LESSON PLAN

SPINTRONIC TECHNOLOGY & ADVANCE RESEARCH, TARABOI, KHURDHA

Name of Subject : **THEORY OF MACHINES & MECHANISM**
Subject Code : TH:1
Semester : 4th Semester
Branch : Mechanical Engg.
Name of faculty : Er. D. MOHANTY

Sl. No.	Topic Name	No. of Classes Required	Cumulative No. of Classes
1	Introduction to Simple Mechanism	1	1
2	Link – Definition and Types	1	2
3	Kinematic Pair – Definition and Types	1	3
4	Lower Pair – Explanation and Examples	1	4
5	Higher Pair – Explanation and Examples	1	5
6	Kinematic Chain and Mechanism	1	6
7	Inversion of Mechanism	1	7
8	Four Bar Link Mechanism – Construction & Working	1	8
9	Inversions of Four Bar Link Mechanism	1	9
10	Cams and Followers – Concept & Definition	1	10
11	Applications of Cams and Followers	1	11
12	Classification of Cams	1	12
13	Classification of Followers	1	13
14	Follower Motion – Uniform Velocity	1	14
15	Follower Motion – Simple Harmonic Motion (SHM)	1	15
16	Follower Motion – Uniform Acceleration & Retardation	1	16
17	Introduction to Power Transmission & Types of Drives	1	17
18	Comparison of Belt, Chain, Rope & Gear Drives	1	18
19	Belt Drives – Flat Belt & V-Belt	1	19
20	Applications of Flat Belt and V-Belt	1	20
21	Materials for Flat Belt and V-Belt	1	21
22	Angle of Lap and Belt Length	1	22
23	Slip and Creep in Belt Drives	1	23
24	Velocity Ratio of Belt Drives	1	24
25	Tension Ratio (Tight Side & Slack Side)	1	25
26	Centrifugal Tension and Initial Tension	1	26
27	Maximum Power Transmission (Simple Numericals)	1	27
28	Chain Drives – Advantages & Disadvantages	1	28
29	Selection of Chain and Sprocket Wheels	1	29
30	Gear Drives – Spur Gear Terminology	1	30
31	Types of Gears & Gear Trains	1	31
32	Gear Trains – Simple, Compound & Reverted	1	32
33	Epicyclic Gear Train – Velocity Ratio & Train Value	1	33
34	Law of Gearing & Lubrication of Gears	1	34
35	Rope Drives – Types, Applications & Limitations	1	35
36	Flywheel – Concept, Function & Applications	1	36
37	Turning Moment Diagram of Single Cylinder 4-Stroke Engine	1	37
38	Coefficient of Fluctuation of Energy & Speed	1	38
39	Governors – Concept, Function & Applications	1	39
40	Centrifugal Governors – Watt Governor	1	40
41	Porter Governor – Construction & Working	1	41
42	Terminology of Governors (Sensitivity, Stability, Isochronism)	1	42
43	Numericals on Watt and Porter Governor	1	43
44	Comparison between Flywheel and Governor	1	44
45	Introduction to Brakes, Clutches, Bearings, Balancing & Vibrations	1	45

REFERENCES:

1. Theory of machines – S.S .Rattan ,Tata McGraw-Hill publications.

2. Theory of machines – R.K.Bansal ,Laxmi publications

3. Theory of machines – R.S. Khurmi & J.K.Gupta , S.Chand publications.

4. Dynamics of Machines – J B K Das, Sapna Publications.

5. Theory of machines – Jagdishlal, Bombay Metro – Politan book Ltd.