BIT POLYTECHNIC, BALASORE

DEPARTMENT OF MECHANICAL ENGINEERING

LESSON PLAN

SUBJECT-THEORY OF MACHINE **BRANCH-MECHANICAL ENGINEERING**

NAME OF THE FACULTY- JAGAJYOTI SAHU **SEMESTER-4TH**

UNIT	Date	LECTURE NO.	TOPIC TO BE COVERED
1	16.01.2024	1	**Simple Mechanism: -** Introduction to Mechanism, Mechanism in a machine, Link.
	17.01.2024	2	Kinematic Pair, Classification of Kinetic Pair
	18.01.2024	3	Kinematic chain, Inversion
	19.01.2024	4	four bar link mechanism and its inversion
	20.01.2024	5	Lower pair and Higher pair
	22.01.2024	6	Calculation based link, mechanism
	24.01.2024	7	Introduction to Nomenclature of Cam Profile, types of cams
	25.01.2024	8	Followers ,Types of Followers
2	27.01.2024	9	**Friction**: Introduction to Friction, Friction between nut and screw for square thread
	29.01.2024	10	Calculation base on friction, friction in screw thread
	30.01.2024	11	Screw jack & Calculation base on screw jack
	31.01.2024	12	Bearing and its classification
	01.02.2024	13	Description of roller, needle roller and ball bearings
	02.02.2024	14	Torque transmission in flat pivot bearings & conical pivot
	03.02.2024	15	Calculation based on flat pivot & conical pivot bearings
	15.03.2023	16	Flat collar bearing of single & multiple types
	16.03.2023	17	Calculation based on flat pivot & conical pivot bearings
	18.03.2023	18	Torque transmission for single & multiple clutches
	21.03.2023	19	Calculation based on torque transmission clutch and bearing
	22.03.2023	20	Working of simple frictional brakes & Working of absorption type of dynamometer
	23.03.2023	21	Calculation based on brakes and dynamometer
3	25.03.2023	22	**Power transmission:** Introduction to power transmission, types of drives, belt, gear and chain drive
	28.03.2023	23	Computation of velocity ratio of simple and compound belt
	29.03.2023	24	Derivation of Length of belts (open and cross) with and
	04.04.2023	25	Ratio of belt tension, centrifugal tension and initial tension, Power transmitted by the belt
	05.04.2023	26	Calculation based on power transmission, belt drive

	06.04.2023	27	Determine of Belt thickness and width for given permissible stress for open and crossed belt , V-belts and v-belts pulley
	08.04.2023	28	Concept of crowning of pulleys
	11.04.2023	29	Gear drives & its terminology, gear trains, working principle of simple and compound gear train
	12.04.2023	30	Working principle of reverted gear train & epicyclic gear train
	13.04.2023	31	Calculation based on gear and gear trains
	15.04.2023	32	**CLASS TEST**
4	18.04.2023	33	**Governors and flywheels:** Introduction to governor,
	19.04.2023	34	Working of watt governor & porter governor
	20.04.2023	35	Working of proel governor
	22.04.2023	36	Working of hartnell governor
	25.04.2023	37	Calculation based on different governor
	26.04.2023	38	Concept of sensitivity, stability, and isochronism
	27.04.2023	39	Function of flywheel, Comparison between flywheel and
	29.04.2023	40	Fluctuation of energy and coefficient of fluctuation of speed
	02.05.2023	41	Calculations based on Fluctuation of energy
	02.05.2023	42	Calculations related to coefficient of fluctuation of speed
5	03.05.2023	43	**Balancing of machine: Concept of static and dynamic**
	04.05.2023	44	Static balancing of rotating parts
	06.05.2023	45	Principles of balancing of reciprocating parts
	09.05.2023	46	Causes and effect of unbalance
	09.05.2023	47	Difference between static and dynamic balancing
6	10.05.2023	48	**Vibration of machine parts**: Introduction to vibration and related terms(amplitude, time period and frequency, cycle)
	11.05.2023	49	Classification of vibration
	13.05.2023	50	Basic concept of natural, forced and damped vibration
	16.05.2023	51	Calculation based on natural, forced and damped vibration
	16.05.2023	52	Torsional & longitudinal vibration
	17.05.2023	53	Calculation based on Torsional & longitudinal vibration
	18.05.2023	54	Causes and remedies of vibration
	02.05.2023	55	CLASS TEST
	20.05.2023	56	DISCUSSION OF ASSIGNMENT QUESTION
	23.05.2023	57	**PREVIOUS SEMESTER QUESTION DISCUSSION**
	23.05.2023	58	**PREVIOUS SEMESTER QUESTION DISCUSSION**
	23.05.2023	59	**OMR TEST**
	23.05.2023	60	CLASS TEST QUESTION DISCUSSION & DISTRIBUTION OF EVALUATED ANSWER SHEET TO THE STUDENT FOR THEIR REFERENCES