

N-Scheme Model Examination Question Paper*Time : Three hours**(Maximum Marks : 100)*

[N.B : (1) For Part - A. Answer All Questions. All question carry equal marks. (3x10 = 30)
(2) For Part - B. Answer all questions by choosing either A or B. (5 x 14 = 70)]

PART – A**(3x1 = 10)**

1. Explain drag, side force and lift forces in details.
2. Explain pitching, yawing, and rolling moments in details.
3. What is the gas used in Air bags
4. Give the importance of visibility?
5. State the merits and demerits of modular construction
6. What is seating?
7. Define : Light commercial vehicle.
8. What are the advantages and disadvantages of flat platform body?
9. What is the use of hammer in body repair works?
10. What is the purpose of dolly blocks?

PART – B**(5x14 = 70)**

11. (a) (i) Explain in detail about drag reducing devices in commercial vehicles.
(ii) Explain in brief about the component balance to measure forces and moments.
(or)
(b) (i) Explain about the objectives of aerodynamics and various types of vehicle drag
(ii) Describe about the various types of forces and moments acting on vehicle body and their effects?

12. (a) (I) Explain the purpose of car body and name the components attached to the car body?
(ii) Explain with sketches the various types of car bodies and their special features.
(or)
- (b) (i) Explain the safety features or systems included in the car body.
(ii) Bring out the importance of safety in body design. Explain various safety equipment and methods.
13. (a) (i) Explain the detail about types of bus bodies.
(ii) Explain the layout of bus body with suitable sketches.
(or)
- (b) (I) Explain about the design of seats and seat angles.
(ii) Explain the different types of metal sections used for bus body.
14. (a) (I) Explain in detail about different types of commercial vehicle bodies
(ii) Explain the various types of light commercial vehicle bodies.
(or)
- (b) (I) Explain in detail about textiles and glass materials used in automotive.
(ii) Explain in detail about adhesives and their properties. for bus body.
15. (a) (I) Explain the difference type of body panel removing hand tools.
(ii) Briefly explain about the different types of power tools used for body repair works.
(or)
- (b) (I) Explain about painting surface preparation and spray painting method in detail.
(ii) Briefly write about the paintless dent removal method.