

Q.P. Code : 27953

[Time : 3 hours]

[Marks : 80]

- 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]

- a) Under-steer and Over-steer
- b) Sprung and un-sprung mass
- c) Inflation pressure and its importance
- d) Over-running clutch.
- e) Anti-lock braking system.
- f) 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]

- a) Hot wire and thin film air flow sensor
- b) Oxygen sensor
- c) Optical sensor
- d) Methanol sensor
- e) Position sensor
- f) Rain sensor
- g) Temperature sensor.
