B.E/B.TECH DEGREE EXAMINATIONS: NOV/DEC 2024

(Regulation 2018)

Seventh Semester

MECHANICAL ENGINEERING

U18MEE0025: Product Lifecycle Management

COURSE OUTCOMES

CO1: Apply concepts of product lifecycle management and visioning

CO2: Apply relative importance of product concepts, processes and workflow

CO3: Apply principles of collaborative product development

CO4: Outline considerations in system architecture understand the industrial process

CO5: Apply product lifecycle management strategy and assessment

CO6: Apply the infrastructure assessment, assessment of current systems and applications.

Time: Three Hours   **Maximum Marks: 100**

Answer all the Questions:-
PART A (10 x 2 = 20 Marks)
(Answer not more than 40 words)

1.	Write the characteristics of functional architecture in PLM.	CO1	[K_1]
2.	Name any four essential elements of PLM.	CO1	[K_2]
3.	Give the significance of Bill of Materials-driven CAD approach.	CO2	[K_1]
4.	Why is it important for manufacturers to manage product data?	CO2	[K_2]
5.	What is meant by baseline in configuration management?	CO3	[K_1]
6.	How a change investigation is done in Engineering Change Management?	CO3	[K_2]
7.	What is maintenance, repair, and overhaul (MRO) in PLM?	CO4	[K_1]
8.	Write the issues involved in PLM configurations.	CO4	[K_2]
9.	List the difference between PLM and PDM.	CO5	[K_2]
10.	Define the term heterogeneous CAD system.	CO6	[K_1]

Answer any FIVE Questions:-
PART B (5 x 16 = 80 Marks)
(Answer not more than 400 words)

11.	Briefly explain the challenges faced by the current manufacturing industries in developing new products and how PLM is used to overcome them.	16	CO1	[K_1]
12.	a)	How does the deployment process work in the Product Life cycle management?	8	CO2	[K_2]

Illustrate the process of deployment to the production environment in the PLM?

b)	With the help of examples explain in detail how versioning of parts are done in product development using PLM solutions.	8	CO2	[K$_2$]

13. How does Engineering Change Management contribute to the seamless evolution of product designs within Product Data Management (PDM) systems, and what strategies should be implemented to ensure efficient handling, tracking, and documentation of engineering changes throughout the product lifecycle?"   16   CO3   [K$_3$]

14. Elaborate the significance of product structure. With examples and sketches show the different views of product structure with their importance.   16   CO4   [K$_4$]

15. Enumerate the manufacturing Product Lifecycle Management success with Master Data Management.   16   CO5   [K$_5$]

16. State the need for integrating PLM with other applications. Illustrate the same with the case study.   16   CO6   [K$_6$]

****