

Total No. of Questions : 6]

SEAT No. :

P21

[Total No. of Pages : 2

APR -17/ BE/ Insem -22

B.E. (Mechanical)

**AUTOMOBILE ENGINEERING (Elective III (e) Open Elective)
(2012 Pattern)**

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) *All questions carry equal marks.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Assume suitable data if, necessary.*

Q1) a) Explain front engine front wheel drive vehicle with of neat sketch. Describe its advantages and disadvantages over other layouts. [6]

b) Write note on different types of material used for chassis frame. [4]

OR

Q2) a) Sketch a typical layout of a vehicle and briefly describe its various parts. [6]

b) Write brief note on current scenario in Indian auto/ ancillary industries.[4]

Q3) a) How you will classify clutches? Describe with neat sketch function and working of Centrifugal clutch. [6]

b) Explain torque converter with neat sketch. [4]

OR

Q4) a) What is an epicyclic Gear box? Describe its principle and working with the help of a neat sketch. [6]

b) Draw a neat sketch of a typical differential unit in the back axle of a vehicle and explain its working. [4]

P.T.O.

- Q5)** a) Enumerate different types of steering gears. Explain the construction and working of a rack and pinion type steering gear. [6]
- b) What is power steering? Explain its principle with neat sketch. [4]

OR

- Q6)** a) Explain with neat sketch of four wheel steering and also write the function of reversibility of steering. [6]
- b) How tyres are classified? Explain any one with neat sketch. [4]

