

JUST IN TIME & LEAN- TOC

UNIT - 1 INTRODUCTION TO JUST IN TIME (JIT)

Unit Objectives

Introduction

Learning Outcomes

1.1 History and Philosophy of Just in time

1.2 Cultural Aspects

1.3 Just in Time (JIT) Approaches

1.4 Cycle Time Reduction

1.5 Waste Reduction

1.6 Flow Breakdowns

1.7 Scope of Just in Time (JIT)

1.8 JIT Application Profile

1.9 Seven Wastes in JIT

1.10 Elements of JIT

1.11 People Involvement

1.12 Plants

1.13 Systems

1.14 Purchasing

1.15 Summary

1.16 Keywords

1.17 Short Answer Questions

1.18 Higher Order Thinking Skills (HOTS)

1.19 Descriptive Questions

1.20 Answers key

A. Self-Assessment Questions

B. Short Answer Questions

C. Higher Order Thinking Skills (HOTS)

1.21 Suggested Readings and E Resources

UNIT - 2 GOALS, BENEFITS AND LIMITATIONS OF JIT

Unit Objectives

Introduction

Learning Outcomes

2.1 Benefits of JIT

2.2 Limitations of JIT

2.3 Implementation of JIT Concept

2.4 Keys to Successful Implementation of JIT

2.5 Summary

2.6 Keywords

2.7 Short Answer Questions

2.8 Higher Order Thinking Skills (HOTS)

2.9 Descriptive Questions

2.10 Answers key

A. Self-Assessment Questions

B. Short Answer Questions

C. Higher Order Thinking Skills (HOTS)

2.11 Suggested Readings and E Resources

UNIT - 3 UNDERSTANDING AND CONTROLLING VARIATION

Unit Objectives

Introduction

Learning Outcomes

3.1 Sources of Variation

3.2 Causes of Variation

3.3 Variability

- 3.4 Forms of Variability
- 3.5 Responses to Variability
- 3.6 Reducing Variability
- 3.7 Summary
- 3.8 Keywords
- 3.9 Short Answer Questions
- 3.10 Higher Order Thinking Skills (HOTS)
- 3.11 Descriptive Questions
- 3.12 Answers key
 - A. Self-Assessment Questions
 - B. Short Answer Questions
 - C. Higher Order Thinking Skills (HOTS)
- 3.13 Suggested Readings and E Resources

UNIT - 4 INTRODUCTION TO MATERIALS REQUIREMENT PLANNING

- Unit Objectives
- Introduction
- Learning Outcomes
- 4.1 Push and Pull Systems
- 4.2 Need for MRP
- 4.3 Terms Used in Material Resource Planning (MRP)
- 4.4 Prerequisites and Assumptions of MRP
- 4.5 Summary
- 4.6 Keywords
- 4.7 Short Answer Questions
- 4.8 Higher Order Thinking Skills (HOTS)
- 4.9 Descriptive Questions
- 4.10 Answers key
 - A. Self-Assessment Questions

B. Short Answer Questions

C. Higher Order Thinking Skills (HOTS)

4.11 Suggested Readings and E Resources

UNIT - 5 INPUTS TO MRP

Unit Objectives

Introduction

Learning Outcomes

5.1 Master Production Schedule (MPS)

5.2 Bill of Material (BOM)

5.3 Inventory Record File

5.4 MRP Outputs

5.5 Primary Outputs

5.6 Secondary Outputs

5.7 Inventory Forecast

5.8 Factors Affecting the Computation of MRP

5.9 Summary

5.10 Keywords

5.11 Short Answer Questions

5.12 Higher Order Thinking Skills (HOTS)

5.13 Descriptive Questions

5.14 Answers key

A. Self-Assessment Questions

B. Short Answer Questions

C. Higher Order Thinking Skills (HOTS)

5.15 Suggested Readings and E Resources

UNIT - 6 PUSH AND PULL MODELS

Unit Objectives

Introduction

Learning Outcomes

6.1 Understanding Push Model

6.2 Advantages Of “Push” Model

6.3 Disadvantages Of “Push” Model

6.4 Understanding the Pull Model

6.5 Advantages Of “Pull” Model

6.6 Disadvantages Of “Pull” Model

6.7 Evaluation of MRP Push Versus Jit Pull

6.8 Combining MRP and JIT

6.9 Summary

6.10 Keywords

6.11 Short Answer Questions

6.12 Higher Order Thinking Skills (HOTS)

6.13 Descriptive Questions

6.14 Answers key

A. Self-Assessment Questions

B. Short Answer Questions

C. Higher Order Thinking Skills (HOTS)

6.15 Suggested Readings and E Resources

UNIT - 7 JUST-IN-TIME (JIT) AND COMPETITIVE ADVANTAGE

Unit Objectives

Introduction

Learning Outcomes

7.1 Relationship Between JIT and Competitive Advantage

7.2 JIT Contribution to Competitive Advantage

7.3 Main Advantages Of MRP

7.4 Limitations and Advantages Of MRP

7.5 Summary

7.6 Keywords

7.7 Short Answer Questions

7.8 Higher Order Thinking Skills (HOTS)

7.9 Descriptive Questions

7.10 Answers key

A. Self-Assessment Questions

B. Short Answer Questions

C. Higher Order Thinking Skills (HOTS)

7.11 Suggested Readings and E Resources

UNIT - 8 LIMITATIONS AND IMPLEMENTATION

BARRIERS OF JIT

Unit Objectives

Introduction

Learning Outcomes

8.1 Advantages Of JIT

8.2 Disadvantages Of JIT

8.3 Limitations and Advantages Of MRP

8.4 Advantages & Comparison of MRP & JIT

8.5 Summary

8.6 Keywords

8.7 Short Answer Questions

8.8 Higher Order Thinking Skills (HOTS)

8.9 Descriptive Questions

8.10 Answers key

A. Self-Assessment Questions

B. Short Answer Questions

C. Higher Order Thinking Skills (HOTS)

8.11 Suggested Readings and E Resources

UNIT - 9 JIT LAYOUT

Unit Objectives

Introduction

Learning Outcomes

9.1 Plant Layout

9.2 Objectives of Plant Layout

9.3 Principles of Plant Layout

9.4 Classification of Layout

9.5 Process Layout

9.6 Product Layout

9.7 Combination Layout

9.8 Fixed Position Layout

9.9 Group Layout (Cellular Layout)

9.10 Summary

9.11 Keywords

9.12 Short Answer Questions

9.13 Higher Order Thinking Skills (HOTS)

9.14 Descriptive Questions

9.15 Answers key

A. Self-Assessment Questions

B. Short Answer Questions

C. Higher Order Thinking Skills (HOTS)

9.16 Suggested Readings and E Resources

UNIT - 10 JIT LAYOUTS AND DESIGN FLOWS

Unit Objectives

Introduction

Learning Outcomes

10.1 JIT Layout

10.2 Distance Reduction

10.3 Increased Flexibility

10.4 Impact on Employees

10.5 Reduced Space and Inventory

10.6 Summary

10.7 Keywords

10.8 Short Answer Questions

10.9 Higher Order Thinking Skills (HOTS)

10.10 Descriptive Questions

10.11 Answers key

A. Self-Assessment Questions

B. Short Answer Questions

C. Higher Order Thinking Skills (HOTS)

10.12 Suggested Readings and E Resources

UNIT - 11 SMED

Unit Objectives

Introduction

Learning Outcomes

11.1 Introduction to Single Minute of Die (SMED)

11.2 History Of SMED

11.3 Implementation Of SMED

11.4 Formal Method Of SMED

11.5 Summary

- 11.6 Keywords
- 11.7 Short Answer Questions
- 11.8 Higher Order Thinking Skills (HOTS)
- 11.9 Descriptive Questions
- 11.10 Answers key
 - A. Self-Assessment Questions
 - B. Short Answer Questions
 - C. Higher Order Thinking Skills (HOTS)
- 11.11 Suggested Readings and E Resources

UNIT - 12 INTRODUCTION TO KANBAN

- Unit Objectives
- Introduction
- Learning Outcomes
- 12.1 A Brief History of Kabana
- 12.2 Reasons for Implementing Kanban Scheduling
- 12.3 Kanban Implementation Process
- 12.4 Keys to Successful Implementation of Kanban
- 12.5 Forming Kanban Team
- 12.6 Summary
- 12.7 Keywords
- 12.8 Short Answer Questions
- 12.9 Higher Order Thinking Skills (HOTS)
- 12.10 Descriptive Questions
- 12.11 Answers key
 - A. Self-Assessment Questions
 - B. Short Answer Questions
 - C. Higher Order Thinking Skills (HOTS)
- 12.12 Suggested Readings and E Resources