

- N.B. 1) **Question No. 1** is compulsory
- 2) Solve **any three** questions out of remaining five.
- 3) Provide **neat diagrams** wherever necessary.
- 4) All questions carry **equal** marks.
- Q.1) Write short note on following (**Any Four**) [20]
- Under-steer and Over-steer
 - Sprung and un-sprung mass
 - Inflation pressure and its importance
 - Over-running clutch.
 - Anti-lock braking system.
 - Overdrives.
- Q. 2) A) Explain various materials used for body construction. [10]
- B) What are the requirements of starting motors? Explain Bendix and Folo-through drive. [10]
- Q. 3) A) What are the objectives of suspension? Explain any two types of suspension systems in detail. [10]
- B) Explain Lead acid battery in detail with its maintenance and testing. [10]
- Q. 4) A) With neat diagram explain construction and working of Telescopic type shock absorber. [10]
- B) Classify gear box and explain sliding mesh gear box with diagram. [10]
- Q. 5) A) Stating importance of Vehicle Body Design, explain layouts of passenger bus. [10]
- B) With neat diagram explain construction and working of Hydraulic brake. [10]
- Q. 6) Write short note on following. (**Any Five**) [20]
- Hot wire and thin film air flow sensor
 - Oxygen sensor
 - Optical sensor
 - Methanol sensor
 - Position sensor
 - Rain sensor
 - Temperature sensor.
