Total No. of Questions : 10]

SEAT No. :

P2854

[Total No. of Pages : 2

[4958]-1035

T.E.(Automobile)

AUTOMOTIVE AERODYNAMICS AND BODY ENGINEERING

(2012 Pattern)(Semester-II)(End Sem)

Time :2½Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10.***
2) ***Neat diagrams should be drawn wherever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data if necessary.***

Q1) a) How down force make impact on racing vehicle performance? **[4]**

b) Introduce CFD as a helping tool for aerodynamic study of vehicles. **[6]**

OR

Q2) a) Explain in brief about gap configuration. **[4]**

b) Write in brief about any two flow visualisation technique in wind tunnel. **[6]**

Q3) a) What are methods to do front end modification? **[4]**

b) Write a short note on resistances offered to vehicle while running. **[6]**

OR

Q4) a) What is the difference between hatch back and sedan car? **[4]**

b) Write a short note on open and close wind tunnel. **[6]**

Q5) a) Explain in brief any 4 methods to improve driver's visibility. **[8]**

b) Write a short notes on **[8]**

i) Front assembly of car

ii) Roof assembly of car

OR

Q6) a) Sketch and explain in details any 4 types of bus body. **[8]**

b) Write a short note on types of metal section used for bus body construction. **[8]**

P.T.O.

Q7) a) Explain the basic truck body with flat platform, drop side, fixed side layout. **[8]**

b) Write constructional details of tanker body. **[8]**

OR

Q8) a) Write constructional details of tipper body. **[8]**

b) Write a short note on dimensions of driver seat in relation to control. **[8]**

Q9) a) Write a short note on symmetric & asymmetric vertical loads in car. **[9]**

b) Explain working of airbags and its type according to location. **[9]**

OR

Q10)a) Write a brief note on Idealized structure and structural surfaces. **[9]**

b) Write any 3 energy absorbing systems used in vehicles in brief. **[9]**