

Total No. of Questions : 10]

SEAT No. :

P3717

[Total No. of Pages : 2

[5461]-527

B.E. (Mechanical) (Semester - I)
AUTOMOBILE ENGINEERING (Elective - II)
(2015 Pattern)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) All questions are compulsory.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right side indicate full marks.
- 4) Use of electronic pocket Calculator is allowed.
- 5) Assume Suitable data, if necessary.

Q1) a) Draw a layout of automobile chassis and explain parts of it. [5]

b) Describe the current scenario and development in Indian auto industry. [5]

OR

Q2) a) Explain the purpose and requirement of Front axle beam. [5]

b) Describe the necessity of gear box in automobile. [5]

Q3) a) Explain construction of wheel. What are benefits to use alloy wheels, Explain. [5]

b) Explain the following concepts used in steering geometry. [5]

i) Toe in Toe out.

ii) Understeer and Over steer.

pOR

Q4) a) What are the functions and objectives of Suspension system? Explain. [5]

b) Explain construction and working of hydraulic Brake system. What are various parts of it? [5]

P.T.O.

- Q5)** a) Describe role of active safety and passive safety in automobile with suitable example. [8]
b) Describe in detail parameters responsible for vehicle performance. [8]

OR

- Q6)** Write short note on the following (Any Four) : [16]
a) Air bags.
b) Seat belt.
c) Power requirement for propulsion of vehicle.
d) NVH in automobile.
e) Stability of vehicle.

- Q7)** a) Explain with neat sketch principle and construction of lead-acid battery. [8]
b) Explain the working of electrical fuel pump. [8]

OR

- Q8)** a) Explain types of vehicle maintenance. [8]
b) What is a hybrid vehicle? Describe the layout of electric vehicle and explain various components of it. [8]

- Q9)** a) Describe various Tests on battery condition. [9]
b) What are the sensors and actuators used in automobiles? Describe the purpose of each. [9]

OR

- Q10)** Write short note on the following (any three) : [18]
a) Overhauling of automobile engine
b) Electric Horn
c) Maintenance of steering system
d) Role of Seat belt in vehicle safety.

* * *