

Total No. of Questions : 09]

SEAT No. :

P3539

[Total No. of Pages : 2

[4959] - 1222

B.E. Automobile
Automotive Chassis & Systems
(2012 Pattern) (Semester-I)

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 and Q9 is compulsory.*
- 2) *Neat diagrams must be drawn whenever 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.*

- Q1)** a) Explain ackerman steering & davis steering linkages with neat sketch. [6]
b) What are the types of suspension systems. Discuss any one. [4]

OR

- Q2)** a) Define following with neat sketch. [6]
i) Roll centre
ii) Sprung and unsprung mass
iii) King pin inclination.
b) Explain basic requirements of wheels and tyres. [4]

- Q3)** a) Discuss cross ply and radial ply tyre with constructional details. [6]
b) What do you mean by hydro elastic suspension system. [4]

OR

- Q4)** a) What is need of shock absorber. Explain operating principle. [6]
b) Compare tube tyre and tubeless tyre with advantages. [4]

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- Q5)** a) What are the requirements of braking system and function of braking system. [8]
b) Explain disk brake with the help of neat sketch. Also give advantages. [10]

OR

- Q6)** a) Explain engine exhaust brake in details. [8]
b) Draw layout of hydraulic brake system and explain all components of hydraulic system. [10]

- Q7)** a) Explain electronics stability program and draw simple layout. [8]
b) Compare active safety and passive system with examples. [8]

OR

- Q8)** a) What do you mean by safety glass and requirement of safety glass. [8]
b) Why rollover mitigation system comes in picture? Explain in details. [8]

Q9) Write a short note.

- a) Causes of chassis failure [6]
b) Draw lay out of heavy vehicle with nomenclature. [6]
c) Manufacturing process for chassis. [4]

