						CWS	PRS	MTE	ETE	PRE
L	**T**	**P**	**Credit**	**Area**	**ME365 Total Life cycle Management**					
3	0/1	2/0	4	DEC/GEC		15/25	25	20/25	40/50	-

Objective: To enable the students to understand the Concurrent Engineering, Quality function deployment and Rapid prototyping. To understand concept of stages of design of products, product lifecycle and components of PLM.

Syllabus		**Contact Hours**
Unit-1	**Introduction:** Extensive definition of Concurrent Engineering (CE), CE design methodologies, Review of CE techniques like DFM (Design for manufacture), DFA (Design for assembly),	**8**
Unit-2	Quality function deployment (QFD), RP (Rapid prototyping), TD (Total design), for integrating these technologies, Organizing for CE, CE tool box, Collaborative product development	**8**
Unit-3	**Use of Information Technology:** IT support, Solid modeling, Product data management, Collaborative product Commerce, Artificial Intelligence, expert systems, Software hardware component design.	**6**
Unit-4	**Design Stage:** Lifecycle design of products, Opportunities for manufacturing enterprises, Modality of concurrent engineering design, automated analysis, Idealization control, CE in optimal structural design, Real time constraints	**6**
Unit-5	**Need for PLM:** Importance of PLM, Implementing PLM, Responsibility for PLM, Benefits to different managers, Components of PLM, Emergence of PLM, Lifecycle problems to resolve, Opportunities to Seize	**6**
Unit-6	**Components of PLM:** Components of PLM, Product lifecycle activities, Product organizational structure, Human resources in product lifecycle, Methods, techniques, Practices, Methodologies, Processes, System components in lifecycle, slicing and dicing the systems, Interfaces, Information, Standards	**8**
	Total	**42**

Reference Book:	
1	Integrated Product Development M.M. Anderson and L Hein IFS Publications
2	Design for Concurrent Engineering J. Cleetus CE Research Centre, Morgantown
3	Concurrent Engineering Fundamentals: Integrated Product Development Prasad Prentice hall India
4	Concurrent Engineering in Product Design and Development I Moustapha New Age International
5	Product Lifecycle Management John Stark Springer-Verlag, UK
6	Product Lifecycle Management Michael Grieves McGraw Hill
7	Concurrent Engineering: Automation tools and Technology Andrew Kusiak Wiley Eastern

Course Outcomes

CO1	Explain basic concepts of product life cycle management.
CO2	Demonstrate product development approaches.
CO3	Explain elements of product modelling.
CO4	Discuss in detail the concept of product data management.
CO5	Discuss about integration of PLM with other applications.
CO6	Applications of Total Lifecycle Management

CO-PO/PSO Matrix

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	3	3	3	2	2	0	0	0	0	0	0	2	2	1	1
CO2	3	3	2	3	1	0	0	0	0	0	0	1	2	1	1
CO3	3	3	3	3	1	0	0	0	0	0	0	2	3	3	2
CO4	3	3	3	3	1	0	0	0	0	0	0	1	3	3	2
CO5	2	2	2	2	2	0	0	0	0	0	0	1	2	2	2
CO6	3	3	3	2	2	0	0	0	0	0	0	2	2	1	1