

# Samrat Ashok Technological Institute, Vidisha

Department of Mechanical Engineering

## Lecture Plan

<b>Course Code:</b>	ME-1872C	<b>Year/Semester :</b>	B.Tech IV <sup>th</sup> Year/ 7 <sup>th</sup> Semester
<b>Course Name:</b>	Product Design & Development	<b>Academic Year :</b>	July-2023 / ODD
<b>L – T:</b>	3 – 1	<b>Credit :</b>	4
<b>Course Detail :</b>	Theory and Tutorial	<b>Term Start Date :</b>	24/07/2023
<b>Course Coordinator:</b>	Prof. Pankaj Sonkusare	<b>Term End Date :</b>	

<b>Academic Year: 2023-24</b>
<b>Name of Teacher: Prof. Pankaj Sonkusare</b>
<b>Subject: Product Design &amp; Development (ME-1872C)</b>
<b>Theory/Tutorial: Theory/Tutorial</b>

Sr. No.	Name Of Unit/Topics	Hrs. Allotted	Actual Date	Teaching Aid Code	Remarks
	<b>UNIT: 1</b>				
<b>01</b>	Introduction, Definition	1		1/2	
	Design by innovation and evolution	1		1/2	
	Essential factors of product design	1		1/2	
	Production consumption cycle(pcc)	1		1/2	
	Flow and value addition in pcc	1		1/2	
	Morphology of design	1		1/2	
	Primary phases of design	1		1/2	
	Role of allowances	1		1/2	
	Process capability and tolerances in design and assembly	1		1/2	
	<b>ASSIGNMENT NO.1</b>				
	<b>UNIT: 2</b>				
<b>02</b>	Product Design in strategies in industry	1		1/2	
	Design in various parameters like as pricing, quality, utility, luxuriousness	1		1/2	
	Product analysis and simplification	1		1/2	
	Designer and his role	1		1/2	
	Industrial design considerations, procedures and problems	1		1/2	
	Types of models and role of aesthetics	1		1/2	

	Functional design practices	1		1/2	
<b>ASSIGNMENT NO. 2</b>					
<b>03</b>	<b>UNIT: 3</b>				
	Economic factors influencing design	2		1/2	
	Product value, economic analysis	2		1/2	
	Profit, competitiveness and break even	2		1/2	
	Value engineering in product design and its value	2		1/2	
	Value analysis job plan	1		1/2	
	Creativity and value analysis tests	1		1/2	
<b>ASSIGNMENT NO.3</b>					
<b>04</b>	<b>UNIT-4</b>				
	New product development and product management	2		1/2	
	Defining product by nature and demand	1		1/2	
	New product strategy and product classification	2		1/2	
	Product development & management	1		1/2	
	Booz Allen & Hamilton new product development cycle	1		1/2	
	A T A R model applied to financial analysis in business	1		1/2	
<b>ASSIGNMENT NO. 4</b>					
<b>05</b>	<b>UNIT-5</b>				
	Product Design and development for environment	1		1/2	
	Introduction and importance	1		1/2	
	Factors and scope of impact	1		1/2	
	Global and local issues	1		1/2	
	Guidelines for design, life cycle assessment	1		1/2	
<b>ASSIGNMENT NO. 5</b>					
<b>Teaching Aid Code:</b>		Sign of Teacher: Prof. Pankaj Sonkusare			
1	White board				
2	L.C.D/overhead PROJECTOR				
3	MODEL & CHART				
4	PPT & VIDEO				
LESSON PLANNING, Rev. no. :00					

**Reference Books:**

1. K.chitale, R.C. Gupta, "Product Design & Manufacturing", PHI Publication, 2013 refernce books.
2. Karl T. Ulrich, Stephen Eppinger, "Product Design and Development", McGraw Hill Publication, 2012.