Course: Vehicle Body Engineering **Semester: VIII**
Program: B.Tech ADE **Time 03 hrs.**
Course Code: ADEG 301 **Max. Marks: 100**

SECTION A **(6*5 Marks = 30)**

1. Summarize the development of the vehicle body since the inception of automobiles
2. List out the basic upholstery required in a car.
3. Discuss aerodynamic drag and rolling resistance and briefly explain the consequences of higher drag in a vehicle.
4. Explain the constructional details of bus bodies and the effect of aerodynamics in buses as compared to the light motor vehicles.
5. Define corrosion & list out the various reasons of corrosion in vehicle.
6. Fill up the blanks:
    a. …… piece of bodywork on the fender that cover the upper portions of the rear tires of an automobile.
    b. …… is angular oscillation of the vehicle about the vertical axis.
    c. …….. is the raised part of the hood of a car.
    d. The …… body consists of framing covered with sheet metal panels. The joints of the panels covered with suitable aluminum moldings.
    e. ….. corrosion can occur because of electrochemical reaction between two different materials.

SECTION B **(5*10 Marks = 50)**

7. Categorize and explain the use of different materials in car bodies
8. Describe various measures needs to take to ensure proper aerodynamics in heavy commercial vehicles

OR

Discuss in detail why aerodynamics in trucks and busses are different from cars/small passenger vehicles

9. Explain why GRP has been used majorly as modern vehicle material. What other various materials used for soft trims.
10. Classify different buses bodies and explain the conventional & integral bus body construction.
11. Analyze different techniques used to measure the wind drag on the car.

SECTION C **(1*20 Marks = 20)**

12. Explain different types of chassis frames used for body manufacturing. Analyze the measures to improve the visibility of a driver.

OR

Comment on the stability of vehicle during cross winds, aerodynamic noise and its reduction measures. Differentiate normal control and forward control vehicles.