PVP 14

Code: ME8T3B

IV B.Tech - II Semester - Regular Examinations - March 2018

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 the difference between rear wheel drive and front wheel drive?
b) What is supercharging?
c) What is decarburization?
d) What is a thermostat? What is its function?
e) What is antifreeze solution?
f) Enlist any four types of gear boxes.
g) What is a torsion bar?
h) What are the requirements of a brake fluid?
i) What is a master cylinder?
j) Name any four alternate fuel energy sources.
k) What are the merits and demerits of alternate fuel energy sources?

PART – B

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

2.a) What is the function of oil pump and where is it located? Enlist the different Oil pumps and explain any one in detail. Support your answer with labeled diagrams. 8 M

b) Explain the concept of Turbocharging with a neat sketch. 8 M

3.a) What is Spark advance and retard mechanism? 8 M

b) What are the different types of Ignition system and explain any one in detail. 8 M

4.a) Explain the working of a single plate clutch and derive the expression for torque transmitted in case of a single plate clutch. 8 M

b) What is the purpose of independent suspension? Explain various methods to achieve the same in front and rear axles. 8 M

5.a) Explain the terms Camber, castor, steering axis inclination, toe-in. What are the effects of each on the steering characteristics of a vehicle? 8 M

b) What are the different types of steering gears? Sketch a recirculating ball type steering gear and explain its working. 8 M

6.a) Interpret the purpose of a Bendix drive. Explain the construction and working of a standard Bendix drive. 8 M

b) What are the components of Charging system in an automobile? What is the principle of a generator? Give its constructional details. 8 M