

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) - EXAMINATION – SUMMER 2017****Subject Code: 2150207****Date: 10/05/2017****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.

		MARKS
Q.1	Short Questions	14
	1 Define rolling resistance.	
	2 Define grade resistance.	
	3 Define air resistance.	
	4 Explain the function of clutch.	
	5 Why multi-plate clutch used in bikes?	
	6 Write down the limitations of cone clutch.	
	7 What is double declutching?	
	8 Write down the limitations of sliding mesh gear box.	
	9 Define hydrostatic drive.	
	10 Define electric drive.	
	11 Define hydrodynamic drive	
	12 What is hybrid vehicle?	
	13 List the types of transmission.	
	14 Define tractive effort	
Q.2	(a) Explain four wheel drive and all-wheel drive.	03
	(b) List advantages and limitations of front wheel rear wheel drive.	04
	(c) With neat sketch explain construction and working of multi-plate clutch.	07
	OR	
	(c) With neat sketch explain construction and working of semi-centrifugal clutch.	07
Q.3	(a) With neat sketch explain construction and working of constant-mesh gear box.	03
	(b) Write short note on epi-cyclic gear train.	04
	(c) With diagram explain synchromesh gear train.	07
	OR	
Q.3	(a) With neat diagram explain cone clutch.	03
	(b) Explain clutch maintenance.	04
	(c) Explain construction and working of transfer box.	07
Q.4	(a) Give the difference between hydrostatic drive and hydrodynamic drive.	03
	(b) What are desired properties of clutch lining material?	04
	(c) With neat sketch explain transfer box	07
	OR	
Q.4	(a) Explain the types of hydrostatic drive.	03
	(b) Explain series and parallel hybrid vehicle configuration.	04
	(c) Explain with neat sketch construction and working of torque converter.	07
Q.5	(a) Explain principle of modified ward lenard system.	03
	(b) Explain gear maintenance.	04
	(c) With neat sketch explain fluid flywheel.	07
	OR	

- Q.5** (a) Explain hydraulic actuation system. **03**
(b) Explain principle of early ward lenard system. **04**
(c) Explain construction and working of typical janny hydrostatic drive. **07**
