

MEMS3 Automobile Engineering

282

REG. NO

OCTOBER 2021

Time: Three hours

Maximum Marks: 75

- Note:
1. Answer ALL the questions in PART-A (1 mark each)
 2. Answer any ONE question from each unit in PART-B (3 marks each)
 3. Answer any ONE question from each unit in PART-C (10 marks each)
 4. The question paper contains TWO Pages

PART-A (1x10=10)

1. What is the material mostly used for construction of piston?
2. State the functions of pressure cap in a radiator.
3. Define octane number.
4. Name any two types of air cleaners used in Petrol engine.
5. What are the advantages of front engine front wheel drive?
6. What is slip joint?
7. Define camber.
8. Write any two advantages of independent front suspension system.
9. Name of the different battery rating.
10. Name the metal used as reducing catalyst in a catalytic convertor.

PART-B (3x5=15)

UNIT-I

11. What are the purpose cooling systems?
12. Write the properties of lubricants.

UNIT-II

13. What are the merits of MPFI system?
14. List the variables affecting the delay period in combustion.

UNIT-III

15. What are the causes for hard shifting gear?
16. Write the various forces acting in rear axles.

UNIT-IV

17. What is the function of spring? List the various types of suspension spring.
18. Compare cross ply and radial ply types.

UNIT-V

19. What are the various types of lighting system used in automobile?
20. List out the ignition system troubles.

PART-C (10x5=50)

UNIT-I

21. Explain the construction and working of overhead valve mechanism with a neat sketch.
22. Explain the construction and working of full pressure lubrication system in an automobile engine with suitable line diagram.

UNIT-II

23. Explain the working of starting and acceleration circuits of solex carburetor with neat sketch.
24. Explain with neat sketch the working principle of a pneumatic governor.

UNIT-III

25. Explain the Hotch kiss drive with a neat sketch.
26. Explain construction and working of diaphragm spring clutch with neat sketch.

UNIT-IV

27. Explain with a neat sketch, the construction and operation of hydraulic brake system.
28. Explain with a neat sketch, the construction and operation of rack and pinion type steering gear box.

UNIT-V

29. Explain the construction and operation of a lead acid battery with a neat sketch.
30. Explain the exhaust gas recirculation system with a neat sketch.
