

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2024

Subject Code:2150207

Date:31-05-2024

Subject Name:Automobile Transmission

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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Draw layout of four wheel drive.	03
	(b) Explain various resistances to motion of a vehicle.	04
	(c) With the help of complete sketch locate and explain all the components of transmission system.	07
Q.2	(a) Explain requirements of good clutch.	03
	(b) Explain principle of operation of clutch.	04
	(c) Explain working of single plate clutch with neat sketch showing constructional details.	07
<b>OR</b>		
	(c) With neat sketch explain torque convertor.	07
Q.3	(a) Compare hydrostatic and hydrodynamic drive	03
	(b) List objectives of the gear box for automobiles.	04
	(c) With neat sketch explain construction and working of 4 forward and 1 reverse sliding-mesh gear box.	07
<b>OR</b>		
Q.3	(a) Define double declutching and synchronizing.	03
	(b) Explain any two trouble shooting and remedies of gear box.	04
	(c) Explain working of torque convertor with its torque characteristics curve.	07
Q.4	(a) Write merit and demerit of electric drive.	03
	(b) Discuss the principle of early Ward Leonard Control system.	04
	(c) Explain construction and working of typical Janny hydrostatic drive.	07
<b>OR</b>		
Q.4	(a) What is Transaxles? Explain.	03
	(b) Explain in brief hydraulic actuation system.	04
	(c) Give the causes for noise produced by the gear box in neutral position.	07
Q.5	(a) Write brief note on hybrid drive system.	03
	(b) Write short note on freewheel clutch.	04
	(c) Explain Chevrolet "Turbo glide" Transmission	07
<b>OR</b>		
Q.5	(a) Draw the layout of electric vehicle	03
	(b) Write note on types of clutch lining materials.	04
	(c) Write short not on an electric-hybrid vehicle.	07

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