Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII • EXAMINATION – SUMMER • 2015

Subject Code: 171902 **Date: 08/05/2015**

Subject Name: Automobile Engineering

Time:02.30pm-05.00pm **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Give the detail classification of automobiles.	**07**
	(b)	Explain the terms: Camber, Castor, and steering axis inclination. What are the effects of each on steering characteristics of a vehicle?	**07**
Q.2	**(a)**	Explain construction and working of differential unit with neat sketch.	**07**
	(b)	Explain the working principal of two universal joints to obtain constant velocity.	**07**
		OR	
	(b)	What is chassis? What are the components of a chassis? Indicate their functions.	**07**
Q.3	**(a)**	Explain the effect of various factors on the performance of a tyre. In respect, justify the importance of tyre rotation.	**07**
	(b)	Write a short note on torque convertor and overdrive.	**07**
		OR	
Q.3	**(a)**	With neat sketch explain construction and working of Master cylinder.	**07**
	(b)	Explain construction and working of telescopic type shock absorber.	**07**
Q.4	**(a)**	State the functions of the following. (1) Central Locking System (2) Vehicle Tracking System (3) Tachometer (4) Windscreen wiper (5) Direction Indicators(6) Hazard Flashes (7) safety belts.	**07**
	(b)	Discuss in detail the Ackermann steering mechanism.	**07**
		OR	
Q.4	**(a)**	Classify automobile garages and explain the services carried out in a Garage.	**07**
	(b)	Explain anti-lock brake systems.	**07**
Q.5	**(a)**	Write brief notes on Motor Vehicle Act.	**07**
	(b)	Explain Registration of Motor vehicles in detail.	**07**
		OR	
Q.5	**(a)**	What are the advantages and disadvantages of Nitrogen gas in tyre.	**07**
	(b)	Explain the lighting circuit diagram of a car.	**07**

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