

April 2015

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. List any four principle parts of an IC engine.
2. What are the requirements of gaskets?
3. State the function of connecting rod.
4. Name any two types of commonly used thermostat.
5. Define octane number.
6. Mention the types of injection nozzles.
7. What are the fuel pumps used in petrol engine?
8. Define carburetion.
9. What is the function of clutch?
10. What is the main advantage of the four wheel drive vehicles?
11. What is the function of universal joint?
12. Define torque reaction.
13. What are the types of stub axles?
14. Name any three types of steering gear box.
15. What is torsion bar?
16. What are the advantages of alloy wheel?
17. What are the two mostly used types of batteries?
18. What is the unit of specific gravity?
19. What is EGR?
20. Where we use catalytic converter?

[Turn over.....

PART - B

21. (A) (i) Explain the various types of cylinder liners.  
(ii) Explain the function of (a) Cam shaft (b) Fly wheel.

(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) What are the types of governor? Explain any one.  
(ii) Explain oil bath type air cleaner with a neat sketch.

(Or)

- (B) What is MPFI system? Explain with a neat sketch.

23. (A) (i) Explain the single plate clutch.  
(ii) Explain the various resistance to motion.

(Or)

- (B) Explain the constant mesh gear box with sketch.

24. (A) (i) Describe front axle and its types with neat sketches.  
(ii) Draw and explain the layout of hydraulic brake system.

(Or)

- (B) Describe the construction and working of telescopic shock absorber.

25. (A) (i) Explain the construction of Nickel alkaline battery and list its merits.  
(ii) Explain the vapour recovery system (VRS) with sketch.

(Or)

- (B) Explain the principle of high tension magneto ignition system with diagram.