

A

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code: R9772

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2025

Open Elective

R21UME972- PRODUCT LIFE CYCLE MANAGEMENT

(Regulations R2021)

(Common to All Engineering Branches)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Which stage of the product development life cycle involves gathering and analyzing customer feedback and making necessary improvements? CO1-U
(a) Conceptualization (b) Design (c) Testing and Validation (d) Commercialization
2. Which product development methodology is characterized by a linear and sequential approach with distinct phases? CO1-U
a) Agile b) Lean c) Waterfall d) Scrum
3. What is the primary function of Product Data Management (PDM) software? CO1-U
a) Product design and modeling
b) Managing and controlling product data and documentation
c) Customer relationship management
d) Supply chain management
4. Which function in PLM software helps in managing product variants and configurations? CO1-U
a) Sales and marketing analytics b) Product configurator
c) Employee time tracking d) Quality control
5. Which of the following is a primary function of a PDM tool? CO1-U
(a) Managing product data and documentation (b) Managing project schedules
(c) Managing financial transactions (d) Managing customer relations

6. What is the key functionality provided by SAP PLM for managing product structures and variants? CO1-U
- (a) Bill of Materials (BOM) (b) Resource Planning
(c) Sales and Distribution (d) Materials Management
7. What is the primary purpose of developing a PLM vision within an organization? CO1-U
- (a) To create detailed product designs (b) Expanding the product portfolio
(c) Decreasing employee training costs (d) Increasing office space utilization
8. What are the key benefits of a short development process? CO1-U
- a) Faster Time b) Cost Savings c) Quality Improvement d) Market Agility
9. What does ERP stand for? CO1-U
- a) Electronic Resource Processing (b) Enterprise Resource Planning
(c) Effective Resource Procurement (d) Essential Resource Programming
10. What is the primary reason for integrating with legacy databases in PLM? CO1-U
- a) To replace legacy databases with modern ones (b) To create redundancy in data storage
(c) To lever avoid data migration challenges (d) To increase data security

PART – B (5 x 2= 10 Marks)

11. How does PLM help in reducing product development time? CO1-U
12. Mention the five categories of utility functions. CO1-U
13. Mention the advantages of PLM/PDM. CO1-U
14. List the advantages of short development process. CO1-U
15. Compare CAD and SLM CO1-U

PART – C (5 x 16= 80 Marks)

16. (a) Identify and explain the strategic and operational benefits of implementing PLM in industries. CO1-U (16)
- Or
- (b) Explain the characteristics of collaborative product commerce. CO1-U (16)
17. (a) Discuss product data management and reason for implementing PDM in an organization. CO1-U (16)

Or

- (b) Explain are image services in PLM and how they support visualization and rendering of product models. CO1-U (16)
18. (a) How can SAP PLM be leveraged to optimize resource allocation and budgeting for projects within the PLM domain, leading to cost-effective and efficient product lifecycles? CO1-U (16)
- Or
- (b) Explain the role of Dassault Systems ENOVIA in managing multi-CAD environments and explain how it ensures data consistency. CO1-U (16)
19. (a) Develop a case study indicating the efforts taken by the strategy team in order to develop and draft the PLM Vision and strategy. CO4-App (16)
- Or
- (b) Identify and explain the common barriers to PLM implementation and discuss possible ways to overcome them. CO4- App (16)
20. (a) Identify the integration of the PLM system with other applications with suitable illustration. CO5 - App (16)
- Or
- (b) Develop a case study indicating the effective usage of Enterprise resource planning system in the PLM. CO5 - App (16)

