

Samrat Ashok Technological Institute, Vidisha

Department of Mechanical Engineering

Lecture Plan

Course Code:	ME-1832	Year/Semester :	BE II nd Year/ 3 rd Semester
Course Name:	Machine Drawing & Design	Academic Year :	July-2023 / ODD
L – T – P:	3 – 1–2	Credit :	4
Course Detail :	Theory and Practical	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: Machine Drawing and Design					
Theory/Tutorial: Theory & Practical					
Sr. No.	Name Of Unit/Topics	Hrs. Allotted	Actual Date	Teaching Aid Code	Remarks
01	Unit: 1-Basics of Design Process				
	Basic Design concepts, design process, stages/phases in design,	1			
	Design considerations (strengths manufacturing, maintenance, environment, economics and safety):	1			
	Design for recycle and reuse,	1			
	Design and safety factors for steady and variable loads	2			
	impact and fatigue considerations	1			
	Surface Finish, limits, fits and tolerance	2			
02	Unit: 2- Threaded Joint				
	Thread Nomenclature, Forms of Screw Threads, Designation of Indian Standard Thread, ,	2			
	Designation of Bolts, Screws and Nuts, Common Screw Fasteners, representation of internal thread and external threads	2			
	Bolts Supporting Tensile Loads Only, static Stress in Screw Fastening,	2			
	Eccentric Loading of Threaded Joints.	2			
03	Unit: 3- Welded Joint				
	Representation of welds, strength of Welded Steel Joints	1			
	Design of Welded Joints for Static Loads,	2			

	Strengths of Welds at Varying Loads, Initial Stress,	2			
	Exercises Eccentric Loading of welded Joints	2			
	Unit:4 Design for Static Load				
04	Design of Cotter Joint and knuckle joint.	2			
	Design of knuckle joint	2			
	Design of Keys	2			
	Design of Coupling	2			
05	Basic fundamentals of CAD and Application of computer for design,	1			
	CAD data exchange, Graphics standards, modes of graphics operation,	2			
	Geometric Modeling.	3			
	Types of mathematical representation of curves, parametric representation	1			
	wire frame modeling	2			
Teaching Aid Code:		Sign of Teacher: _____			
1	White board				
2	L.C.D/overhead PROJECTOR				
3	MODEL & CHART				
4	PPT & VIDEO				
LESSON PLANNING, Rev. no. :00					

Reference Books:

1. Design of machine elements by V B. Bhandari Tata McGraw-Hill Education
2. Mechanical Engineering Design by Joseph Edward 'Shigley, McGraw-Hill
3. Machine Design by Robqrt. L., Norton
4. Design of Machine Elements: Volurte, I by T. Krishña Rao, IK International
5. Machine Drawing by N. D. Bhatt.
6. CAD/CAM: Computer-Aided Design and Manufacturing Groover Pearson Education India