

Q. P. Code : 50641

Time : 3 hours

Marks 80



- N.B. 1) **Que. 1** is compulsory
2) Solve **any three** questions out of remaining **five**.
3) Provide **neat diagrams** wherever necessary.
4) All questions carry **equal** marks.

Que.1) Write short note on following (**Any Four**)

[20]

- Stability of vehicle in context of wheels and tyres.
- Requirement of steering gears.
- Forces acting in Independent suspension.
- New developments in the sensor technology.
- Importance of vehicle Body design.

Que. 2) A) Explain Open, Semi integral and integral bus structure.

[10]

B) Explain the requirement of Starter motor, solenoids and switches.

[10]

Que. 3) A) Explain Objective of shock absorber, with neat sketch explain telescopic shock absorber and its advantages.

[10]

B) Explain maintenance, testing and advantages of ZEBRA battery.

[10]

Que. 4) A) Explain requirement, types of Wheels and Tyres.

[10]

B) Explain Double declutching in Gearbox. With a neat sketch explain Constant mesh gear Box.

[10]

Que. 5) A) Explain different types of front axles and their constructions.

[10]

B) Explain some common Brake trouble shooting (at least **five**) in vehicle, and how antilock braking system (ABS) is essential nowadays.

[10]

Que. 6) Write short note on following. (**Any four**)

[20]

- Electronic Control module (ECM),
- Rectification from AC to DC.
- Electronic spark control.
- Oxygen sensors.
- Aerodynamic forces acting on vehicle.
- Working & application of temperature sensors.
