RAJA KISHORE CHANDRA ACADEMY OF TECHNOLOGY
NILGIRI,BALASORE

DEPARTMENT OF MECHANICAL ENGINEERING

LESSON PLAN

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

NAME OF THE FACULTY-ER.SANJAY KUMAR BEHERA **SEMESTER-4TH**

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

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

SIGNATURE OF FACULTY MEMBER **SIGNATURE OF H.O.D**