

## Question Bank for Digital Life Cycle

### Section 1: Collaborative Product Development

1. **Define Collaborative Product Development (CPD).**
  - How does CPD improve product design and development efficiency?
  - What are the key benefits and challenges associated with implementing CPD in an organization?
2. **Discuss the role of digital tools in Collaborative Product Development.**
  - What are some common tools used in CPD, and how do they facilitate collaboration among stakeholders?

### Section 2: Mapping Requirements to Specifications

1. **Explain the process of mapping requirements to specifications.**
  - Why is this step critical in the product development lifecycle?
  - Describe methods used to ensure that customer requirements are accurately translated into design specifications.
2. **What challenges might arise during the mapping of requirements, and how can they be addressed?**

### Section 3: Part Numbering and Engineering Vaulting

1. **What is part numbering, and why is it important in engineering and manufacturing?**
  - Describe best practices for implementing a part numbering system.
2. **Define engineering vaulting.**
  - How does engineering vaulting contribute to data security and version control?

### Section 4: Product Reuse and Engineering Change Management

1. **Discuss the concept of product reuse.**
  - How does product reuse benefit companies in terms of cost and time savings?
2. **What is Engineering Change Management (ECM)?**
  - Outline the steps involved in ECM and its importance in maintaining product quality and consistency.

### Section 5: Bill of Material and Process Consistency

1. **Explain the role of the Bill of Material (BOM) in product lifecycle management.**
  - What are the key components of a BOM?
2. **Discuss the importance of process consistency in product development.**
  - How can inconsistencies in processes impact the final product?

### Section 6: Digital Mock-Up and Prototype Development

1. **What is a digital mock-up, and how is it used in product development?**
  - Compare digital mock-ups with physical prototypes.
2. **Describe the steps involved in prototype development.**
  - What are the advantages of using digital prototypes over traditional methods?

## **Section 7: Virtual Testing and Collateral**

1. **Define virtual testing and explain its role in the product lifecycle.**
  - How does virtual testing reduce time-to-market for new products?
2. **What are the types of collateral used in virtual testing?**
  - Discuss how virtual testing ensures product quality and performance.

## **Section 8: Introduction to Digital Manufacturing**

1. **Provide an overview of digital manufacturing.**
  - How does digital manufacturing differ from traditional manufacturing methods?
2. **What are the primary technologies involved in digital manufacturing?**
  - Describe the impact of digital manufacturing on product lifecycle management.