

Total No. of Questions : 12]

SEAT No. :

P1790

[Total No. of Pages : 3

[5059]-38

B.E. (Mechanical Engineering)
AUTOMOBILE ENGINEERING
(2008 Pattern) (Semester - I)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) Answers to the two sections should be written in separate answer books.*
- 2) Answer any three questions from each section.*
- 3) Neat diagrams must be drawn wherever necessary.*
- 4) Figures to the right side indicate full marks.*
- 5) Use of Calculator is allowed.*
- 6) Assume Suitable data, if necessary.*

SECTION - I

- Q1)** a) What is chassis? Compare conventional chassis frame with frameless type chassis frame. [8]
- b) Explain with neat sketch layout of a four wheel drive. [8]

OR

- Q2)** a) What are vehicle specifications? Describe specification of any one light motor vehicle of your choice. [8]
- b) Explain the various sections used for side members and cross members of chassis frame. [8]

- Q3)** a) How do you classify clutches? Explain with neat sketch operation of electromagnetic clutch. [8]
- b) Explain the working of synchromesh gear box with the help of neat sketch. Also state its advantages & Disadvantages. [8]

OR

- Q4)** a) Explain the fluid flywheel with neat sketch? [8]
- b) Explain with neat sketch the function of differential in rear axle. [8]

P.T.O.

- Q5)** a) Write the purpose and requirement of front axle. [6]
b) Explain with neat sketch construction of stub axle and wheel mounting. [6]
c) Sketch recirculating ball type steering gear and explain its working. [6]

OR

- Q6)** a) Explain with neat sketch construction and working of collapsible steering. [6]
b) How are the tyres classified? What are the advantages of tubeless tyre over tubed tyre. [6]
c) Explain wheel alignment and wheel balancing in details. [6]

SECTION - II

- Q7)** a) What is interconnected suspension? Sketch and describe in briefly. [9]
b) Explain air brake system in detail. Also state its advantages over hydraulic brake system. [9]

OR

- Q8)** a) Explain ABS brake system in detail. Also state its advantages over other braking system. [9]
b) Explain Hydro gas suspension system in details. Also state its advantages and other brake system. [9]

- Q9)** a) Explain with neat sketch charging system used in automobiles. [6]
b) Explain with neat sketch lead acid battery. [5]
c) Explain with neat sketch wiper mechanism. [5]

OR

Q10) Write short notes on any Four : [16]

- a) Hybrid Drives
- b) Vehicle starting system
- c) Electronic stability control
- d) Sensors and actuators
- e) Dash board instruments

Q11) Write short notes on any Four :

[16]

- a) Vehicle safety
- b) Seat belts
- c) Vehicle interior
- d) Vehicle performance curve
- e) Air bags

OR

Q12) a) Explain different vehicle body moments.

[8]

b) Necessity of NVH analysis in Automobiles, explain in details.

[8]

