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Seventh Semester B.Tech. Degree Examination, Dec.2023/Jan.2024

Lean Manufacturing

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the Japanese philosophy of elimination of waste. (12 Marks)
b. With help of case study, discuss about the implementation of JIT. (08 Marks)

OR

- 2 a. Explain with a sketch, steps involved in using withdrawal kanban and production ordering kanban. (10 Marks)
b. What is kanban in lean manufacturing? Explain the types of it. (05 Marks)
c. Mention the problems of applying kanban system to subcontractors. (05 Marks)

Module-2

- 3 a. What are the logical limits of mass production? (08 Marks)
b. Explain with case study, of Heyday of mass production, America in 1955. (12 Marks)

OR

- 4 a. Discuss the following factors:
i) Company as community
ii) Final assembly plant
iii) Changing consumer demand. (15 Marks)
b. What are the factors led to birth of lean production? (05 Marks)

Module-3

- 5 a. Explain practical procedures for reducing setup time. (05 Marks)
b. Explain briefly about concepts and the techniques involved in reduction of setup times. (10 Marks)
c. List out the benefits of setup reduction in continuous improvement way. (05 Marks)

OR

- 6 a. Explain briefly on multi-function workers and job rotation in standardization of operation. (10 Marks)
b. Briefly explain about improvement activities to reduce the work force. (10 Marks)

Module-4

- 7 a. Explain briefly: i) Visual management ii) Value stream mapping. (05 Marks)
b. Explain the role of i) Finance ii) Career ladders iii) Geographic spread, in managing lean enterprises. (15 Marks)

OR

- 8 a. List out the advantages of global enterprises. (05 Marks)
b. Briefly explain about role of value stream mapping in lean manufacturing. (05 Marks)
c. Explain 5's and waste walks in lean manufacturing. (10 Marks)

Module-5

- 9 a. Explain the historical of six sigma concepts with its quality levels. (04 Marks)
b. What are technical aspects of six sigma? (10 Marks)
c. Briefly explain design for six sigma. (06 Marks)

OR

- 10 a. Explain briefly on i) DMAIC principles ii) DMADV principles. (10 Marks)
b. Discuss on :
i) Benefits of six sigma to organization
ii) Six sigma for customers
iii) Six sigma for employers. (10 Marks)

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