SPINTRONIC TECHNOLOGY AND ADVANCE RESEARCH

MECHANICAL ENGINEERING

SUBJECT-THEORY OF MACHINE

LESSON PLAN SESSION -2025-26 (Summer -2025) SEM-4TH

NAME OF FACULTY-Er. R.R. SWAIN (Asst. Prof.)

SL. NO.	NO OF PERIOD (TOPIC WISE)	TOTAL NO PERIOD	Cumulative no of periods
1	Link, kinematic chain, mechanism, machine	1	1
2	Inversion, four bar link mechanism and its inversion	1	2
3	Lower pair and higher pair	1	3
4	Cam and followers	1	4
5	Revision of topic previously taught	1	5
6	Friction between nut and screw for square thread, screw jack	1	6
7	Bearing and its classification, Description of roller, needle roller & ball bearings	1	7
8	Torque transmission in flat pivot & conical pivot bearings	1	8
9	Flat collar bearing of single and multiple types	1	9
10	Torque transmission for single and multiple clutches	1	10
11	Working of simple frictional brakes	1	11
12	Working of Absorption type of dynamometer	1	12
13	Concept of power transmission	1	13
14	Type of drives, belt, gear and chain drive	1	14
15	Computation of velocity ratio, length of belts (open&cross) with and without slip	1	15
16	Ratio of belt tensions, centrifugal tension and initial tension	1	16
17	Power transmitted by the belt	1	17
18	V-belts and V-belts pulleys.	1	18
19	Concept of crowning of pulleys.	1	19
20	Gear drives and its terminology.	1	20
21	Gear trains, Working principle of simple, compound, reverted and epicyclic gear trains	1	21
22	Function of governor	1	22
23	Classification of governor	1	23
24	Working of Watt, Porter, Proel and Hartnel l governors	1	24
25	Conceptual explanation of sensitivity, stability and isochronism	1	25
26	Function of flywheel	1	26
27	Comparison between flywheel & governor	1	27
28	Fluctuation of energy and coefficient of fluctuation of speed	1	28
29	**Balancing of Machine** Concept of static and dynamic balancing	1	29

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30	Static balancing of rotating parts.	1	30
31	Principles of balancing of reciprocating parts.	1	31
32	Causes and effect of unbalance.	1	32
33	Difference between static and dynamic balancing	1	33
34	**Vibration of machine partS**	1	34
35	Introduction to Vibration and related terms (Amplitude, time period and frequency, cycle)	1	35
36	Classification of vibration	1	36
37	Basic concept of natural, forced & damped vibration Basic concept of natural, forced & damped vibration	1	37
38	Torsional and Longitudinal vibration	1	38
39	Causes & remedies of vibration	1	39

Reference Book –

Theory of Machines by Khurmi & Gupta

Theory of Machines by R K Rajput

Theory of Machines by S R Rattan