

22561

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) 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.

1. Attempt any FIVE of the following :

**Marks
10**

- (a) State types of resistance faced by moving vehicle on road.
- (b) List types of glasses and give its application in automobile bodies.
- (c) List four basic hand tools used in automobile workshop and write their use.
- (d) State four major body repairs.
- (e) List two security systems used in modern cars with importance.
- (f) List any two paint methods along with their significance.
- (g) State types of seat belts with application.

2. Attempt any THREE of the following :

12

- (a) Compare conventional auto body with unitized body.
- (b) Explain effect of streamlining of body on performance of vehicle with sketch.
- (c) Select body for truck & justify its use.
- (d) Describe with neat sketch wind tunnel testing of car body.

- 3. Attempt any THREE of the following : 12**
- (a) Explain effect of aerodynamic drag on vehicle performance with sketch.
 - (b) Describe types of sheet metal used in body construction along with its characteristics.
 - (c) State four major body shop equipments and write their uses.
 - (d) Explain with relevant justification body repair by filler – forming with solder.
- 4. Attempt any THREE of the following : 12**
- (a) State requirements of automobile bodies.
 - (b) List out the types of resins and explain its characteristics.
 - (c) With neat sketch explain electronic straightening and measurement system.
 - (d) Describe with sketch repairing of rusted body panels.
 - (e) Describe the concept of crash test of new vehicle.
- 5. Attempt any TWO of the following : 12**
- (a) Justify the use of plastic parts in automobile along with its applications.
 - (b) Explain with sketch the use of following painting equipments :
 - (i) Spray gun
 - (ii) Compressor
 - (iii) Buffing machine
 - (c) Explain with sketches damages in car body due to side swipe collision.
- 6. Attempt any TWO of the following : 12**
- (a) Describe repainting procedure of old vehicle and state major equipments required.
 - (b) Explain with sketch working of dual stage air bags.
 - (c) Explain protective & anti corrosive methods used in automobile along with their significance.
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