

22442

11920

3 Hours / 70 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) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following: **10****
- Draw neat labelled sketches of Elliot and Lamoine type stub axle.
 - Compare between the Live and Dead Axle with suitable example. (Any two points)
 - State the necessity of brakes.
 - List down the different types of friction materials used in brakes liner.
 - Draw a proportionate sketch of “Semi Elliptical leaf spring.”
 - Classify the types of “Automobile Bodies.”
 - Give the significance of “Body streamlining” in an automobile.

P.T.O.

- 2. Attempt any THREE of the following:** **12**
- a) Explain the concept of understeering and oversteering with sketches.
 - b) Differentiate between Drum and Disc brake with justification. (Any four points)
 - c) Explain the constructional features of Gas filled shock Absorber with sketch.
 - d) Describe the stepwise procedure for painting of used vehicle.
- 3. Attempt any THREE of the following:** **12**
- a) Explain the following terms with sketch and suitable range :
 - (i) King pin inclination
 - (ii) Camber
 - b) Describe the working of Recirculating Ball type steering gear box with sketch.
 - c) State and explain the working principle of Hydrodynamic spring with suitable sketch.
 - d) Explain, Operation of Anti lock Braking system with it's layout.
- 4. Attempt any THREE of the following:** **12**
- a) Identify and explain the various components of rigid axle steering linkages with sketch.
 - b) Describe the salient features of Hydraulic type power assisted steering with sketch.
 - c) Describe the properties of brake fluid used in Light Motor Vehicle.
 - d) Explain the necessity of Anti Roll Bar in automobile with justification.
 - e) Compare between Hydraulic and Air braking system with justification. (Any four points)

5. Attempt any TWO of the following:**12**

- a) i) Give the detail classification of suspension system.
ii) State the necessity of suspension system.
- b) List the different body accessories used for passenger cars and explain any two body accessories with their function.
- c) Explain the working of HVAC system with proper layout.

6. Attempt any TWO of the following:**12**

- a) Describe the working of collapsible steering column with sketch.
 - b) Explain the human comfort conditions in Car AC system with justification.
 - c) Explain the concept of “Stability of vehicle on turn and slopes” with sketch.
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