Name:

Enrolment No:

UPES
UNIVERSITY WITH A PURPOSE

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, May 2019

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

Instructions: Draw suitable diagram wherever necessary

SECTION A

S. No.		Marks	CO
Q 1	Discuss in brief the classification of vehicles.	**4**	**CO1**
Q 2	Explain upholstery. List out the basic upholstery required in a car.	**4**	**CO4**
Q 3	Define corrosion. List out the various reasons of corrosion in vehicle.	**4**	**CO4**
Q 4	Differentiate Integral and Separate chassis constructions.	**4**	**CO1**
Q 5	Classify buses based on their body shapes.	**4**	**CO1**
	SECTION B		
Q 6	Explain in detail all the common type of corrosion & their causes on a vehicle body.	**10**	**CO4**
Q 7	Define Trims. Discuss in detail about soft trim and hard trims along with their roles in vehicle body. **OR** Explain GRP with detailed design consideration GRP moulding for vehicle body purpose.	**10**	**CO4**
Q 8	Differentiate Normal Control Vehicle and Forward Control Vehicle with proper diagram.	**10**	**CO3**
Q 9	As an Automotive Designer Engineer, explain different safety parameters you will consider while designing a passenger car with diagrams.	**10**	**CO2**
	SECTION-C		
Q 10	Explain in detail different types of Aerodynamic Drag and its effects	**20**	**CO2**
Q11	Discuss in detail following commercial vehicles: a. Flat platform b. Tipper c. Tanker d. Box van e. Drop Side Body **OR** a. Describe various measures needs to ensure proper aerodynamics in heavy commercial vehicles. b. Analyze the considerations of aerodynamics in heavy vehicles and their difference from small passenger vehicles.	**20**	**CO3**

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SECTION A

S. No.		Marks	CO
Q 1	Discuss different types of car bodies.	4	CO1
Q 2	Describe the role of trim in safety of the passenger	4	CO4
Q 3	State crevice corrosion in brief	4	CO4
Q 4	State important difference between Integral and Semi Integral chassis construction	4	CO1
Q 5	Discuss the important characteristics of Mini Bus and Town/City Bus	4	CO1
	SECTION B		
Q 6	Describe with justification different types of materials used for trim	10	CO4
Q 7	Explain in detail the repair technique of GRP moulding. **OR** Explain the type of corrosion and its causes occur in floor sections of the vehicle frame.	10	CO4
Q 8	State the construction, advantages and disadvantages of articulated commercial vehicles	10	CO3
Q 9	Explain wind tunnel testing in detail with the help of diagrams and comment on the purpose of the test.	10	CO2
	SECTION-C		
Q 10	Justify with an example "Aerodynamic study is helps in determining power requirement of a vehicle at certain speed".	20	CO2
Q11	Summarize all the important methods of reducing Aerodynamic Drag in Trucks with suitable diagram. **OR** Categorize commercial vehicle on the basis of their body type, explain any four types of commercial vehicles in detail.	20	CO3