# VIT®

## Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

## SCHOOL OF MECHANICAL ENGINEERING
### Continuous Assessment Test - II, September 2019
### B.Tech (*BMA/BME/BEM*), Fall -2019-20

Class Nbr: VL2019201001353

Course Code : MEE2050      Duration     : 90 Minutes.

Course Name : Vehicle Dynamics     Max. Marks : 50

Faculty-In-Charge: Dr.K.Prabu     Slot         : A1+TA1

### Answer all questions

### Part A (2x10=20)

1. Analyze the stability of a small passenger car when it is negotiating a left turn.    4

2. Assume the road surface provides little traction, when the road is wet / slippery / snow / ice. Suggest suitable solution for any one of the case to ensure the tractive effort and directional stability related to tyre dynamics.    3

### Part B (2x15=30)

3. Estimate the center of mass of a car in longitudinal, lateral and normal directions with suitable sketches.    1

4. Discuss your views about the effect of cornering performance on tyre construction, tread design and road surfaces.    3