Discipline : Automobile	Semester:6TH	Name of the Teaching Faculty : KUMAR GYANADEEP
Subject : VEHICLE DYNAMICS	No. of Days / per week class allotted :	Semester From date : 09.12.2019 To Date :31.03.2020 No. of Weesks : 14
Week	Class Day	Theory / Practical Topics
	1st	Introduction to vibration
3rd Dec	2nd	Fundamental of vibration
	3rd	Mechanical vibration system
	4th	Modeling and simulation
	1st	Single degree of freedom system
4th Dec	2nd	Free damped vibration
	3rd	forced damped vibration
	4th	Two degree of freedom system
	1st	Magnification factor
1st Jan	2nd	Transmissibility,Vibration absorber
	3rd	Multi degree of freedom system
	4th	Contd.
	1st	Requirment of suspension system
2nd jan	2nd	Spring mass frequency
	3rd	wheel hop
	4th	wheel hobble and wheel shimmy
	1st	Choice of suspension spring rate
3rd Jan	2nd	Contd.
	3rd	Calculation of effective spring rate
	4th	Vehicle suspension in fore and aft direction
	1st	Tyre forces and moments
4th Jan	2nd	Types of tyres and structure of tyres
	3rd	Longitude and lateral force at various slip angle
	4th	Rolling resistance
	1st	Tractive and cornering property of tire
1st Feb	2nd	Riding properties of tires
	3rd	Estimation of tire road friction
	4th	Test of tyres on various road surfaces
	1st	Tyre vibration and behaviour of tyre while cornering
2nd Feb	2nd	over steer and under steer of steering system
	3rd	Steady state cornering
	4th	Contd.
	1st	Effect of braking
3rd Feb	2nd	Driving torque on steering
	3rd	Transient effects in cornering
	4th	Directional stability of vehicle

	1st	Load distribution on vehicle
4th Feb	2nd	Calculation of tractive effort and reactions for
	3rd	different drives of a vehicle
	4th	Contd.
	1st	Stability of vehicle on a slope
1st Mar	2nd	Stability of vehicle on a curve
	3rd	Stability of vehicle on a banked road
	4th	Contd.
	1st	Power of propulsion
2nd Mar	2nd	Road performance curve and its application
	3rd	Gradability and drawbar pull
	4th	Calulation of effect weight
	1st	Introduction to Numerical methods
3rd Mar	2nd	Approximate methods for fundamental frequency
	3rd	Contd.
	4th	Dunker-Ley's lower bound method
	1st	Rayleigh's upper bound method
4th Mar	2nd	Hozler method for closed coupled method
	3rd	Eigen value problems
	4th	Q & A discussion