

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE –SEMESTER-VIII -EXAMINATION- SUMMER 2020****Subject Code:2181915****Date: 02/11/2020****Subject Name: Automobile Engineering****Time:02.30 PM TO 05.00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
<b>Q.1</b>	(a) Draw vehicle layouts in Automobile of Front engine front wheel drive.	<b>03</b>
	(b) Define following terms 1. Caster 2. Camber 3. Toe-in 4. Toe –out	<b>04</b>
	(c) Explain with figure construction and working of Single plate clutch.	<b>07</b>
<b>Q.2</b>	(a) Explain rolling resistance, gradient resistance, and wind resistance.	<b>03</b>
	(b) Discuss relative merits and demerits of the tube and tubeless tyres for automotive use.	<b>04</b>
	(c) Explain constant mesh gear box (Three forward and one reverse) working with neat sketch	<b>07</b>
	<b>OR</b>	
	(c) Explain briefly 'SSS method	<b>07</b>
<b>Q.3</b>	(a) Explain the necessity of transmission in a vehicle	<b>03</b>
	(b) Compare Hotchkiss drive with Torque tube drive.	<b>04</b>
	(c) Discuss in detail various requirements of automobile body.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) What is the function of propeller shaft also draw its figure.	<b>03</b>
	(b) Write a short note on differential used in the vehicles	<b>04</b>
	(c) Explain double wishbone suspension system	<b>07</b>
<b>Q.4</b>	(a) Explain understeer and oversteer with neat diagram.	<b>03</b>
	(b) Compare Hotchkiss drive with Torque tube drive	<b>04</b>
	(c) Give the comparison between Disc brake and Drum brake with neat sketch.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) What is the function of brake? Give its classification	<b>03</b>
	(b) Explain function of Frame.	<b>04</b>
	(c) Write short note on Power steering.	<b>07</b>
<b>Q.5</b>	(a) List of indicating light used in automobile	<b>03</b>
	(b) Name the different types of materials used in body construction with each one its application.	<b>04</b>
	(c) Write about Electric vehicle.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) What is wheel alignment? Write down its important for vehicle	<b>03</b>
	(b) Explain battery charging system.	<b>04</b>
	(c) Draw a simplified wiring circuit for the lighting system of car and discuss the same.	<b>07</b>

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