



INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Post Graduate Diploma in Materials Management - 2 years

June 2024

PAPER No.13 (enrolment code –CPM)
PAPER No. 15(enrolment code- PMM, CMM)[OFFLINE EXAM]
World Class Manufacturing

Date : 20.06.2024
Time : 10.00 a.m to 1.00 p.m.

Max. Marks : 70
Duration : 3 Hrs.

Instructions:

1. From Part A – answer all questions (compulsory). Each sub questions carries 1 mark. **Total : 20 Marks**
2. From Part B – Answer any 3 questions out of 5 questions. Each question carries 10 marks. **Total :30 Marks**
3. Part C is a case study (compulsory) with questions. Read the carefully and answer the questions **Total: 20 marks**

Part – A

[20 Marks]

Q.1. Select appropriate answer [5 marks]

- 1.1.Poke Yoke meaning
(a) fool proofing (b)SPC tool (c)Value analysis (d)Value stream mapping
- 1.2. Technical Pillars used in world class manufacturing
(a)Safety (b) Cost deployment (c)Quality control (d) All of these
- 1.3.The goal of JIT manufacturing is to improve customer service, match resource utilisation with delivery from suppliers to reduce -----and prevent delays in manufacturing
(a)Inventory levels (b) price (c) cost of quality (d) None
- 1.4.In 5S, SEIRI means _____
(a)sort (b)set (c)shine (d)standardise
- 1.5.Which among these is not a Statistical Process Control tool
(a)Control Chart (b) Check Sheet (c) Histogram (d) Kan Ban

Q. 2 Fill in the blanks [5 marks]

- 1.1 Organisations are in the middle of a revolutionary transformation as the competition is shifting from Industrial age to _____
- 1.2 CNC machines provide a mix of _____ repeatability, speed and flexibility
- 1.3 In the information age _____ become scarce and most crucial and expensive economic resource.
- 1.4 Execution of JIT and lean management results in decreasing the, _____ and also reduce the cost
- 1.5 According to Schonberg, the objective of WCM is a continual and _____ improvement

Q. 3 Mention True or False [5 marks]

- 1.1World class manufacturing (WCM) seeks to achieve the best bringing defects to zero
- 1.2Lean manufacturing is often referred to as value added manufacturing
- 1.3 Shewhart cycle is a management method that uses four steps to control quality
- 1.4 SMED is not lean Production Tool
- 1.5 one of the Objective of Kaizen is to improve and control quality

Q.4. Match the following [5 marks]

COLUMN A		COLUMN B	
Sr.No.		Sr. No.	
1	Mr.Scheer	A	Poke-yoke
2	MURA	B	ARIS
3	Ishikawa	C	Unevenness
4	Vilfredo Pareto	D	Fish bone
5	Dr.Shigeo Shingo	E	Pareto chart

PART-B

[30 Marks]

Write any three (3) of the following questions 10 marks each

Q.5 a) Describe the business integration and decision support tools (5 Marks)

b) List the difference between ERP and SCM (5 Marks)

Q.6 a) Describe Gunn's model of World class manufacturing. (5 Marks)

b) Explain World Class Manufacturing network (5 Marks)

Q.7 (a) How lean manufacturing will help in reaching global standards (5 Marks)

b) Explain value added manufacturing. (5 Marks)

Q. 8(a) Describe 10 pillars of World Class Manufacturing (5 Marks)

(b) Deming's 14 principle for Management (5 Marks)

Q. 9(a) Explain business challenges of information age [5marks]

(b) Explain business characteristics of Industrial age and Information age (5 marks)

PART- C (Compulsory)

[20 marks]

Q 10. Read the case study carefully and answer the questions given at the end

Strategic usage of IT to become world class

The needs and skills required to manage today's business in global environment are far different than they were just a decade ago. In many emerging market largest chunk of Indian companies is in the transitional player status.

Competition from MNC are forcing many companies to adopt IT enabled manufacturing. With the rapid changes in IT and manufacturing technology, firms are therefore getting increasingly interested in managing the strategy-technology connection to develop new ways of achieving the competitive advantage.

Today's emphasis on competing through manufacturing may stimulate firms to assess their alignment of IT strategy.

Computer Integrated Manufacturing (CIM) which blends recent developments in manufacturing and IT to achieve competitive advantage can provide full strategic benefits only if there exists a broadened partnership of top management as well as engineering, marketing, manufacturing and IT executives who share a common vision of how CIM makes possible new approaches to designing business systems.

Most companies have standalone application of CIM, CNC, Computerized BOM and CAD systems. To get full advantage of IT in manufacturing is to define breadth and depth of IT infrastructure and its integration.

Scheer proposed the concept ARIS - Architecture of Integrated Information Systems. ARIS is used as conceptual framework for visualizing the role which IT applications can play in running a business

The important implication for managers, however, is that a companywide integrated IT infrastructure should be viewed only as a pre-requisite towards ultimate stage of using information leading to decision support for strategic planning. Many Indian companies have lot ground work to do in terms of Setting world class Manufacturing using integrated IT Infrastructure. Using IT to eliminate information delays which cause waste in the process of manufacturing and logistics

Questions::

1. What is present scenario with respect to Indian companies to become competitive / world class
2. What you understand by computer integrated Manufacturing
3. Explain the concept of ARIS
4. In your opinion what are the areas in which Indian companies should concentrate to become world class
