Lesson Plan

Name of the Institute:	**CV Raman Polytechnic**
Department:	**Mechanical Engineering**
Semester/Division/Branch:	**4th Sem/ME**
Subject Name with code:	**Theory of machines(Th1)**
Total No. of Class (Required):	**60**
Faculty Name:	**Dr Brundaban Sahoo**

Class No.	Brief Description of the Topic/Chapter to be taught	Remarks
1	Introduction to Link ,kinematic chain, mechanism, machine	
2	Inversion, four bar link mechanism and its inversion	
3	Inversion, four bar link mechanism and its inversion	
4	Study of Lower pair with example	
5	Study of higher pair with example	
6	Introduction to Cam and followers	
7	Different types of Cam and followers	
8	Friction between nut and screw for square thread	
9	Friction between nut and screw for square thread	
10	Introductio to Friction between nut and screw for screw jack	
11	Friction between nut and screw for screw jack	
12	Numericals on above	
13	Numericals on above	
14	Bearing and its classification	
15	Description of roller bearings.	
16	Description of needle roller bearings.	
17	Description of ball bearings.	
18	Torque transmission in flat pivot bearings with derivation	
19	Torque transmission in conical pivot bearings.	
20	Torque transmission in conical pivot bearings.	
21	Numericals on above	
22	Flat collar bearing of single and multiple types.	
23	Torque transmission for single and multiple clutches with derivation	
24	Torque transmission for single and multiple clutches with derivation	
25	Numericals on above	
26	Working of simple frictional brakes.	
27	Working of Absorption type of dynamometer	
28	Concept of power transmission	
29	Type of drives, belt, gear and chain drive.	
30	Type of drives, belt, gear and chain drive.	
31	Computation of velocity ratio with and without slip.	
32	Computation of length of belts (open and cross)with and without slip.	
33	Computation of length of belts (open and cross)with and without slip.	

34	Ratio of belt tensions, centrifugal tension and initial tension.	
35	Ratio of belt tensions, centrifugal tension and initial tension.	
36	Power transmitted by the belt.	
37	Determine belt thickness and width for open and crossed belt considering centrifugal tension.	
38	Determine belt thickness and width for open and crossed belt considering centrifugal tension.	
39	V-belts and V-belts pulleys.	
40	Concept of crowning of pulleys.	
41	Gear drives and its terminology.	
42	Gear trains	
43	Working principle of simple, compound, reverted and epicyclic gear trains.	
44	Function and classification of governor	
45	Working of Watt, Porter governor.	
46	Working of Proel and Hartnell governors.	
47	Conceptual explanation of sensitivity, stability and isochronisms.	
48	Function of flywheel and comparison of flywheel and governor	
49	Fluctuation of energy and coefficient of fluctuation of speed.	
50	Concept of static and dynamic balancing.	
51	Static balancing of rotating parts.	
52	Principles of balancing of reciprocating parts.	
53	Causes and effect of unbalance.	
54	Difference between static and dynamic balancing	
55	Introduction to Vibration and related terms	
56	Classification of vibration.	
57	Basic concept of natural, forced & damped vibration	
58	Torsional and Longitudinal vibration.	
59	Torsional and Longitudinal vibration.	
60	Causes & remedies of vibration.	

Signature of the Faculty

Signature of the H.O.D