S6 ME (new)

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Name.....

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B.TECH. DEGREE EXAMINATION, MAY 2015

Sixth Semester

Branch : Mechanical Engineering

ME 010 606 L03—AUTOMOBILE ENGINEERING (Elective I) [ME]

(New Scheme—2010 Admission onwards)

[Regular/Improvement/Supplementary]

Time : Three Hours Maximum : 100 Marks

Part A

Answer **all** *questions.*
Each question carries 3 *marks.*

1. Write a note on future vehicles.
2. List the classification of prime movers.
3. What are shock absorbers ?
4. Briefly discuss anti-lock braking.
5. What are the advantages of electronic ignition system ?

(5 × 3 = 15 marks)

Part B

Answer **all** *questions.*
Each question carries 5 *marks.*

6. How will you evaluate vehicle performance ?
7. Discuss the working of fluid coupling.
8. Explain, a steering mechanism with a neat sketch.
9. Discuss a typical drum brake.
10. Explain alternators and voltage regulators.

(5 × 5 = 25 marks)

Part C

Answer **all** *questions.*
Each full question carries 12 *marks.*

11. Discuss all the intake and exhaust systems in engines.

Or

Turn over

12. What is the significance of resistance to motion of the vehicle ? Explain air, rolling and radiant resistance.

13. Explain any four automatic transmission systems, with neat sketches.

Or

14. Explain : diaphragm clutches, centrifugal clutches, newer fluid couplings and their practical applications.

15. Discuss the different types of coil springs and leaf springs.

Or

16. With neat sketches, expalin hydraulic and gas charged shock absorbers.

17. Explain, with neat sketches and examples :

    (i) Tubeless tyres. (4 marks)

    (ii) Ply ratings. (4 marks)

    (iii) Causes of tyre wear. (4 marks)

Or

18. Discuss the types of chasis and body constructions. Explain the design considerations.

19. Explain all the aspects of automotive air-conditioning system ? How will you improve the efficiency of the system ?

Or

20. How will you test an engine ? Discuss all the steps in preventive and breakdown maintenance.

(5 × 12 = 60 marks)