

## World Class Manufacturing

### Course Objectives

The objective of this course is to acquaint the students about the global developments in the area of manufacturing, and the systems, tools and techniques which are required for achieving competitive edge by business organisations. The course orients in helping the learner improve their leaning and understanding in world class manufacturing.

### Syllabus

Manufacturing & Operations Management, Just – in – Time Manufacturing, World Class Manufacturing Environment, Imperatives for Success, System Approach, Manufacturing excellence , Business Excellence, Benchmark and Best Practices in World Class Manufacturing, World Class Manufacturing – International Scenario and Indian Scenario.

### Expected Outcome

On completion of the course, the students are expected to learn what actions are appropriate for different situations of World Class Manufacturing with respect to theories as well as concepts in competitive manufacturing and apply them in models and practices.

### References

1. Sahay, B.S., Saxena, K.B.C and Ashish Kumar, World Class Manufacturing - Strategic Perspective, MacMillan, 2007.
2. Narayanan V. K, Managing Technology & Innovation for Competitive Advantage, Prentice Hall, 2014.
3. Nair, N. G, Production & Operations Management, McGraw Hill Education (India) Private Limited, 2002.
4. Richard J. Schonberger (2009). World Class Manufacturing: The Next Decade: Building Power, Strength, and Value, Free Press, 2013.
5. S. N. Chary, Production & Operations Management, McGraw Hill Education India Private Limited, 2012
6. Ron Moore, Making Common Sense Common Practice – Models for manufacturing Excellence (Kindle edition), Reliabilityweb.com, 2013

## Unit Topic

1 Manufacturing & Operations Management: Scope & Importance of Manufacturing & Operations Management, Interrelationship between Materials & Operations Management, Role of Raw Materials, Components and Work in Process inventories manufacturing, Methods of Quantity Assurance namely Sampling, SQC, Vendor rating, Self Certification , Just – in – Time Manufacturing.

2 World Class Manufacturing: World Class Manufacturing Environment, Imperatives for success, System approach and change in mindset, Strategic decisions in Manufacturing Management, Choice of technology, Capacity and layouts, Automation in Materials handling system, World class Excellent organizations – Models for Manufacturing excellence – Business Excellence.

### First Internal Examination

3 Benchmark and Best Practices: Benchmarking, bottleneck and best practices, Best performers – Gaining competitive edge through world class manufacturing – Value added manufacturing, eliminating waste – Toyota Production System, Human Resource Management in WCM: Organizational learning – New organizational structures, Associates Facilitators, Teamsmanship, Motivation and reward in the age of continuous improvement.

4 System & Tools for World Class Manufacturing: Improving Product & Process Design – Lean Production – SQC , FMS, Rapid Prototyping , Poka Yoke , 5-S , 7 M, use of IT ,JIT, Product Mix , Optimizing , Procurement & stores practices. Total Productive Maintenance, Visual Control., Typical characteristics of WCM companies: Performance indicators, world class Performance – Six Sigma philosophy.

### Second Internal Examination

5 World Class Manufacturing: – International Scenario and Indian Scenario, Manufacturing Innovations, Quick Response Manufacturing, Agile manufacturing, lean manufacturing, concurrent engineering, Globalization and World Class Manufacturing - Generic Manufacturing Strategies for Information Age; Planning Methodology and Issues in Strategic Planning of WCM; Performance Measurement POP System, TOPP System and Ambite System.

### Final Examination