



P.E.S. College of Engineering, Mandya - 571 401
(An Autonomous Institution affiliated to VTU, Belagavi)
Seventh Semester, B.E. - Industrial and Production Engineering
Semester End Examination; February - 2022
Just In Time Manufacturing

Time: 3 hrs

Max. Marks: 100

Course Outcomes

The Students will be able to:

CO1: Understanding the JIT Manufacturing and its implementation at Toyota.

CO2: Illustrating the method of achieving the Production smoothing in JIT.

CO3: Analyzing the JIT implementation in different type of organizations and at different countries.

CO4: Design, development and management of JIT manufacturing systems.

CO5: Preparing the Supply management systems and constructing the framework for implementing the JIT manufacturing systems.

Note: I) PART - A is compulsory. Two marks for each question.**II) PART - B: Answer any Two sub questions (from a, b, c) for Maximum of 18 marks from each unit.**

Q. No.	Questions	Marks	BLs	COs	POs
I : PART - A		10			
I a.	Define Just In Time (JIT) manufacturing.	2	L1	CO1	PO1
b.	List the important steps involved in mixed model assembly line design.	2	L1	CO2	PO1
c.	Mention the four typical questions often asked while implementing JIT.	2	L1	CO3	PO1
d.	List the important types of plant configuration used in JIT manufacturing.	2	L1	CO4	PO1
e.	Explain the concept JIT purchasing.	2	L2	CO5	PO1
II : PART - B		90			
UNIT - I		18			
1 a.	List and explain the important factors or a practice which enables JIT to occur.	9	L1	CO1	PO2
b.	Explain in detail the basic elements of JIT.	9	L1	CO1	PO2
c.	Explain the subcontract Kanban and signal Kanban with neat sketches.	9	L2	CO1	PO2
UNIT - II		18			
2 a.	Illustrate the production planning at TPS.	9	L2	CO2	PO2
b.	Explain the concept of production smoothing with a suitable example.	9	L2	CO2	PO2
c.	Summarize the criticism of the TPS by the communist party of Japan.	9	L1	CO2	PO2
UNIT - III		18			
3 a.	Summarize the JIT implementation in Harley Davidson motor company.	9	L2	CO3	PO2
b.	Conclude the JIT implementation in kibun food company and Asia securities printing industries.	9	L3	CO3	PO2

- c. Analyze the ABC-XYZ classification for determining component suitable for JIT production. 9 L3 CO3 PO2

UNIT - IV**18**

- 4 a. Explain with a neat sketch of U-turn layout and single line running mixed model layout. 9 L1 CO4 PO2
- b. Compare the ROP, MRP kanban and production line with respect to planning and control systems. 9 L1 CO4 PO2
- c. Distinguish clearly between the Toyota and American manufacturing philosophic. 9 L1 CO4 PO2

UNIT - V**18**

- 5 a. List the important characteristics of the Japanese JIT supply system. 9 L1 CO5 PO2
- b. Outline the importance of “quality certification of suppliers in JIT purchasing”. 9 L1 CO5 PO2
- c. Briefly explain the risks associated due to inappropriate understanding of JIT. 9 L1 CO5 PO2

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