VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY
LESSON PLAN

Semester >> 8th		**Year >> 2015**	**Contact Hours per week >> 4**
AUTOMOBILE ENGINEERING		**Branch >>** MECHANICAL ENGINEERING	**Total Credit >> 4**
			DAY
			Monday, Wednesday Thursday, Friday
TEACHER		**Dr. Debasmita Mishra**	
Period		**Jan 2015-April 2015**	
Recommended books >>		**Text books:** Automobile Engg. By R.K. Rajput, S.Chand Automobile Engg. By K.M.Gupta.l, Vol.I & II, Umesh Pub. Automobile Mechanics (through problem) by Dr.N.K. Giri, Khanna Pub. **Reference Book:** The motor vehicle by Newton & Steed, London Liffee Books Ltd.	
Sl. No.	**Lecture No.**	**Topics to be covered**	
MODULE -I			
1	Lecture-01	Main units of automobile , chassis and body , different system of automobiles	
2	Lecture-02	Descriptions and materials of main parts of the engine	
3	Lecture-03	Cylinder head , cylinder block, cylinder liner, crank case, piston	
4	Lecture-04	Piston rings, piston pin, connecting rod, crank shaft, bearing	
5	Lecture-05	Valve, valve driving mechanism.	
6	Lecture-06	Impulse and mechanical balancing of engine	
7	Lecture-07	**Power Propulsion :** Resistance to motions, rolling resistance , air resistance, gradient resistance	
8	Lecture-08	Calculation of power required for propulsion	
9	Lecture-09	Tractive effort and traction	
10	Lecture-10	Road performance curves	
11	**Class-Test-I & Assignment-1**		
MODULE -II			
12	Lecture-11	**Clutch:** Types of clutch , Material and construction of clutch	
13	Lecture-12	Calculation of main dimension of dry friction clutch	
14	Lecture-13	Fluid coupling and its characteristic	
15	Lecture-14	**Gearbox:** Sliding mesh, Constant mesh and synchromesh gearboxes	
16	Lecture-15	Design of three speed and four speed gear boxes, Epicyclic gear box	
17	Lecture-16	Torque convertor and its characteristic , principle of automatic transmission ,Transfer case	
18	Lecture-17	**Hooke's joint** , Propellor shaft , Differential , Rear axle, Types of rear axle	
19	Lecture-18	Semi-floating ,three quarter floating and full floating types	
20	Lecture-19	Different types of rear axle drives	

21	Lecture-20	Hotch kiss and torque tube drive
22	Lecture-21	**Braking System:** Hydraulic braking system
23	Lecture-22	Braking of Vehicle when applied to rear , front and all four wheels
24	Lecture-23	Theory of internal shoe brake , Servo and power brakes
25	**Class-Test-I and Assignment -2**	
MODULE-III		
24	Lecture-24	**Front wheel geometry and steering system:** Camber ,Castor, Kingpin indicator
25	Lecture-25	Centre point steering
26	Lecture-26	Condition for true rolling, Akerman and Davis steering
27	Lecture-27	Components of steering mechanism, Power steering
28	Lecture-28	**Suspension System :** Introduction , functions and requirement of suspension system,
29	Lecture-29	Element of suspension system. Springs, Damper
30	Lecture-30	Types of suspension system, wheels and tyres
31	Lecture-31	**Electrical and Electronic system of automobile :** Starting system and starting drive
32	Lecture-32	Generating system, Igniting system and their electrical system
33	Lecture-33	Recent advances in automotive electronic such as multipleying
34	Lecture-34	Sensors and actuators engine and drive line controls , information systems , Electronic display Relay
35	Lecture-35	Switching and inter connector and Instrumentation
36	Lecture-36	**Class-Test-III**
37	Lecture-37	**Brief Review of All Modules & discussion**
38	Lecture -38	**Revision & Clarification of Doubts**
39	Lecture -39	
40	Lecture -40	

Signature of Teacher