



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

(Regulation 2018)

Fifth Semester

**MECHANICAL ENGINEERING**

U18MEE0034: Product Data and Product Lifecycle Management

**COURSE OUTCOMES**

- CO1:** Apply concepts of product lifecycle management  
**CO2:** Apply the significance of product lifecycle process and workflow  
**CO3:** Implement the principles of collaborative product development  
**CO4:** Outline the major factors in system architecture  
**CO5:** Explain product lifecycle management strategy and assessment  
**CO6:** Discuss 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)**

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|--|-----|-------------------|
| 1. Justify the use of three tier architecture in PLM / PDM Solutions.                                      | CO1 | [K <sub>1</sub> ] |
| 2. List any four patterns of classifying data in PLM.  | CO1 | [K <sub>2</sub> ] |
| 3. List the product specifications in the product data management.   | CO2 | [K <sub>1</sub> ] |
| 4. What is workflow integration?   | CO2 | [K <sub>2</sub> ] |
| 5. Discuss any two challenges in sharing product data.   | CO3 | [K <sub>2</sub> ] |
| 6. What is meant by baseline in configuration management?  | CO3 | [K <sub>1</sub> ] |
| 7. How a change investigation is done in Engineering Change Management?                                    | CO4 | [K <sub>2</sub> ] |
| 8. What are the two key challenges commonly faced during Product Data Management implementation processes? | CO4 | [K <sub>1</sub> ] |
| 9. How the information flow be used to create a PLM system?  | CO5 | [K <sub>2</sub> ] |
| 10. Brief the best practices recommended while implementing PLM.   | CO6 | [K <sub>1</sub> ] |

**Answer any FIVE Questions:-**

**PART B (5 x 16 = 80 Marks)**

**(Answer not more than 400 words)**

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| 11. Draw the different stages of product lifecycle and explain with suitable examples. | 16 | CO1 | [K <sub>3</sub> ] |
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| 12. | What is the role of engineering workflows in streamlining product development processes? Explain in detail.  | 16 | CO2 | [K <sub>3</sub> ] |
| 13. | Explain the following terms.<br>(i)Change investigation<br>(ii)Change proposal<br>(iii)Change activity   | 16 | CO3 | [K <sub>4</sub> ] |
| 14. | Compare and contrast the 2 tier PLM System Architecture with the 4 tier Architecture.  | 16 | CO4 | [K <sub>4</sub> ] |
| 15. | Take your own case study of any individual product and show the detailed product lifecycle and technology lifecycle of that particular product and explain them in detail. | 16 | CO5 | [K <sub>5</sub> ] |
| 16. | State the need for integrating PLM with other applications. Illustrate the same with the case study.   | 16 | CO6 | [K <sub>5</sub> ] |

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