



17526

15116

3 Hours / 100 Marks

Seat No.

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- Instructions :**
- (1) All questions are **compulsory**.
 - (2) Answer **each** next main question on a **new** page.
 - (3) Illustrate your answers with **neat** sketches **wherever** necessary.
 - (4) Figures to the **right** indicate **full** marks.
 - (5) **Assume** suitable data, **if necessary**.
 - (6) Use of Non-programmable Electronic Pocket Calculator is **permissible**.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are **not** permissible in Examination Hall.

Marks

1. A) Attempt **any three** of the following : **12**
- a) State functions of transmission system in automobile.
 - b) Write any four advantages of front engine and rear wheel drive vehicle.
 - c) Enlist the requirements of steering system.
 - d) Explain the term :
 - i) King pin inclination
 - ii) Camber angle
- B) Attempt **any one** of the following : **6**
- a) Justify “Aerodynamic shape of an automobile improves performance of vehicle”.
 - b) Explain the working of transfer case with neat sketch and give its application.
2. Attempt **any four** of the following : **16**
- a) State various types of automobile bodies.
 - b) Differentiate between coil spring and diaphragm clutch. (**any four**)
 - c) With neat sketch, explain working of rack and pinion type steering gear.
 - d) State the need of differential with neat sketch.
 - e) Explain with neat sketch, full floating type rear drive.

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- 3. Attempt any two of the following :** **16**
- a) Explain with neat sketch, working of synchromesh gearbox.
 - b) State the requirements of steering geometry and explain toe in and toe out with neat sketch.
 - c) Explain hydraulic braking system with neat sketch.
- 4. A) Attempt any three of the following :** **12**
- a) Enlist any four requirements of suspension system in automobile.
 - b) Explain construction of air suspension with neat sketch.
 - c) Write different colour codes of wires used in automobile wiring system.
 - d) Explain the function of Bendix drive in starter system.
- B) Attempt any one of the following :** **6**
- a) Write any six important precautions to be taken while using AC systems in automobile.
 - b) State and explain air conditioning parameters for human comfort.
- 5. Attempt any four of the following :** **16**
- a) Enlist any four advantages of CDI ignition system.
 - b) List the various types of rims used in automobiles and draw neat sketch of any one.
 - c) Describe the working of Mac Pherson suspensions with neat sketch.
 - d) Differentiate between framed and frameless vehicle.
 - e) With neat sketch give the nomenclature of car body.
- 6. Attempt any two of the following :** **16**
- a) Enlist the different tests of battery. Explain specific gravity test of battery.
 - b) i) Sketch and explain working of fuel level gauge.
ii) Draw circuit diagram of lighting system of two wheeler.
 - c) State any eight probable causes of tyre wear and give its remedies.
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