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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 - 2018

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. Define JIT. List the core Japanese practices of JIT. 6
- b. Illustrate 4S's and 3M's of JIT. 7
- c. What is subcontract Kanban? Show its contents. 7
- 2 a. "JIT is not one-time effort". It embodies the ethics of continuous improvement". Interpret the meaning of this statement. 6
- b. With the help of the figure, explain the steps involved in using the Two Kanbans. 10
- c. "The carrier in the Toyota factory is also called the whirligig beetle" Why? 4

UNIT - II

- 3 a. Outline the "production planning at TPS". 6
- b. Discuss about the "Adoptability to demand fluctuations" in TPS. 6
- c. Construct the "Framework of the Information system supporting Kanban". 8
- 4 a. With the help of an example, show the typical calculation of mixed model daily schedule in TPS. 6
- b. Write the criticism of the TPS by the communist party of Japan. 6
- c. Elaborate the four major set up concepts. 8

UNIT - III

- 5 a. Summarize the "JIT implementation at Kibun food company". 8
- b. "Cultural factors do not in any way inhibit the application of JIT philosophy". Justify this statement. 6
- c. Write the inference of Im and Lee survey findings with reference to the JIT implementation in US manufacturing forms. 6
- 6 a. "For, 'Skylark' restaurant chain, implementing JIT was its best decision according to the president of the chain". Defend this statement. 6
- b. Name any 12 important elements in JIT manufacturing system, identified by Gilbert. 6
- c. Analyze the ABC-XYZ classification for determining components suited for JIT production. 8

Contd...2

UNIT - IV

- 7 a. Distinguish clearly between the “Bird cage layouts” and “Isolated island layouts”. 8
- b. Assess the effect of product design on manufacturing performance. 8
- c. Summarize the “Strategic measures of JIT performance”. 4
- 8 a. Compare the Toyota manufacturing philosophy and US manufacturing philosophy. 9
- b. Predict the “Impact of JIT characteristic on worker roles and HRM Practices”. 7
- c. “With low inventories, parts are used soon, defects are revealed and corrected early”. How? 4

UNIT - V

- 9 a. What are the characteristics of the Japanese JIT supply system? 8
- b. Criticize the following with reference to the JIT purchasing :
- i) Rigid specifications 4
- ii) Multiple sources of supply for a given part
- c. List the risks due to inappropriate understanding of JIT. 8
- 10 a. Outline the characteristics of JIT purchasing with reference to the “Suppliers”. 8
- b. Discuss about the causes and possible remedies for the problem of “Lack of support from suppliers” while implementing JIT purchasing. 4
- c. Elaborate the “Supplier integration” phase of a project network approach to JIT implementation. 8

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