



<b>Name:</b>	
<b>Enrolment No:</b>	

**UPES**

**End Semester Examination, December 2024**

**Course: Lean Manufacturing**

**Program: INT\_BBA\_MBA**

**Course Code: LSCM3018**

**Semester: V**

**Time: 03 hrs.**

**Max. Marks: 100**

**Instructions:**

**SECTION A**  
**10Qx2M=20Marks**

<b>S. No.</b>	<b>Answer all the questions</b>	<b>Marks</b>	<b>CO</b>
Q 1	Which of the following is NOT a principle of Lean Manufacturing? A. Value stream mapping B. Creating flow C. Increasing inventory levels D. Pursuing perfection	2	CO1
Q 2	The 5S methodology does NOT include which of the following steps? A. Sort B. Sustain C. Simplify D. Shine	2	CO1
Q 3	Explain TPS.	2	CO1
Q 4	What does the term "Jidoka" in TPS refer to? A. Automation with a human touch B. Inventory optimization C. Large-scale production D. Supplier collaboration	2	CO1
Q 5	Which of the following is a type of inventory? A. Raw materials B. Finished goods C. Work-in-progress (WIP) D. All of the above	2	CO1
Q 6	Which Lean tool focuses on workplace organization and cleanliness? A. Jidoka B. Kanban C. 5S D. Takt Time	2	CO1
Q 7	Which cost is NOT typically associated with inventory management? A. Carrying cost B. Ordering cost	2	CO1

	C. Setup cost D. Recruitment cost		
Q 8	The term "Heijunka" in TPS refers to: A. Leveling production to match demand fluctuations B. Increasing worker productivity C. Conducting quality checks after production D. Maximizing batch sizes to reduce costs	2	CO1
Q 9	What does the term "Poka-Yoke" refer to in Lean? A. A mistake-proofing mechanism B. A production scheduling tool C. A method to reduce inventory D. A technique to measure efficiency	2	CO1
Q 10	Safety stock in inventory management is primarily used to: A. Maximize profitability B. Protect against stockouts during demand fluctuations C. Reduce carrying costs D. Eliminate the need for reordering	2	CO1
<b>SECTION B</b> <b>4Qx5M= 20 Marks</b>			
Q 11	What is the 5S methodology, and how does it contribute to operational excellence?	5	CO2
Q 12	What is Jidoka, and how does it contribute to ensuring quality in production processes?	5	CO2
Q 13	What can be the reason to carry excessive inventory ?	5	CO2
Q 14	Discuss the principle of "Just-In-Time" (JIT) in the Toyota Production System.	5	CO2
<b>SECTION-C</b> <b>3Qx10M=30 Marks</b>			
Q 15	A busy workshop for electronics repair often faces delays because technicians spend considerable time searching for tools and components. The workspace is cluttered, with no standardized locations for frequently used items. The manager wants to implement the 5S methodology to improve efficiency.  Describe how the 5S methodology can be applied to reorganize the workshop and reduce delays. What specific actions should the manager take for each step of 5S to ensure long-term benefits?	10	CO3
Q 16	A production line at a factory produces a batch of faulty products, but the defect is only discovered after the batch is completed.  How could implementing Jidoka have prevented this issue, and what steps should be taken to integrate Jidoka into the production process?	10	CO3

Q 17	<p>GreenTech Manufacturing produces eco-friendly appliances. They manage three types of inventory: raw materials (like steel and plastic), work-in-progress (WIP) components, and finished goods (completed appliances). Recently, they have faced production delays due to insufficient raw materials, while excess finished goods are piling up in the warehouse, leading to high storage costs.</p> <p>How can GreenTech Manufacturing better manage its functional types of inventory (raw materials, WIP, and finished goods) to avoid production delays and reduce storage costs?</p>	10	CO3
<b>SECTION-D</b> <b>2Qx15M= 30 Marks</b>			
Q 18	<p>Bright Lights Inc., a company manufacturing LED bulb, is facing increased competition. Customers are complaining about late deliveries and inconsistent product quality. A review shows that the production process involves unnecessary steps, leading to delays and defects.</p> <p>How can Bright Lights Inc. use Lean tools like value stream mapping and Kaizen to streamline its production process, improve product quality, and meet customer expectations? Outline the steps involved in applying these tools.</p>	15	CO4
Q 19	<p>What are the major inventory-related costs (carrying cost, ordering cost, and stockout cost)? Provide examples of how these costs influence decision-making in inventory management.</p>	15	CO4