MME 4047

Exam Date & Time: 30-Nov-2023 (02:30 PM - 05:30 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

MIT MPL and BLR - BTech I-III-V and VII Semester - End Semester Examination - Nov-Dec 2023

Lean Manufacturing [MME 4047]

Marks: 50

Duration: 180 mins.

Descriptive

Answer all the questions.

* Assume th * Write near	ne missing data suitably. tly and legibly.	
1)	Provide a concise description of the responsibilities associated with the role of a value stream manager from the perspective of someone occupying that position.	(3)
2)	Compose a brief explanation of poka-yoke, emphasizing its significance and application in preventing errors or defects in processes.	(3)
3)	Elaborate on the concepts of 'Seiso' and 'Shitsuke' within the context of lean manufacturing.	(4)
4)	Imagine yourself as the head of a wheel manufacturing industry. Develop the process of implementation of 'Kanban' at your company.	(4)
5)	A plastic molding company is unable to meet the requirements of the customers due to the time-consuming setup actions. Suggest four 'setup concepts' that can be employed to minimize setup time in manufacturing processes.	(4)
6)	Analyze the risks associated with non-usage of lean manufacturing concepts in industries.	(2)
7)	What are the goals and elements of standardization of operations?	(4)
8)	Review the various methods to be implemented for production smoothing during fluctuating market demands with respect to a four-wheeler manufacturing industry.	(4)
9)	Explain the concept of 'Takt Time'.	(2)
10)	With a flow chart, explain the framework of Toyota's production smoothing.	(4)
11)	Analyse reduction of processing time through small-sized lot production.	(3)
12)	Differentiate product flow layout and job shop layout.	(3)

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- 13) A small-scale manufacturing industry runs with 2 lathes, 2 milling and one welding machines. Now they have appointed you as the value stream manager. Draw the possible present and future state maps for the same. (Missing data may be suitably assumed). (5)
- 14) Explain the concept of Heijunka.

(2)

15) Draw a standard operation sheet for the forthcoming acquisition of a 6D CNC machine at MIT, Manipal. You have the liberty to imagine the machine's details and operational functions. (3)

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