

22561

23124

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**

- (a) State necessity of streamlining of auto bodies.
- (b) Define paint with it's objectives.
- (c) List two pneumatic and two hydraulic tools used in body repair process.
- (d) State use of Hammer and Dolly.
- (e) State two types of proximity sensors with two applications.
- (f) State pedestrian protection process.

**2. Attempt any THREE of the following :**

**12**

- (a) State requirements of bodies for various types of vehicle.
- (b) Explain tanker body with neat sketch.



- (c) Define following aerodynamic forces applied on a vehicle with neat sketch.
  - (i) Lift
  - (ii) Drag
  - (iii) Weight
  - (iv) Thrust
- (d) Describe wind tunnel with advantages and disadvantages.

**3. Attempt any THREE of the following : 12**

- (a) State meaning of GRP with it's properties and applications.
- (b) Explain four aerodynamic moments acting on vehicles with neat sketches.
- (c) State two painting equipments and two painting accessories with neat sketch.
- (d) Describe step by step process of panel shrinking operation with sketch.

**4. Attempt any THREE of the following : 12**

- (a) Suggest suitable process for repairing a rusted body panel with justification.
- (b) Describe tyre pressure monitoring system used in vehicles.
- (c) Explain working of seat belt pre-tensioner with neat sketch.
- (d) Define body aligning and also state different steps used in body aligning process.
- (e) Explain working of air bag system used in vehicles with its purposes.

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

- (a) Air spray painting method is suitable for vehicles or not. Justify your answer.
- (b) Discuss electronic straightening and measurement equipments with following points : constructional details, working, and functional ability.
- (c) Explain laminated glass with it's properties, advantages and disadvantages used in automobiles.

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

- (a) Suggest probable causes and relevant remedies for following painting defects :
    - (i) Seeds
    - (ii) Yellowing
    - (iii) Orange peel
  - (b) Suggest suitable steps for panel replacing process with justification.
  - (c) Describe GPS with following points :
    - (i) Constructional details
    - (ii) Working principle
    - (iii) Applications
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