

129**October 2017****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. What is the function of connecting rod?
2. What is scavenging process?
3. What is the function of cooling system?
4. What are the types of pumps used in lubrication system?
5. What are the properties of petrol?
6. What is meant by octane number and cetane number?
7. Write the types of injection nozzles.
8. What is governing?
9. What is the function of a clutch?
10. Write the causes for clutch slipping.
11. Write the types of gear used in final drive.
12. What is non-slip differential?
13. What is live axle and dead axle?
14. What is toe-out on turns?
15. What are the types of front independent suspension?
16. What is shock absorber?
17. Name different battery ratings.
18. What are the two types of ignition system?
19. What are the various types of lighting system used in automobiles?
20. What is catalytic converter?

[Turn over...

PART - B

- Marks
21. (A) (i) Classify the combustion chamber used in diesel engine. What type of swirl is used in these chambers? 6+6
(ii) Explain the purpose of pressure relief valve used in lubrication system.
(Or)
- (B) Briefly explain with neat sketch, the construction and operation of water pump circulation cooling system. 12
22. (A) (i) Briefly explain about oil bath type air cleaner with a simple sketch. 6+6
(ii) Explain the diesel fuel feed system with a layout.
(Or)
- (B) Write the construction and working of distributor type fuel injection pump with necessary line diagrams. 12
23. (A) (i) Explain the functions of a final drive and differential unit in an automobile. 6+6
(ii) Explain the function of propeller shaft, universal joint and slip joint in vehicle power transmission system.
(Or)
- (B) Briefly explain the Hotchkiss drive with a neat sketch. 12
24. (A) (i) Define (1) Camber, (2) King pin inclination and (3) Caster. 6+6
(ii) State the advantages and disadvantages of front independent suspension system. Explain any one system in detail.
(Or)
- (B) Describe the construction and working of telescopic type shock absorber with neat sketch. 12
25. (A) (i) Explain the various methods of battery testing. 6+6
(ii) Explain about exhaust gas recirculation (EGR).
(Or)
- (B) With the help of a circuit diagram, explain the working of a battery coil ignition system. 12