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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; July - 2021

Just In Time Manufacturing

Time: 3 hrs

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. What is NPSRA? Explain. 6
 - b. Illustrate the “House Keeping” and “Statistical process control” which enables JIT to occur. 8
 - c. Name the benefits of JIT. 6
- 2 a. Outline the sub goals of JIT. 6
 - b. Summarize the kanban rules and sub rules. 8
 - c. Explain “sequenced with drawl system”. 6
- 3 a. Show the production planning at TPS. 6
 - b. Write the plan of “adoptability of Demand fluctuations” at TPS. 6
 - c. What are the major steps involved in “mixed model assembly line design”? 8
- 4 a. Explain the seven subsystems of framework of the Information system supporting kanban. 10
 - b. List the four major setup concepts. 5
 - c. What is “yo-i-don”? Explain. 5
- 5 a. Illustrate the JIT implementation at “Harley Davidson motor company”. 6
 - b. Conclude the JIT implementation at “Kibun food company”. 8
 - c. “Cultural factors do not in any way inhibit the application of JIT philosophy”. How? 6
- 6 a. Name any sixteen important elements in JIT manufacturing as pointed out by Gilbert. 8
 - b. Compare JIT survey results of US and UK industries. 5
 - c. Describe the ABC-XYZ analysis for determining components suited for JIT production. 7
- 7 a. “A number of goals have to be set to achieve an even, balanced, self adjusting flow in JIT manufacturing” which are those? 6
 - b. Distinguish clearly between “kanban” and “production line” systems of planning and control. 6
 - c. With respect to the following factors, compare Toyota and US manufacturing Philosophies:
 - i) Inventory 8
 - ii) Lot sizes
 - iii) Queues 8
 - iv) Quality
- 8 a. Name the functional steps involved in quality assurance in TPS. 6
 - b. Show the HRM practices required to implement JIT manufacturing. 6
 - c. Outline the four stages in “Team Development”. 8

- 9 a. Summarize the characteristics of the Japanese JIT supply system. 8
- b. Distinguish clearly between the “JIT purchasing” and “Traditional purchasing” with reference to the following purchasing activity:
 - i) Purchase lot size 8
 - ii) Evaluating supplier
 - iii) Receiving inspection
 - iv) Product specification
- c. Write the conclusion of O’Neal survey on “Buyer-seller relationship in JIT purchasing”. 4
- 10 a. What are the causes and possible remedies for the following major problems encountered in the implementation of JIT purchasing?
 - i) Lack of support from suppliers 8
 - ii) Lack of Top management support
- b. “A JIT project cannot be viewed as a few Independent actions”. Why? 6
- c. Illustrate the layout design phase of the implementation of JIT. 6

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