. (8)

Or

- (b) What is master cylinder? Give the principle of operation with suitable diagram. (16)

15. (a) Discuss the concept of Electric and Hybrid vehicle with neat sketch. (16)

Or

- (b) Write short notes on:

- (i) Antilock braking system and (8)

- (ii) Air bags. (8)