

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2022****Subject Code:2150207****Date:09-01-2023****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.

		MARKS
Q.1	(a) Define following terms: (1) Tractive effort (2) Double declutching (3) Rolling resistance	03
	(b) Differentiate single plate and centrifugal clutch.	04
	(c) Classify transmission systems in details with neat sketch.	07
Q.2	(a) Explain the clutch principle. Enlist different friction lining materials.	03
	(b) Differentiate dry and wet type of clutch.	04
	(c) Explain the constant mesh gear box with neat sketch. Also enlist merits and demerits over sliding mesh gear box.	07
OR		
	(c) Explain the need of transfer box. Also explain the planetary gear box used in automobiles with neat sketch.	07
Q.3	(a) Explain the principal of torque convertor with neat sketch.	03
	(b) Explain gear box maintenance.	04
	(c) Differentiate hydrostatic and hydrodynamic drive.	07
OR		
Q.3	(a) Explain the principle of modified Ward Leonard control system.	03
	(b) Explain the role of convertor coupling in hydrodynamic drive.	04
	(c) Explain construction and working of typical Janny hydrostatic drive with neat sketch.	07
Q.4	(a) Explain hydraulic actuation system	03
	(b) State the limitations of cone clutch with torque transmission capacity over single plate clutch.	04
	(c) Explain automatic transmission with intelligent electronic control system.	07
OR		
Q.4	(a) Differentiate rear wheel and four-wheel drive.	03
	(b) Explain various transmissions in scooter in details.	04
	(c) Explain the function and concept of Chevrolet turbo glide transmission.	07
Q.5	(a) Explain clutch judder with its remedy.	03
	(b) Explain construction and working of gear shifting mechanism.	04
	(c) Explain synchromesh gear box with neat sketch.	07
OR		
Q.5	(a) Explain the role of E-vehicle in future automobile.	03
	(b) Explain overdrive with neat sketch.	04
	(c) Explain drive systems in an electric and hybrid vehicle.	07
