MSTI

Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020 Vehicle Body Engineering and Safety

Time: 3 hrs. Max. Marks:100

Note: Answer any FIVE full questions, selecting at least TWO questions from each part.

		at least TwO questions from each part.	
PART - A			
1	a.	Draw the layouts of bus and coach bodies and explain.	(10 Marks)
	b.	What are the different methods of construction of a vehicle body? Explain.	(10 Marks)
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2	0	What are the factors to be considered in selection of paint?	(04 Marks)
4	a.	With a neat block diagram, explain the process of painting.	(04 Marks)
	b.		
	C.	What are the different types of plastics used in vehicle body construction?	
		specification and properties.	(10 Marks)
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3	a.	What are the Aerodynamic forces and moments acting on a vehicles body? Ex	
		with a suitable sketch.	(10 Marks)
	b.	With a neat sketch, explain the wind tunnel test to determine the coefficient of	
		vehicle.	(10 Marks)
4	a. What are the different types of vehicle body structure? Explain with neat skeep		s. (10 Marks)
	b.	Discuss the following loading cases for vehicles body design:	
		i) Symmetric loading ii) Asymmetric loading	
		iii) Longitudinal loading iv) Static loading with suitable sketches.	(10 Marks)
		PART - B	
5	a.	Explain interior Ergonomics of driver's frontal and rear visibility in a vehicle, v	vith suitable
		sketches.	(10 Marks)
	b.	What are the different methods to improve visibility?	(05 Marks)
	c.	Explain briefly the window winding concept and seat adjustment mechanisms.	(05 Marks)
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6	a.	Discuss different types of stability in brief.	(10 Marks)
U	b.	What are the effects of operating factors on lateral stability? Explain flow Eng	ine location
	0.	effects stability	(10 Marks)
		Circuis Stability	
7	0	Explain the various sources of Noise and methods to control the Noise.	(10 Marks)
7	a.	Explain the following:	(=======)
	b.	The state of the s	(10 Marks)
		i) Body Structural Vibration ii) Chassis Bearing Vibration.	(101144113)

a. Explain the various safety devices used in a vehicles.
b. What is bumper? Explain different types of bumper.
(10 Marks)

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