



INDIAN INSTITUTE OF MATERIALS MANAGEMENT
Post Graduate Diploma in Materials Management
Graduate Diploma in Materials Management

June 2012

PAPER No. 8
Operation Management

Date : 12.06.2012
Time : 10.00 a.m. to 1.00 p.m.

Max. Marks :100
Duration : 3 Hrs.

Instructions :

1. From Part A – answer all questions (compulsory). Each sub questions carries 1 mark. **Total : 32 Marks**
 2. From Part B – Answer any 3 questions out of 5 questions. Each question carries 16 marks. **Total : 48 Marks**
 3. Part C is a case study (compulsory) with questions. Read the case study carefully and answer the questions **Total: 20 Marks**
 4. Graph Sheet can be used wherever necessary
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Part – A

The following are objective type questions.

Q.1 Indicate the correct answer from amongst the choices viz. (a), (b), (c) or (d).

- 1.1. Business Strategy is formulated at:
(a) Corporate Level (b) Business Unit Level
(c) Operational Level (d) all the three levels
- 1.2. CAD/CAM refers to:
(a) Computer aided design & manufacture (b) Forecasting technique
(c) Monitoring Inventory Control (c) None of the above
- 1.3. Ventilation refers to:
(a) Reverse Osmosis Process (b) Supply of air & removal
(c) Effluent Treatment (d) All of the above
- 1.4. Bill of Materials is used for:
(a) Machine Loading (b) Man-power planning
(c) Material Requirement Planning (d) All of the above
- 1.5. WIP Inventory accumulates because of
(a) Customer Schedule (b) Raw Materials supply
(c) Batch Manufacture (d) All of the above
- 1.6. Control Charts for Variables highlight:
(a) Variations from Production Plan (b) Variations in Productivity
(c) Whether process is stable or not (d) none of the above

- 1.7. JIT Manufacturing presupposes establishment of:
 - (a) Pull System
 - (b) Poka Yoke System
 - (c) Total Productive Maintenance
 - (d) All of the above
- 1.8. Focus on Operations Management leads to:
 - (a) Improved Quality of Products
 - (b) Reduced Operations Cost
 - (c) Quicker Response Time
 - (d) All of the above

Q.2 State whether the following statements are True or False.

- 2.1 SWOT Analysis is part of developing Operations Strategy
- 2.2 Demand Forecasting is always judgmental
- 2.3 Conveyors are used in assembly because items are heavy
- 2.4 Cellular Manufacturing Layout is used for small volumes
- 2.5 MRP is triggered by receipt of every order from each customer
- 2.6 Maintenance Spares Procurement uses ROP system
- 2.7 Kanban is a pull system controlled by card & empty containers
- 2.8 7 QC Tools are used for preventive & corrective actions

Q.3 Fill in the blanks:

- 3.1 "Exponential Smoothing" is a technique used in
- 3.2 The volume of output influences the design of
- 3.3 Mechanization replaces thepower.
- 3.4 One method of Noise Control is
- 3.5 Materials should move in direct flow pattern and avoid
- 3.6 MRP1 uses for explosion to arrive at Gross requirements.
- 3.7 Cause & Effect Diagram is one of the Basic Tool.
- 3.8 In a JIT system material movement is controlled by

Q.4 Expand the following: (any eight)

- 4.1 EDM
- 4.2 FMS
- 4.3 ETP
- 4.4 MPS
- 4.5 BOM
- 4.6 VMI
- 4.7 ROP
- 4.8 SQC
- 4.9 TPM

Part – B

Answer any three questions from the following:

- .5** (A) What are the various steps in developing the Operations Strategy for a Manufacturing unit?
- (B) What are the elements of Operations Strategy?
- Q 6** (A) What are the Objectives of Good Layout?
- (B) Enumerate the seven Key Principles of Layout.
- Q7** (A) What is Materials Requirement Planning MRP1?
- (B) How do you compute the Materials Requirements from Master Production Schedule?
- Q8** (A) What are the key elements of JIT Manufacturing?
- (B) What are the major benefits obtained by JIT Manufacturing?

Q9 **Answer any four of the following:**

Write Short Notes on:

- (A) 5 Key Performance Objectives of Strategic Management
- (B) Product Life Cycle
- (C) Automation – Advantages & Disadvantages
- (D) Pollution Control
- (E) Machine Loading & Priority Sequencing
- (F) Statistical Quality Control Technique
- (G) Kanban System
- (H) Benefits of Preventive Maintenance of Equipments

Part – C

Case Study (Compulsory) (Answer all four questions)

Q 10 Make a careful study of the case presented and answer all the questions asked.

Mr.Govind, GM Operations of Precision Parts Company convened a meeting of all Executives. He was upset that customers have complained that supplies are not coming on time. He new that customers' demands were known much earlier and there was no reason for supply failure. He highlighted that he wanted to improve the efficiency of the company in all its operations. He explained that he was also under compulsion to reduce prices to get fresh orders and wanted his people to look in-to all avenues of material cost and operations cost reduction.

Mr. Ram Kumar, Production Manager said that material supply was the problem. The shafts received were rejected for quality reasons. The gear wheels have not yet been supplied since supplier is facing capacity constraints.

Mr. Chandran, Purchase Manager said that they have not properly communicated our schedules to vendors because of change in production plan.

While walking through the plant Mr.Govind pointed out hugh stocks of pressed parts kept in various bins. Mr. Ram Kumar said that since the set up time is very high they have to run bigger batch of Sealing Covers. When all went to stores they could see hugh stocks of various materials stored. Mr.Chandran explained that they are all safety stocks procured anticipating supply failures.

- Q1. What are the key objectives of the company?
- Q2. What are the two major issues that they need to address urgently?
- Q3. What strategy to take on Supplier Capacity & Quality Issues?
- Q4. What are the Cost Reduction Strategies available?
