G 1499 (Pages : 2) Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2016

Sixth Semester

Branch : Mechanical Engineering

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

(New Scheme—2010 Admission onwards)

[Regular/Supplementary]

Time : Three Hours Maximum : 100 Marks

Part A

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

1. Explain any three classifications of engines.
2. What is the function of a Gear box in an automobile ?
3. Differentiate between toe in and toe out.
4. What do you mean by ABS ?
5. What is the need for an electrical system in an SI engine ?

(5 × 3 = 15 marks)

Part B

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

6. What do you mean by CRDI? How does it improve the efficiency of the engine ?
7. With a neat sketch explain the working of a universal joint.
8. Explain the working of a gas charged shock absorber.
9. Sketch the layout of a hydraulic braking system
10. What is a Bendix drive ?

(5 × 5 = 25 marks)

Part C

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

11. Explain the various types combustion chambers used in IC engines.

Or

12. Explain rolling resistance, air resistance and grade resistance with respect to a moving vehicle. What do you mean by gradability of a vehicle ?

Turn over

13. What is the function of a clutch ? Explain the working of a centrifugal clutch with a neat sketch.

Or

14. Explain the working of a differential ? Explain the differential action when the wheel is on a slippery ground ?

15. What is the function of a steering gear box ? Explain any two types.

Or

16. What is the necessity of wheel balancing and wheel alignment ? What is the importance of king pin inclination ?

17. Explain the working of a pneumatic braking system. What are its advantages ?

Or

18. Explain the different causes of tyre wear. How are tyres classified based on ply arrangements ?

19. Explain the working of a battery ignition system circuit. Compare it with electronic ignition system.

Or

20. What is engine testing ? Explain the steps in preventive and breakdown maintenance.

(5 × 12 = 60 marks)