INDIAN INSTITUTE OF MATERIALS MANAGEMENT

Dec 2024

Post Graduate Diploma in Materials Management - 2 years
PAPER No. 15(enrollment code: CMM/PMM)
PAPER No. 17(enrollment code: CPM)
WORLD CLASS MANUFACTURING

Date: 26.12.2024 **Max. Marks: 100**
Time:10.00 a.m to 1.00 p.m. **Duration: 3 Hrs.**

Instructions:

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

Part – A [Total 20 Marks]

(Attempt all questions. Each sub question carries 1 mark.)

Q.1. Select appropriate answer [5 marks]

1.1. Lean manufacturing is referred to
(a) Value added manufacturing (b)Value engineering (c)Value analysis (d)none

1.2. Value is defined as
(a)Function/Cost (b) Cost/ Function (c)Cost/worth (d) None

1.3. The process which eliminates restrictions at national boundaries, integrates and connect people at global level
(a)Globalization (b) Integration (c)world class (d) None of these

1.4.The concept of SPC was coined by Dr. Walter Shewhart in the year
(a)1925 (b)1920 (c) 1928 (d)1940

1.5.Ishikawa /Fishbone diagram is also known as
(a)Control Chart (b) Scatter diagram (c) Histogram (d) Cause & effect

Q. 2 Fill in the blanks [5 marks]

1.1 Defect concentration diagram is known as _____
1.2 Lean manufacturing is a method of optimising manufacturing process and elimination of _____
1.3 Control chart helps in checking the variation in quality in comparison with_____
1.4 CAPP means, _____,
1.5 According to HALL, manufacturing excellence can be achieved by introducing_____concept

Q. 3 Mention True or False [5 marks]

1.1The goal of JIT manufacturing is to improve customer srvice with reduced inventory levels
1.2 In the information age , knowledge displaced capital
1.3 A flexible Manufacturing System (FMS) is more expensive to design and implement & need tech. skills
1.4 Kanban is not a lean Production Tool
1.5 The competitive strength of an organisation is built upon its external parameters

Q.4. Match the following [5 marks]

COLUMN A		COLUMN B	
Sr.No.		Sr. No.	
1	HALL	A	Minimizing non conformities
2	Quality Control	B	Plan Do Check Act
3	Shewhart cycle	C	Continuous improvement
4	Kaizen	D	JIT,ZQC, SMED
5	Dr. Shigeo Shingo	E	Value added manufacturing

PART - B [Total 30 marks]

Answer any THREE out of the following five questions:

Q.5 a) Describe the best practices in WCM **[5 marks]**

b) Explain pillars of world class manufacturing **[5 marks]**

Q.6 a) According to HALL manufacturing excellence can be achieved by value added Manufacturing concept. Explain **[5 marks]**

b) Explain Schonberger's Framework of WCM **[5 marks]**

Q.7 a) List difference between ERP & SCM **[5 marks]**

b) Explain the concept of SMED **[5 marks]**

Q 8. Explain briefly 10 pillars of world class manufacturing**[5 marks]**

Q 9. a) Describe the concept of SPC **[5 marks]**

b) Explain 3M s of lean manufacturing**[5 marks]**

PART - C [Total: 20 Marks]

CASE STUDY (Compulsory)

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

One of the leading company, at the end of 2008, decided to become the bench mark in quality, service, costs and Innovation. Hence the **world class manufacturing program** was started in early 2009. A consulting firm was selected to support them in roll out of this program in 26 plants by end of 2011.World class manufacturing aligns and focusses all areas of business to achieve progressively enhanced results year on year . It consists of ten pillars to built on 10 management criteria. The initial plant selected as a **Model Plant** following a deep drive into current and historical financial results, thus confirms that the benefits will be sufficient. The model plant also fosters training and education to support future deployment

Typically, each plant implementation covers three stages of evolution of each pillars- progressing from Reactive through preventive and finally covering proactive competencies-

The implementation is driven via the plant Manager supported by a team of Pillar managers and central plant co Ordinator. Consultants developed training materials, executed training and coaching of the plant core teams and set up visual management program in 16 plants. Performance monitoring is done through a structured set of visual management methods and regular meetings.17 plants implemented WCM and could achieve substantial savings.

Questions:

1. What is the intention of implementing WCM **[5 marks]**
2. Elaborate the methodology adopted in implementing WCM **[5 marks]**
3. What is the philosophy of World class Manufacturing **[5 marks]**
4. Explain ten pillars of WCM and how it helped the company to achieve global benchmark**[5 marks]**