

Code: ME8T3B

**IV B.Tech-II Semester–Regular/Supplementary Examinations–March 2020**

**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) What is meant by super charging and turbo charging?
- b) Explain in brief about engine re-boring.
- c) Why overheating and overcooling of I.C engine is harmful?
- d) What is the correct gap for contact breaker points? How is the contact breaker points adjusted?
- e) How is reverse gear obtained in the normal type of gear box?
- f) How many universal joints are there in the torque tube transmission and why?
- g) What is a helper spring?
- h) Why is camber angle provided?
- i) How does the hydraulic brake function?
- j) What is the function of a starting motor?
- k) What are the alternative fuels available for automobiles?

## PART – B

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

2. a) Explain various components of four wheeler automobile briefly. 8 M  
b) Differentiate between the wet sump lubrication and dry sump lubrication. 8 M
3. a) What is the purpose of ignition system and What are the requirements of an ignition system for an I.C Engine. 8 M  
b) Draw a neat sketch of a car radiator and explain how it works. Mark the names of the parts on the sketch. 8 M
4. a) Discuss about Hotchkiss type of construction of propeller shaft. 8 M  
b) Make a sketch showing the rear wheel suspension with leaf springs and shock absorbers. 8 M
5. a) Draw a neat sketch of a steering system, mark all important parts on it and explain how the system works. 8 M  
b) With a neat sketch, explain the function of a master cylinder in hydraulic brakes. 8 M

6. a) Explain common rail direct injection system with neat sketch. 8 M

b) Explain the working principle of the following accessories in an automobile:

i ) Wind screen wiper, and ii) Electric Horn 8 M