Seat No.: _____ **Enrolment No._____**

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**

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