

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER- V EXAMINATION-SUMMER 2023****Subject Code: 2150207****Date: 03/07/2023****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) Explain necessity of Double De-Clutching in constant mesh gearbox.	03
	(b) Differentiate between air resistance and rolling resistance.	04
	(c) Explain single plate clutch in detail with neat sketch.	07
Q.2	(a) Differentiate between front wheel drive and rear wheel drive.	03
	(b) Explain friction material used in clutch with co-efficient of friction.	04
	(c) Explain Need of transmission system. Enlist components of transmission system and show on figure.	07
OR		
	(c) Write trouble shooting and remedies of clutch.	07
Q.3	(a) Explain basic need of gear box.	03
	(b) Explain transfer box.	04
	(c) Explain synchromesh gear box in detail with neat sketch.	07
OR		
Q.3	(a) Explain working principle of electric drive.	03
	(b) Differentiate hydro static and hydro dynamic drive	04
	(c) Explain torque converter in detail with working principle.	07
Q.4	(a) Explain type of hydro static drive.	03
	(b) Explain Modified Ward Leonard control system.	04
	(c) Enlist gear shifting mechanisms. Describe gear lever on top of transmission case.	07
OR		
Q.4	(a) Write advantages and disadvantages of fluid coupling.	03
	(b) Explain hydraulic actuation system.	04
	(c) Explain janny hydrostatic with neat sketch.	07
Q.5	(a) Describe the terms. Tractive effort, Traction, Gradient resistance	03
	(b) Differentiate Fluid coupling and Torque converter system.	04
	(c) What is hybrid drive system? Explain layout of series and parallel hybrid drive system.	07
OR		
Q.5	(a) Write requirements of good clutch.	03
	(b) Explain advantages and limitation of elective use in vehicle.	04
	(c) Explain automatic transmission with intelligent electronic control system.	07
