HASMUKH GOSWAMI COLLEGE OF ENGINEERING, VAHELAL
MID SEMESTER EXAMINATION, SEPTEMBER-2016

Subject Code: 2170203	**Date: 24/09/2016**
Subject Name: Vehicle Dynamics	**Sem: 7TH**
Time: 10:00 AM TO 10:50 AM	**Total Marks: 20**

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

QUE.1	**(A)**	Draw SAE axis system.	**3**
	(B)	Draw Earth coordinate system.	**3**
QUE.2	**(A)**	Define brake factor in case of drum brake system. Draw forces acting on brake shoes and explain self-servo effect.	**3**
	(B)	Draw Tyre axis system along with forces and moments.	**4**

<div align="center">OR</div>

	(B)	Draw pressure distribution along the centre line of car.	**4**
QUE.3	**(A)**	Explain Anti dive suspension geometry.	**3**
	(B)	Derive the equation to calculate the dynamic axle load for the following Condition of four wheeler, When the vehicle on level ground under static condition.	**4**

<div align="center">OR</div>

	(A)	Draw Roll-center Axis for Double Wishbone Suspension system.	3
	(B)	Define Neutral Steer, Under steer & Over steer conditions and explain how these conditions affect the performance of the vehicle. Also discuss the parameters that can be varied to change the condition.	4

****************************** **ALL THE BEST** ******************************