

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2021****Subject Code:2150207****Date:13/09/2021****Subject Name:Automobile Transmission****Time:10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		<b>MARKS</b>
<b>Q.1</b>	(a) Write classification of transmission systems.	<b>03</b>
	(b) Explain various resistances to motion of a vehicle.	<b>04</b>
	(c) Explain two wheel, four wheel drive and multi axle drive system.	<b>07</b>
<b>Q.2</b>	(a) Explain working principle of clutch operation.	<b>03</b>
	(b) Differentiate Dry and wet clutch in details	<b>04</b>
	(c) With neat sketch explain construction and working of multi-plate clutch.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(c) Derive equation of torque for cone clutch as per uniform wear theory.	<b>07</b>
	(a) List objectives of the gear box for automobiles	<b>03</b>
	(b) Explain any four points of gear maintenance	<b>04</b>
	(c) With neat sketch explain construction and working of sliding-mesh gear box.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Define double declutching and synchronizing.	<b>03</b>
	(b) Prepare sketch of Transfer box showing constructional details	<b>04</b>
	(c) Explain working of torque convertor with its torque characteristics curve.	<b>07</b>
<b>Q.4</b>	(a) What do you mean by overdrives? Explain in brief.	<b>03</b>
	(b) Explain hydraulic mode of operation clutch with sketch.	<b>04</b>
	(c) Give the causes for noise produced by the gear box in neutral position.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) What is the principal of hydrostatic drive?	<b>03</b>
	(b) List advantages hydrostatic drive over hydrodynamic drive	<b>04</b>
	(c) Discuss the principle of early and modified Ward Leonard Control system.	<b>07</b>
<b>Q.5</b>	(a) Explain working principle of fluid coupling with suitable example.	<b>03</b>
	(b) Enlist different types of gear shifting mechanism and explain any one in brief.	<b>04</b>
	(c) Explain automatic transmission with intelligent Electronic control systems.	<b>07</b>
<b>OR</b>		
<b>Q.5</b>	(a) Draw the layout of electric vehicle.	<b>03</b>
	(b) List advantages and limitation of Electric drive.	<b>04</b>
	(c) Explain function and concept of Chevrolet turbo glide transmission.	<b>07</b>

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