



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 140702

Roll No.

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B. Tech.

**(SEM. VII) (ODD SEM.) THEORY
EXAMINATION, 2014-15
AUTOMOBILE ENGINEERING**

Time : 3 Hours]

[Total Marks : 100

1 Attempt any FOUR parts : 5×4=20

- a) What is the function of a clutch? Discuss various factors affecting the torque transmission in a clutch.
- b) What is overdrive? Explain its construction and discuss its working briefly.
- c) Sketch Front axle of car and show how it is connected with the stub axle.
- d) Explain the terms :
 - I. Camber
 - II. Castor
 - III. Toe in

- e) List the various factor affecting the over steer and under steer.
- f) What is the function of universal joint? List its usage in vehicle.

2 Attempt any TWO parts : 10×2=20

- a) Write a ten step procedure for design of a gear box of an automobile.
- b) Briefly explain the variation of resistance to the vehicle motion at the various speeds and total resistance to the vehicle motion.
- c) Describe the working of a synchromesh gear box with the help of a sketch. What are its merits and demerits?

3 Attempt any TWO parts : 10×2=20

- a) Describe the air braking system with a neat sketch. State the advantages of it.
- b) Write short notes on :
 - I. Telescopic shock absorber
 - II. Leaf Spring.
- c) Explain transfer of weight during application. Discuss how it affect wheel skidding.

4 Attempt any TWO parts : 10×2=20

- a) Discuss in detail the comparison between the various ignition systems of an automobile.
- b) Discuss in detail the future trends for automotive lighting
- c) Describe in detail Multipoint Fuel injection system discussing the main system components

5 Attempt any TWO parts : 10×2=20

- a) What is the purpose of heating system in an automobile? Describe the heating system with a neat diagram.
- b) Write short notes on Preventive maintenance.
- c) Discuss in detail the water cooling system for automotive engines.