



B.E DEGREE EXAMINATIONS: NOV2015

(Regulation 2009)

Seventh Semester

AUTOMOBILE ENGINEERING

AUE118: Vehicle Body Engineering

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Select the vehicle which uses retractable roof
 - a) Estate van
 - b) Limousine
 - c) Convertible
 - d) Sedan
2. Pillar which affects the frontal visibility of the driver is
 - a) A – Pillar
 - b) B – Pillar
 - c) C - Pillar
 - d) D- Pillar
3. What is the percentage of form drag in an automobile?
 - a) 10%
 - b) 22%
 - c) 100%
 - d) 57%
4. Wind tunnel tests are performed to study the
 - a) Effect of cooling by the radiator
 - b) Engine performance
 - c) Flow pattern around the body of a vehicle
 - d) Braking efficiency of a vehicle
5. Select the route type preferred for Double decker buses
 - a) Long distance travel
 - b) Hill areas
 - c) Urban driving
 - d) Shorter routes
6. Choose the best power train configuration for a low floor buses
 - a) Engine above the front axle and rear wheel drive
 - b) Engine front of the front axle and rear wheel drive
 - c) Front engine front wheel drive
 - d) Rear engine rear wheel drive
7. Select the body type preferred for Commercial vehicle with provision for easy loading and unloading platform

- a) Drop side
 - b) Tipper body
 - c) Tanker body
 - d) Flat platform
8. Driver cabin's are designed based on
- a) No of axles
 - b) No. of passengers
 - c) Type of vehicle
 - d) No of wheels
9. Select the economically viable material for vehicle body construction
- a) Plastic
 - b) Wood
 - c) Steel
 - d) GRP
10. Thermal insulation of body trims are done to
- a) Reduce noise entering the cabin
 - b) Reduce heat entering the cabin
 - c) To increase the weight
 - d) Keep the temperature of the cabin constant.s

PART B (10 x 2 = 20 Marks)

11. Classify cars based on size.
12. What is the importance of Bumper in a car?
13. What are the advantages of wind tunnel testing?
14. Name at least two forces acting on the vehicle due to aerodynamic load.
15. Justify the use of Articulated Buses in Airports.
16. Name the parameters which affect the layout of Bus body construction.
17. What is Fifth wheel coupling?
18. Name the parameters which are used to design the Back rest of a driver seat.
19. What is double skin construction?
20. What is GRP?

PART C (5 x 14 = 70 Marks)

21. a) Discuss various methods used to improve visibility of a driver in a car

(OR)

- b) Discuss the various type of car body designs with necessary sketches

22. a) What is the effect of aerodynamic forces on a vehicle? Explain with a sketch

(OR)

b) Explain one of the flow pattern visualization methods used in wind tunnels.

23. a) With a sketch explain the bus body structure

(OR)

b) Classify the buses based on distance travelled and explain their unique features.

24. a) Discuss the various type of Light Commercial Vehicles with layouts.

(OR)

b) Discuss the various parameters which affect the design of driver seats.

25. a) Explain the painting process with a sketch.

(OR)

b) Explain the window winding mechanism
