Register No.:

237

October 2017

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Q.No. 8 in PART – A and Q.No. 16 in PART – B are compulsory. Answer any FOUR questions from the remaining in each PART – A and PART – B.

(2) Answer division (a) or division (b) of each question in PART-C.

(3) Each question carries 2 marks in PART – A, 3 marks in Part – B and 10 marks in PART – C.]

PART – A

1. What is compression ratio?
2. What is idling rpm of a 4 cylinder petrol engine?
3. What is the main function of inlet and exhaust manifolds?
4. What is the function of a muffler?
5. What is DTSI?
6. What is the necessity of using air cleaners?
7. What is viscosity index?
8. What is super charger?

PART – B

9. Compare the Otto and Diesel cycle.
10. What is firing order? What are the correct firing orders for 4 cylinder, 6 cylinder and 8 cylinder in-line engines?
11. State the various desirable factors in combustion chamber design.
12. What are the merits of MPFI system?
13. Briefly explain the pintaux type nozzle.
14. Describe about turbo charging.
15. What are anti-freezes? State any two requirements of them.
16. List the functions of piston rings.

[Turn over...

PART – C

17. (a) Explain the working of two stroke diesel engine with neat sketches.

(Or)

(b) (i) Draw the valve timing diagram for a four stroke cycle petrol engine and indicate the various processes.
(ii) Describe with a neat sketch the working of automotive gas turbine.

18. (a) (i) Explain the construction and working of F-head valve arrangement with a neat sketch. State the merits.
(ii) Explain the construction of mushroom valve with a neat sketch.

(Or)

(b) (i) Explain: (1) Compression rings and (2) Oil rings.
(ii) Explain Rovers unique VVC system.

19. (a) Explain with a neat sketch the construction and working of AC mechanical fuel pump.

(Or)

(b) Explain the working principle of multipoint fuel injector.

20. (a) Describe about combustion stages in diesel engine with a diagram.

(Or)

(b) Explain the working of common rail direct injection (CRDI) systems with a neat sketch.

21. (a) (i) Explain the construction and working of a radiator with neat sketch.
(ii) Explain the working of dry sump method of engine lubrication with neat sketch.

(Or)

(b) (i) Explain in detail the vapour recovery cooling system with a neat sketch.
(ii) Explain the construction and working of rotor oil pump.
