

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**B.E. SEMESTER : VIII**  
**MANUFACTURING ENGINEERING**

**Subject Name: Modern Manufacturing Practices**

**Subject Code:183403**

Teaching Scheme				Evaluation Scheme			
Theory	Tutorial	Practical	Total	University Exam(E)	University Exam(P)	Mid Sem Exam(Theory) (M)	Practical (Internal)
4	0	0	4	70	0	30	50

Sr No	Course Contents
<b>1</b>	<b>Historical Perspective</b> World class excellent organizations – Models for manufacturing excellence: Schonberger, Halls, Gunn and Maskell models, Business Excellence.
<b>2</b>	<b>Benchmark, Bottlenecks and Best Practices</b> Concepts of benchmarking, Bottleneck and best practices, Best performers – Gaining competitive edge through world class manufacturing – Value added manufacturing – Value Stream mapping - Eliminating waste –Toyota Production System –Example
<b>3</b>	<b>System and Tools for World Class Manufacturing</b> Improving Product & Process Design – Lean Production – SQC, FMS, Rapid Prototyping, Poka Yoke, 5-S, 3 M, JIT, Product Mix, Optimizing, Procurement & stores practices, Total Productive maintenance, Visual Control
<b>4</b>	<b>Human Resource Management in Modern Manufacturing</b> Adding value to the organization– Organizational learning – techniques of removing Root cause of problems – People as problem solvers – New organizational structures. Associates – Facilitators – Teamsmanship – Motivation and reward in the age of continuous improvement
<b>5</b>	<b>Typical Characteristics of Modern Manufacturing Companies</b> Performance indicators like POP, TOPP and AMBITE systems– what is world class Performance – Six Sigma philosophy.
<b>6</b>	<b>Indian Scenario</b> Case studies on leading Indian companies towards world class manufacturing –Task Ahead. Green Manufacturing, Clean manufacturing, Agile manufacturing.

**TEXT BOOKS:**

1. Sahay B.S., Saxena KBC and Ashish Kumar, “World Class Manufacturing – Strategic Perspective”, Macmillan Publications.
2. Korgaonkar M.G., “Just In Time Manufacturing”, Macmillan Publications.
3. Narayanan V.K., “Managing Technology and Innovation for Competitive Advantage”, Prentice Hall, 2000.

## **REFERENCE BOOKS:**

1. Adam and Ebert, "Production and Operational Management", 5th Edition, Prentice Hall Learning Pvt. Ltd., New Delhi.
2. Ron Moore, "Making Common Sense Common Practice – Models for Manufacturing Excellence", Butter worth Heinmann.
3. Jeffrey K.Liker, "The Toyota Way – 14 Management Principles", Mc-Graw Hill, 2003.
4. Chase Richard B., Jacob Robert., Operations Management for Competitive Advantage", 11th Edition, McGraw Hill Publications, 2005.
5. Moore Ron, "Making Common Sense Common Practice", Butterworth-Heinemann, 2002.
6. Womack J.P., Jones D.T., "Machine That Changed The World: The Story of Lean Production", Harper Perennial, 1991.