24225

3 Hours / 70 Marks   Seat No. ☐☐☐☐☐☐☐☐

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.

Marks

1. **Attempt any FIVE of the following :**   **2 × 5 = 10**

(a) Define :

(i) Aerodynamic drag

(ii) Aerodynamic lift

(b) State use of following body refinishing materials :

(i) Primers

(ii) Fillers

(c) State two power tools used in automobile workshop with their purpose.

(d) State probable causes for following painting defects :

(i) Runs

(ii) Shrinkage

(e) State four minor body repairs.

(f) State the purpose of seat belt pretensioner.

(g) State importance of GPS system.

2. **Attempt any THREE of the following :** 4 × 3 = 12

   (a) State purpose & requirements of auto body.

   (b) Select bus body for public transport & justify its use.

   (c) Explain the necessity of streamlining of auto bodies.

   (d) What does NVH stands for ? Specify methods to improve NVH of vehicle.

3. **Attempt any THREE of the following :** 4 × 3 = 12

   (a) Explain various types of fasteners used in automobile.

   (b) Suggest methods to reduce aerodynamic resistance in car body.

   (c) Explain working of electronic straightening & measuring system.

   (d) Describe with neat sketches the damage in car body due to front end collision.

4. **Attempt any THREE of the following :** 4 × 3 = 12

   (a) Explain body service procedure for interior trim & upholestery.

   (b) Discuss in detail construction & working of air bag.

   (c) What is remote entry device ? Explain working principle of such device.

   (d) Suggest suitable procedure for repairing rusted body panels with justification.

   (e) Explain significance of crash test. List various types of crash test performed on vehicle.

5. **Attempt any TWO of the following :** 6 × 2 = 12

   (a) Explain process of panel replacement. Also list tools & equipments required.

   (b) Explain different frame & underbody repair tools & equipments.

   (c) Which materials are commonly used for automobile body ? Justify their application (Any three).

6. **Attempt any TWO of the following :** 6 × 2 = 12

   (a) Explain with neat sketch welder washer technique for panel repair.

   (b) Describe body painting procedure of new vehicle.

   (c) Explain necessity of pedestrian protection. Describe various systems to achieve the same.

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