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**Question Paper Code : 31045**

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2013.

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. List out the forces acting on a chassis frame.
2. Define 'turbo lag'.
3. Write any two benefits of CRDI system.
4. Name the drawbacks of carburetor in multi cylinder engine.
5. List out the disadvantages of floor mounted gear shift mechanism.
6. Define the term 'double declutching' used in sliding mesh gear box.
7. Define 'camber' and 'castor'.
8. Write the functions of steering system in an automobile.
9. Name the components used in Antilock Braking System.
10. Distinguish between parallel hybrid and series hybrid configurations.

PART B — (5 × 16 = 80 marks)

11. (a) Discuss the methods of vehicle construction in detail.

Or

- (b) Describe the cooling and lubrication systems in automotive engine.

12. (a) With a schematic layouts explain the multi point electronic fuel injection system.

Or

- (b) Describe the working principle of electronic ignition system.

13. (a) With a neat sketch, explain the working of simple floor mounted gear shift mechanism.

Or

- (b) Explain the working principle of a torque converter.

14. (a) Discuss the working of diagonal braking system with a layout. Also explain the working of master cylinder in a hydraulic brake.

Or

- (b) Explain the working principle of Air suspension system used in buses.

15. (a) Write short notes on the following:

(i) Stabilizers (8)

(ii) Electric vehicles. (8)

Or

- (b) Discuss the functions and benefits of airbags used in cars.