

April 2014

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Answer any fifteen questions in PART - A and division (A) or division (B) of each question in PART - B.

(2) Each question carries 1 (one) mark in PART - A and 12 (twelve) marks in PART - B.]

PART - A

1. Write the types of valve actuating mechanism.
2. Define delay period.
3. Write the causes for engine overheating.
4. Why additives are added to lubricants?
5. Write the methods of control of detonation.
6. What is fuel injector?
7. Write the functions of secondary filters.
8. What is CRDI?
9. Define fluid coupling.
10. What is the purpose of gear box?
11. What is final drive?
12. What is the function of differential?
13. What are the important wheel alignment factors?
14. What is the necessity of power steering?
15. What is shock absorber?
16. Write any three causes of tyre wear.
17. Write the various tests carried out to check the battery.
18. What is alternator?
19. What are the various types of lighting system used in automobile?
20. How the pollutants are controlled?

[Turn over.....

PART - B

21. (A) (i) What are the three methods of generating air swirl in diesel engine combustion chamber? Explain any one in detail.
(ii) Explain in detail the stages of combustion in diesel engine.

(Or)

- (B) What is the purpose of lubrication? Explain with neat sketch, the working of a full pressure lubrication system in an IC engine.

22. (A) (i) Write short notes on alternative fuel.
(ii) Give the simple sketch of mechanical fuel pump and name the parts.

(Or)

- (B) Write the construction and working of distribution type fuel injection pump with a neat line diagram.

23. (A) Describe with a neat sketch, the construction and operation of sliding mesh gear box.

(Or)

- (B) Mention the type of floating axles in rear axle. Sketch and explain the construction of a three quarter floating and full floating axle.

24. (A) Explain the front independent suspension system. Explain how it is advantageous over rigid system.

(Or)

- (B) Explain the construction and operation of air assisted hydraulic brake system.

25. (A) Explain with neat sketch, the construction and operation of bendix inertia drive mechanism.

(Or)

- (B) Explain the different types of exhaust gas treatment.