

Scheme - I

Sample Question Paper

Program Name : Diploma in Automobile Engineering
Program Code : AE
Semester : Fifth
Course Title : Automobile Body Engineering and Safety (Elective)
Marks : 70

22561

Time: 3 Hrs.

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1) Attempt any FIVE of the following.

10 Marks

- a) State the resistances faced by the moving vehicle.
- b) Write meaning of GRP and give its application in auto bodies.
- c) List four frame and under body repair tools and equipments.
- d) State four minor body repairs.
- e) List two painting methods and write significance of each.
- f) Give two security systems used in a modern car with their importance.
- g) State types of air bags with their purpose.

Q.2) Attempt any THREE of the following.

12 Marks

- a) Classify the auto bodies on the basis of – i) Use ii) Shape.
- b) Select a body for bus and justify its use.
- c) Explain the necessity of streamlining of auto bodies with sketches.
- d) Describe with sketch the process of collision testing of a car body.

Q.3) Attempt any THREE of the following.

12 Marks

- a) Describe Sheet metal as auto body material with its advantages and disadvantages.
- b) Suggest the methods to reduce aerodynamic drag in car body.
- c) State four safety precautions for handling body shop equipments with justification.
- d) Describe with sketch panel shrinking operation.

Q.4) Attempt any Three of the following.

12 Marks

- a) Describe with sketches the damages in car body due to front end collision.
- b) Explain the necessity of seat belts for a car with relevant justification.
- c) Describe with sketch working of GPS.
- d) Suggest suitable processes for repairing a rusted body panels with justification.
- e) Explain application of tyre pressure monitoring system with relevant justifications.

Q.5) Attempt any TWO of the following.

12 Marks

- a) Select relevant methods for removing a dent of a car body with justification.
- b) Explain the use of electronic straightening and measuring system with relevant justification.
- c) Justify the use of fasteners in auto body construction with their applications.

Q.6) Attempt any TWO of the following.

12 Marks

- a) Select relevant repair methods for metal body and wooden body with justifications.
- b) Suggest a painting method for a whole car body with justification. Also, give tools and equipments required for it.
- c) Explain with sketches the working of dual stage air bags in the event of collision.

Scheme - I

Sample Test Paper - I

Program Name : Diploma in Automobile Engineering

Program Code : AE

Semester : Fifth

Course Title : Automobile Body Engineering and Safety (Elective)

Marks : 20

22561

Time: 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.

08 Marks

- a. Give meaning of streamlining of auto body.
- b. Define – i) Aerodynamic Drag ii) Coefficient of Drag.
- c. List two materials used in LMV body construction with their applications.
- d. Write four body parts that are made up of plastic.
- e. State two power tools used in body repair work along with their purpose.

Q.2 Attempt any TWO

12 Marks

- a. Describe with labeled sketch constructional details of conventional auto body.
- b. Describe with sketch types of forces acting on auto body. Also state two effects of these forces on vehicle performance.
- c. Select the materials for windows, Dashboard, front and rear windscreen with relevant justification.

Scheme - I

Sample Test Paper - I

Program Name : Diploma in Automobile Engineering

Program Code : AE

Semester : Fifth

Course Title : Automobile Body Engineering and Safety (Elective)

Marks : 20

22561

Time: 1 Hour

Instructions:

- (1) All questions are compulsory.
- (2) Illustrate your answers with neat sketches wherever necessary.
- (3) Figures to the right indicate full marks.
- (4) Assume suitable data if necessary.
- (5) Preferably, write the answers in sequential order.

Q.1 Attempt any FOUR.

08 Marks

- a. State two denting tools and equipments with their purpose.
- b. List two painting methods and write significance of each.
- c. State meaning of Body alignment.
- d. State preventing and anti-corrosive treatments for auto bodies.
- e. State function of proximity sensor used in entertainment system.
- f. State types of air bags with their purpose.

Q.2 Attempt any TWO.

12Marks

- a. Describe the procedure for panel replacement of a car body. Also list the tools and equipment required for it.
- b. Suggest probable causes and relevant remedies for painting defects-
 - i) Cracking ii) Shrinking and splitting iii) Cratering and Crawling
- c. Show the locations of air bags in a car body with sketches and write their significance.