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

Question Paper Code : 41045

B.E. DEGREE EXAMINATION, NOVEMBER/DECEMBER 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. What is meant by 'dumb iron' in frame work?
2. State any four functions of lubrication.
3. Enumerate the factors which affect battery life.
4. Draw a simplified wiring circuit for the lighting system of a car.
5. Differentiate between a live and a dead axle.
6. How is drive from propeller shaft turned at right angles?
7. Define the term 'braking efficiency'
8. State the functions of steering gears.
9. Mention the various methods of storing hydrogen.
10. Write down the parts of a fuel cell.

PART B — (5 × 16 = 80 marks)

11. (a) Explain briefly about the defects in chassis frame.

Or

(b) Explain the various sensors used in an electronic engine management system and their functions.

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12. (a) Discuss the construction and working of starting motor for automobiles.

Or

(b) Describe the MPFI system with port injection along with a neat diagram.

13. (a) Explain briefly the following differentials :

(i) Non-slip differential

(ii) Double reduction type differential.

Or

(b) Explain the working of a torque converter with its neat sketch.

14. (a) Define and explain the following :

(i) Camber angle

(ii) Caster angle

(iii) King-pin inclination, and

(iv) Toe-in.

Or

(b) (i) What is the 'understeering' and 'oversteering'?

(ii) Explain briefly with a neat sketch the steering linkage for a conventional rigid axle suspension.

15. (a) Explain the production of natural gas with a neat sketch in detail.

Or

(b) With simple sketch explain the construction and working principle of fuel cell.

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