

IAT 2 Question Paper & Scheme, Solution

Sub: **Technology and Operational Strategy**

Code: **20MBA302**

Date: **06-02-2023**

Duration: 90 mins

Max  
Marks: 50

Sem: III

Branch: MBA

OBE

Marks CO RBT

<b>Part A -Answer Any Two Full Questions (20*02=40 Marks)</b>			
1(a)	<p>What is Gemba? Lean management challenges leadership to go to the Gemba, the place where the work is being done, in order to become better leaders.</p>	[03]	CO3 L1
(b)	<p>Describe characteristics of production system. Physical flow of materials (work in process, finished goods) Flow of information Inevitable paperwork The physical flows are subject to the constraints of the capacity of production system. The planning and control of the system to achieve acceptable outputs, is an important task of the production manager The quality of a product, measured against some objective standard, includes appearance. <b>Performance characteristics</b></p> <ul style="list-style-type: none"> <li>• Durability</li> <li>• Serviceability</li> <li>• Physical characteristics</li> <li>• Timeliness of delivery</li> <li>• cost</li> <li>• Appropriateness of documentation and supporting materials.</li> </ul>	[07]	CO5 L2
(c)	<p>Outline the key benefits of lean manufacture.</p> <ul style="list-style-type: none"> <li>• <b>Eliminate Waste:</b> Waste is a negative factor for cost, deadlines and resources.</li> <li>• It provides no value to products or services</li> <li>• <b>Improve Quality:</b> Improved quality allows companies to stay competitive and meet the changing needs and wants of customers.</li> <li>• Designing processes to meet these expectations and desires keep you ahead of the competition, keeping quality improvement at the forefront.</li> <li>• <b>Reducing Costs:</b> Overproduction or having more materials than is required creates storage costs, which can be reduced through better processes and materials management</li> <li>• <b>Reducing Time:</b> Wasting time with inefficient working practices is a waste of money too, while more efficient practices create shorter lead times and allow for goods and services to be delivered faster</li> </ul>	[10]	CO3 L4
2(a)	<p>What is continuous production? Continuous production is a type of production system in which materials being processed are continuously in motion. Continuous production, like mass production, is a flow production method. A manufacturing method in which the materials (dry bulk or fluids) that are being processed are continuously in motion, undergoing mechanical, thermal, and/or chemical treatment.</p>	[03]	CO5 L1

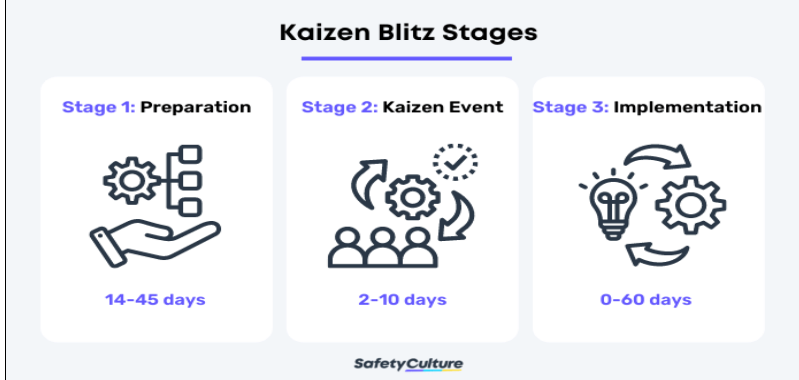
(b)	<p>Describe the process of creating environment of continuous improvement.</p> <ul style="list-style-type: none"> <li>• By asking guiding questions,</li> <li>• Supporting teams as they test hypotheses</li> <li>• Celebrating improvements, in both performance and process.</li> <li>• Leaders to trust in the skills, knowledge, and experience of their employees.</li> <li>• Hiring smart, ambitious team players,</li> <li>• Giving them the tools they need to be successful,</li> <li>• Most importantly, getting out of their way.</li> <li>• Reducing Costs: Overproduction or having more materials than is required creates storage costs, which can be reduced through better processes and materials management</li> <li>• Reducing Time: Wasting time with inefficient working practices is a waste of money too, while more efficient practices create shorter lead times and allow for goods and services to be delivered faster</li> </ul>	[07]	CO3	L2
(c)	<p>Explain the advantages and disadvantages of continuous production.</p> <p><b>Advantages of continuous production:</b></p> <ul style="list-style-type: none"> <li>• Standardization: Continuous production is a carefully monitored, consistent process that uses advanced machinery to produce standardized goods.</li> <li>• Higher production rate: Continuous production never stops running. Without the need to shut down or reset machinery, manufacturers can produce large quantities in less time than a factory that only runs one or two shifts</li> <li>• Reducing Costs: Overproduction or having more materials than is required creates storage costs, which can be reduced through better processes and materials management</li> <li>• Reducing Time: Wasting time with inefficient working practices is a waste of money too, while more efficient practices create shorter lead times and allow for goods and services to be delivered faster</li> </ul> <p><b>Disadvantages of continuous production:</b></p> <ul style="list-style-type: none"> <li>• Requires a high investment</li> <li>• Lack of flexibility: Continuous production plants are usually designed to produce a single product</li> <li>• Products are the same: Continuous production produces identical items. More consumers want custom or personalized products</li> <li>• Requires extremely careful planning and design: Manufacturers must work with engineers and other design specialists to very carefully. Any failure in equipment in an assembly line stops the entire manufacturing process.</li> <li>• May lead to excess inventory: Continuous production creates high volumes</li> </ul>	[10]	CO5	L3
3(a)	<p>Recall the examples of Non-utilized talent.</p> <p>This type of manufacturing waste occurs when management in a manufacturing environment fails to ensure that all their potential employee talent is being utilized.</p> <ul style="list-style-type: none"> <li>• Poor communication</li> <li>• Failure to involve people in workplace design and development</li> <li>• Lack of or inappropriate policies</li> <li>• Incomplete measures</li> <li>• Poor management</li> </ul>	[03]	CO3	L1

	<ul style="list-style-type: none"> <li>Lack of team training</li> </ul>			
(b)	<p>Explain causes for types of waste.</p> <p>Poor quality control at the production level</p> <p>Poor machine repair</p> <p>Lack of proper documentation</p> <p>Lack of process standards</p> <p>Not understanding your customers' needs</p> <p>Inaccurate inventory levels</p> <p>Poor communication</p> <p>Not understanding your customers' needs, Human error</p> <p>Slow approval process or excessive reporting, Unreliable process</p> <p>Unstable production schedules, Inaccurate forecast and demand information</p> <p>Customer needs are not clear, Poor automation</p> <p>Long or delayed set-up times, Unplanned downtime or Idle equipment</p> <p>Long or delayed set-up times, Poor process communication</p> <p>Lack of process control, Producing to a forecast, Idle equipment</p> <p>Overproduction of goods, Delays in production or 'waste of waiting'</p> <p>Inventory defects, Excessive transportation, Poor layouts – large distance between operations, Long material handling systems, Large Batch sizes</p> <p>Multiple storage facilities, Poorly design production systems</p> <p>Poor workstation layout, Poor production planning, Poor process design</p> <p>Shared equipment and machines, Siloed operations, Lack of production standards, Poor communication, Failure to involve people in workplace design and development, Lack of or inappropriate policies, Incomplete measures</p> <p>Poor management, Lack of team training</p>	[07]	CO3	L2
(c)	<p>Recommend the Ten Kaizen principles for incremental improvements of the Company.</p> <p>From the Japanese words “kai-” which means “change” and “-zen” which means “good.”</p> <p>The popular meaning from Toyota is “continuous improvement” or “small incremental improvements” of all areas of a company, not just manufacturing.</p> <p>Kaizen means all personnel are expected to stop their work when they encounter any abnormality and, along with their supervisor, suggest an improvement to resolve the abnormality.</p> <ol style="list-style-type: none"> <li>1. Let go of assumptions.</li> <li>2. Be proactive about solving problems.</li> <li>3. Don't accept the status quo.</li> <li>4. Let go of perfectionism and take an attitude of iterative, adaptive change.</li> <li>5. Look for solutions as you find mistakes.</li> <li>6. Create an environment in which everyone feels empowered to contribute.</li> <li>7. Don't accept the obvious issue; instead, ask "why" five times to get to the root cause.</li> <li>8. Cull information and opinions from multiple people.</li> <li>9. Use creativity to find low-cost, small improvements.</li> <li>10. Never stop improving.</li> </ol>	[10]	CO5	L5
	<b>Part B - Compulsory (01*10=10marks)</b>			
4	<p>At a reputed education institute student's placement was never crossing 60%. In spite of world class infrastructure, well qualified teachers, excellent teaching learning process placement is a nightmare.</p>	[10]	CO5	L4

Break down the case, with help of Kaizen blitz improve the productivity to 95%.

A **Kaizen Blitz** is a rapid improvement workshop designed to produce results/approaches to discrete process issues within a few days.

It is a way for teams to carry out structured, but creative problem solving and process improvement, in a workshop environment, over a short timescale.



In the business perspective, kaizen blitz can therefore be defined as a sudden intensive effort to dismantle a process, analyze its weakness, and rebuild it back to form something better.

Course Outcomes		PO 1	PO 2	PO 3	PO 4	PO 5
CO1	Acquire the knowledge about the concepts of production and operation management					
CO2	Demonstrate the basic concepts of process mapping					
CO3	Evaluate the importance of Lean Manufacturing	1a, 3a	2b, 3b	1c		
CO4	Develop strategies of Total quality management					
CO5	Understand the roles of ISO standards and production system	2a	1b	2c, 3c, 4		
Cognitive level	KEYWORDS					
L1	list, define, tell, describe, recite, recall, identify, show, label, tabulate, quote, name, who, when, where, etc.					
L2	describe, explain, paraphrase, restate, associate, contrast, summarize, differentiate interpret, discuss					
L3	calculate, predict, apply, solve, illustrate, use, demonstrate, determine, model, experiment, show, examine, modify					
L4	classify, outline, break down, categorize, analyze, diagram, illustrate, infer, select					
L5	grade, test, measure, defend, recommend, convince, select, judge, support, conclude, argue, justify, compare, summarize, evaluate					
L6	design, formulate, build, invent, create, compose, generate, derive, modify, develop, integrate					
<b>PO1–Theoretical Knowledge;</b>		<b>PO2–Effective Communication Skills;</b>		<b>PO3–Leadership Qualities;</b>		
<b>PO4 –Sustained Research Orientation;</b>		<b>PO5 –Self-Sustaining Entrepreneurship</b>				

CCI

HOD