Samrat Ashok Technological Institute, Vidisha			
Department of Mechanical Engineering **Lecture Plan**			
Course Code:	ME-1854	**Year/Semester :**	BE IIIthYear/ 5thSemester
Course Name:	Theory of Machine-II	**Academic Year :**	August-2022 / ODD
L –T-- P:	3 – 1-- 0	**Credit :**	4
Course Detail :	Theory	**Term Start Date :**	24-07-2023
Course Coordinator:	Dr. C. P. Singh	**Term End Date :**	

Academic Year: 2023	
Name of Teacher: Dr. C. P. Singh	
Subject: Theory of Machine-II	
Theory/Tutorial: Theory	

Sr. No.	Name Of Unit/Topics	Hrs. Allotted	Actual Date	Teaching Aid Code	Remarks
01	***Unit: 1- Turning Moment and Flywheel***				
	Turning Moment Diagram for a Four Stroke Cycle I.C. Engine and Multi Cylinder Engine	2			
	Fluctuation of Energy and Production of Energy	2			
	Co-Efficient of Fluctuation of Energy,Co-Efficient of Fluctuation of Speed	2			
	Energy Stored in a Flywheel	2			
02	***Unit-II Balancing***				
	Balancing of Inertia Forces and Moments in Machines	1			
	Balancing of rotating masses, two plane balancing, determination of balancing masses (graphical and analytical methods),	3			
	balancing of rotors,	1			
	balancing of internal combustion engines (single cylinder engines, in-line engines, V-twin engines, radial engines,	3			
	Lanchester technique of engine balancing, Alignment of shaft.	1			
03	***Unit: 3- Governor***				

	Functions Various Terms Used, Types of Governor- Watt, Porter, Proell& Hartnell, Inertia Governor,	1			
	Sensitiveness and Stability of Governor;	2			
	Isochronous Governor, Hunting, Effort and Power of a Porter Governor	2			
	Controlling Force Diagrams For Porter	1			
	and Spring Controlled Governor, Coefficient of Insensitiveness	2			
04	***Unit-IV Single Degree Free Vibration***				
	Basic features of vibratory systems, Degrees of freedom ,single degree of freedom, Free vibration, Equations of motion	2			
	Natural frequency, Types of Damping, Damped vibration	2			
	Torsional vibration of shaft, Critical speeds of shafts	2			
	Torsional vibration, Two and three rotor torsional systems	2			
05	***Unit-V Forced Vibration***				
	Response of one degree freedom systems to periodic forcing	2			
	Harmonic disturbances, Disturbance caused by unbalance,	2			
	Support motion, transmissibility,	2			
	Vibration isolation vibration measurement	2			

Teaching Aid Code:	
1	White board
2	L.C.D/overhead PROJECTOR
3	MODEL&CHART
4	PPT&VIDEO

Sign of Teacher: _____

Reference Books:

1 Rattan SS; Theory of machines; TMH
2 Sharma and Purohit; Design of Machine elements; PHI
3 Bevan; Theory of Machines;
4 Ghosh and Mallik; Theory of Mechanisms and Machines; Affiliated East-West Press, Delhi
5 Norton RL; kinematics and dynamics of machinery; TMH
6 Grover; Mechanical Vibrations