



<b>Program</b>	Master of Business Administration (MBA)	<b>Semester - 4</b>
<b>Type of Course</b>	Minor	
<b>Prerequisite</b>		
<b>Rationale</b>	-	
<b>Effective From A.Y.</b>	2024-25	

Teaching Scheme (Contact Hours)				Examination Scheme				
Lecture	Tutorial	Lab	Credit	Theory Marks		Practical Marks		Total Marks
				T	T	P	P	
4	-	-	4	50	30	-	-	150

*SEE - Semester End Examination, T - Internal Theory, P - Internal Practical*

Course Content		T - Teaching Hours   W - Weightage	
Sr.	Topics	T	W
1	<b>Module I</b> Philosophy of World Class Manufacturing: Evolution of WCM o Taiichi Ohno and Shigeo Shingo o Richard Schonberger Manufacturing assessment using customer focused principles o Toyota Production System (TPS) (briefly) Genesis and development Influence of Henry Ford, Taiichi Ohno, Eiji Toyoda, and Shigeo Shingo. Muri, mura, muda Conceptual pillars Just-in-Time Jidoka (Autonomation) Underlying principles of TPS Continuous improvement o Challenge o Kaizen o Gemba and Genchi Genbutsu Respect for People Key tools and concepts within TPS Kaizen Kanban Poka-yoke 5S Value Stream Mapping (VSM) o WCM model (temple) developed by FIAT and contributions of Hajime Yamashina. Ten technical pillars Ten managerial pillars Difference between FIAT's WCM and Schonberger's WCM Gaining competitive edge through world class manufacturing	15	25
2	<b>Module-II</b>	15	25



<b>Course Content</b>		<b>T - Teaching Hours   W - Weightage</b>	
<b>Sr.</b>	<b>Topics</b>	<b>T</b>	<b>W</b>
	Contemporary Practices (basic introduction): &bull; TOPP &bull; AMBITE System &bull; MRP II &bull; Automated Production Systems o Fixed Automation Systems o Flexible Automation Systems (FAS) o Programmable Automation Systems &bull; Service automation Human Resource Management in WCM: &bull; Adding value to the organization &bull; Organizational learning, Cross functional teams &bull; People as problem solvers &bull; Total Employee involvement &bull; Human Integration movement &bull; Motivation and reward in the age of continuous improvement.		
<b>3</b>	<b>Module-III</b>  Lean Production: Concept and core idea Seven Deadly Wastes Key tools o 5S o Andon (Visual Feedback) o Visual Factory o Bottleneck analysis o SMED (Single Minute Exchange of Dies) Agile Manufacturing: Concept, Lean as a precursor to Agile Effectiveness of Agile Key elements of Agile o Modular Product Design o Information Technology o Corporate Partners o Knowledge Culture Short Interval Control: Concept, key features and elements, benefits Hoshin Kanri (Policy Deployment): Concept, core principles	<b>15</b>	<b>25</b>
<b>4</b>	<b>Module-IV</b>	<b>15</b>	<b>25</b>



Course Content		T - Teaching Hours   W - Weightage	
Sr.	Topics	T	W
	<p>Six Sigma:</p> <p>Value of Six Sigma</p> <p>Design for Six Sigma (DFSS)</p> <ul style="list-style-type: none"> <li>o DMAIC, IDOV, FMEA, DMADV DMAIC (in brief)</li> </ul> <p>Define Phase</p> <ul style="list-style-type: none"> <li>o Create Project Charter, Process mapping, identifying customers, translating customer requirements.</li> <li>o Commonly used tools – Force field analysis, Risk Priority Number (RPN), SIPOC Diagram.</li> </ul> <p>Measure Phase</p> <ul style="list-style-type: none"> <li>o Process measurement, AS IS Value Stream Map, Process inputs and outputs</li> <li>o Preparing data collection plan, assessing process capabilities (process capability and performance indices)</li> <li>o Process performance v/s specification.</li> </ul> <p>Analyze Phase</p> <ul style="list-style-type: none"> <li>o Identify critical inputs, data analysis, and process analysis, determining and prioritizing root causes. (This is done through various statistical tests. It is not required to perform any numerical analysis. Students should be just apprised of the significance of statistical testing during this phase).</li> </ul> <p>Improve Phase</p> <ul style="list-style-type: none"> <li>o Priority list of solutions, applying lean Six Sigma best practices, creating TO BE value stream map, risk assessment, pilot testing of solution.</li> </ul> <p>Control Phase:</p> <ul style="list-style-type: none"> <li>o Creating the process control plan, developing Standard Operating Procedures (SOPs), training, transition of ownership, project storyboard.</li> </ul>		
<b>Total</b>		<b>60</b>	<b>100</b>

Suggested Distribution Of Theory Marks Using Bloom's Taxonomy			
Level	Understanding	Application	Evaluate
<b>Weightage</b>	25	25	50

*NOTE : This specification table shall be treated as a general guideline for the students and the teachers. The actual distribution of marks in the question paper may vary slightly from above table.*

Course Outcomes	
<b>At the end of this course, students will be able to:</b>	
CO1	Discuss best practices adopted by industry in the sphere of WCM.
CO2	Examine the barriers to using IT strategically for World Class Manufacturing.
CO3	Discuss latest trends and developments in technology, systems and practices around the world pertaining to WCM.
CO4	Compare and contrast team building practices to implement the World Class Manufacturing Plan across an organization in different industry.



**CO PO Mapping**

CO	CO - 1	CO - 2	CO - 3	CO - 4
PO - 1	3	3	3	3
PO - 2	2	2	2	2
PO - 3	0	0	0	2
PO - 4	2	2	2	1
PO - 5	0	0	0	1

**Reference Books**

1.	<b>World Class Manufacturing - Strategic Perspective (TextBook)</b> By B.S. Sahay, K B C Saxena, Ashish Kumar   Laxmi   2018 / 1st
2.	<b>The Toyota Way</b> By Jeffrey Liker   McGraw Hill   2017 / 1st
3.	<b>World Class Manufacturing: The Next Decade: Building Power, Strength, and Value</b> By Richard J. Schonberger   Free Press   2013