

Code: ME8T3B

**IV B.Tech - II Semester –Regular / Supplementary Examinations
May - 2022**

**AUTOMOBILE ENGINEERING
(MECHANICAL ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11x 2 = 22 M

1.

- a) How can turbo-charging improve performance of an engine?
- b) What is crank case ventilation?
- c) Explain the principle of carburettor System.
- d) What are homogeneous and heterogeneous mixtures? In which engines these mixtures are used?
- e) Explain thermosyphon cooling system and forced circulation cooling system?
- f) List the types of Automobile clutches.
- g) What is the need of shock absorber in automobiles?
- h) What is centre point steering?
- i) Draw a simple layout of hydraulic braking system.
- j) What is the function of vehicle electrical system?
- k) Explain why pollution standards have to be maintained.

PART – B

Answer any **THREE** questions. All questions carry equal marks. 3 x 16 = 48 M

2. What is the main objective of engine lubrication system and write the different types of lubrication systems? Explain any two lubrication system with neat sketches? 16 M

3. a) Explain the function of fuel supply system of Diesel Engine with neat sketch. 6 M

b) Explain about the Coil and Magneto Ignition system. 6 M

c) What is the importance of a cooling system in an IC engine? 4 M

4. a) Explain with a neat sketch, construction and working principle of a constant mesh gear box. 8 M

b) Explain the functioning of independent front wheel suspension system with torsion bar in a automobile. 8 M

5. a) With the help of a schematic diagram, explain Ackerman steering mechanism. 8 M

b) Sketch the arrangement of pneumatic braking system used in automobiles and explain? 8 M

6. a) Explain LPG is an alternative fuel for petrol engine with Diagram. 8 M

b) Explain briefly the methods available to control emissions from a automobile. 8 M