

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



P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Eighth Semester, B.E. - Industrial and Production Engineering

Semester End Examination; May/June - 2019

Just In Time Manufacturing

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

- 1 a. What is NPSRA? List its purpose. 6
- b. What are the core practices of JIT? 8
- c. Discuss about the benefits of JIT. 6
- 2 a. Draw the outline of Toyota production system. 8
- b. Illustrate the "Subcontract Kanban". 6
- c. Summarize the Kanban rules. 6

UNIT - II

- 3 a. Elaborate production planning of TPS. 6
- b. With the help of an example, show how production smoothing brought out in TPS? 8
- c. "Six techniques are adopted to apply the concept of reducing set up times". List those techniques. 6
- 4 a. Propose the major steps for line design of mixed-model assembly. 6
- b. Show the framework of the information system supporting Kanban. 8
- c. Narrate how the TPS adapts to major demand changes occurring within the year? 6

UNIT - III

- 5 a. Analyze the meaning of the following : 6
- i) MAN ii) QPIP iii) PWP
- b. Illustrate the "JIT implementation at ATCO (Seasonal demand) company". 6
- c. Summarize the JIT implementation at "Misawa homes of Japan". 8
- 6 a. Name any 12 important elements in JIT manufacturing system (According to Gilbert). 6
- b. Discuss about the four important components of JIT as mentioned by Ettkin et al., 8
- c. Narrate about the ABC-XYZ analysis for determining components suited for JIT production. 6

UNIT - IV

- 7 a. Show the Inventory performance of different planning and control systems. 6
- b. Compare Toyota and US manufacturing philosophies. 8
- c. Propose the typical attitude changes required for implementing JIT. 6
- 8 a. "The creation and maintenance of effective teams is the mechanism by which the involvement occurs" defend this statement. 6
- b. Show the causal factors to realize "Shojinka". 8

- c. With respect to the following industrial problems in developing countries, identify the improvements afforded by JIT;
 - i) Underutilization of both workers and equipment 6
 - ii) Inferior quality
 - iii) Unreliable and long lead time

UNIT – V

- 9 a. List the characteristics of JIT purchasing with respect to ‘Suppliers’. 8
- b. Distinguish clearly between the JIT purchasing and traditional purchasing with reference to the following:
 - i) Purchasing lot size 6
 - ii) Selecting supplier
 - iii) Evaluating supplier
- c. Summarize the causes and possible remedies with reference to the problem of “Lack of support from carrier companies” in JIT purchasing. 6
- 10 a. “JIT benefits are not easy to quantify”. Justify this statement. 6
- b. What are the excuses for not adopting JIT? 7
- c. Elaborate the “Suppliers integration phase” of project network approach to JIT implementation. 7

* * * *