

Time: 03 Hours

Marks: 80

- N. B. (1) Question No. 01 compulsory.
(2) Attempt any three questions out of remaining five questions.
(3) Justify your answer with neat sketches.
-

- Q. 01 Attempt any **four** out of six. 20
- i) What are the requirements of Passenger seat?
 - ii) What are the effects of loads on vehicle body?
 - iii) Explain various forces acting on the vehicle body.
 - iv) What are the various types of metal section used for vehicle body?
 - v) Draw the chassis frame with location of different chassis components.
 - vi) Explain Sheet Stamping process.
- Q. 02 A) Explain methods of preliminary design of Passenger Car. 10
B) How to calculate the center of gravity for the vehicle. 10
- Q. 03 A) Classify the motor vehicle with neat sketches. 10
B) Explain the recent trends in body design with respect to safety consideration. 10
- Q. 04 A) Explain in brief properties of vehicle body materials. 10
B) Explain methods improving visibility and space in cars. 10
- Q. 05 A) Explain various body optimization techniques for minimum drag. 10
B) Explain in brief commercial vehicle body details. 10
- Q. 06 A) Explain various loading cases acting on vehicle. 10
B) Explain various power plant locations on chassis frame with Advantages and disadvantages. 10
-