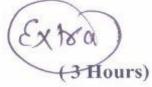
Sem VIII/CBGS/AUto/VD/ND-16



Q.P. Code: 734300

		(3 Hours) [Total Marks:	80
N.I	3. :	 Question No 1 is compulsory. Answer any four questions from remaining. Assume suitable data ifrequired. 	
1.	(a)	Calculate the Conjugate point for the following data. Total Mass = 1000 Kg Spring Mass = 800 Kg Wheel Base= 2.5 m Front/Rear weight distribution = 65/35 Front suspension = 30 KN/m Rear Suspension = 50 KN/m	8
	(b)	Explain the Working of Power Steering with neat sketches.	8
2.	(a) (b)	Explain the influence of windshield angle on drag and deck lid spoilers. Derive an expression to calculate the value of X2 for simple spring and mass system of two masses similar to an Automobile.	8
3.	(a)	Explain the Significance of three link Suspension system.	8
	(b)	Explain No Roll suspension and Interconnected suspension system.	8
4.	(a)	the following data. Mass = 1200 Kg Wheel Base = 2.5 m $a = 1.4 \text{ m}$ and $b = 0.9 \text{ m}$ $C_F = -70000 \text{ N/rad}$ $C_R = -75000 \text{N/rad}$ Speed = 90 Kmph	8
	(b)	Explain the working of Steering Mechanism of Passenger Car.	8
5.	(a)	Explain the Roll geometry for any two Suspension system.	8
	(b)	Derive an expression for Steady state yawing response to steering input.	8
6.	(a) (b)	Explain the mechanism of Air flow around the vehicle with Aerodynamic aids Explain Equalizing suspension system	8
7.	W	(1) Four wheel Steering (2) Vehicle response property (3) Ride and comfort (4) Suspension Motion Ratio (5) Doubly conjugate and its application	16