

Product Life Cycle Management

B.E. Sem. VIII [MECH/AUTO]

(Elective – II)

EVALUATION SYSTEM

	Time	Marks
Theory Exam	3 Hrs.	100
Practical Exam	–	–
Oral Exam	–	25
Term Work	–	25

SYLLABUS

1. Introduction to PLM

Need for PLM, opportunities and benefits of PLM, different views of PLM, components of PLM, phases of PLM, PLM feasibility study, PLM visioning.

2. PLM Strategies

Industrial strategies, strategy elements, its identification, selection and implementation, change management for PLM

Product Data Management (PDM)

PDM systems and importance, reason for implementing a PDM system, financial justification of PDM, barriers to PDM implementation

3. Product Design

Engineering design, organization and decomposition in product design, product design process, methodical evolution in product design, concurrent engineering, design for 'X' and design central development model. Strategies for recovery at end of life, recycling, human factors in product design. Modeling and simulation in product design

New Product Development

Structuring new product development, building decision support system, Estimating market opportunities for new product, new product financial control, implementing new product development, market entry decision, launching and tracking new product program. Concept of redesign of product

4. Technology Forecasting

Future mapping, invoking rates of technological change, methods of technology forecasting such as relevance trees, morphological methods and mission flow diagram, combining forecast of different technologies, uses in manufacture alternative

5. Integration of technological product innovation and product development in business processes within enterprises, methods and tools in the innovation process according to the situation, methods and tools in the innovation process according to the situation

Virtual product development tools for components, machines, and manufacturing plants: 3D CAD systems, digital mock-up, model building, model analysis, production (process) planning, and product data technology

6. Product conception process: Business processes, data-process relationship, from the idea to waste disposal

Product structures: Variant management, product configuration, material master data, product description data, Data models, Life cycles of individual items, status of items

Reference Books :

1. Product Lifecycle Management: Paradigm for 21st Century Product Realisation (*Stark, John.*) Springer-Verlag, 2004. ISBN 1852338105
2. Product Design for the environment-A life cycle approach, (*Fabio Giudice, Guido La Rosa,*) Taylor & Francis 2006
3. Product Life Cycle Management Springer (*Saaksvuori Antti / Immonen Anselmie*) Dreamtech,3-540-25731-4
4. Product Lifecycle Management (*Michael Grieves*) Tata McGraw Hill

