

Total No. of Questions : 10]

SEAT No. :

P3545

[Total No. of Pages : 2

[4959] - 1230

**B.E. (Automobile Engineering)
Vehicle Performance & Testing
(2012 Course) (Semester-II)**

Time : 2.30 Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10,*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right side indicate full marks.*
- 4) *Use of logarithmic tables slide rule, mollier charts, electronic pocket calculator and steam tables is allowed.*
- 5) *Assume Suitable data if necessary*

Q1) a) Explain construction & working of close loop λ ambda control system. **[6]**

b) Write a short note an 'gear box noise'. **[4]**

OR

Q2) a) Write a note on 'wheels & tyre testing'. **[6]**

b) Differentiate two way & three way catalytic convertor with sketch & chemical reactions. **[4]**

Q3) a) Write in brief about several testings of vehicle on chassies dynamometer. **[6]**

b) Explain procedure for testing of clutch. **[4]**

OR

Q4) a) Write a brief note on virtual testing. **[6]**

b) What is the purpose to carry endurance test? **[4]**

P.T.O.

- Q5)** a) With the help of detailing of drivers seat explain driving controls accessibility. [8]
b) Explain in brief, how energy absorption system helps to reduce fatalities in road accident. [8]

OR

- Q6)** a) Write a brief note on steering system enhancement regarding safety. [8]
b) Explain in brief about 'Adaptive cruise control'. [8]

- Q7)** a) Explain working & construction of any two types of crash sensors. [8]
b) How dummies helps to improve crash worthiness in vehicles. [8]

OR

- Q8)** a) Write a short note on: [8]
i) Pole crash test
ii) Vehicle to vehicle front impact.
b) Explain in brief 'Hybrid III family dummies'. [8]

- Q9)** a) Write a short note on model test & full scale test. [6]
b) How to overcome road shocks [6]
c) What is the causes & remedies on engine noise? [6]

OR

- Q10)** a) Explain in brief about wind noise. [6]
b) How sensors are selected for data acquisition. [6]
c) Draw mathematical model of vehicle suspension for vibration & explain. [6]

