



INDIAN INSTITUTE OF MATERIALS MANAGEMENT
Post Graduate Diploma in Materials Management
Graduate Diploma in Materials Management
PAPER No. 8
Operations Management

June 2013

Date: 11.06.2013

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 questions carries 1 mark. **Total: 32 Marks**
 2. From Part B – Answer any 3 questions out of 5 questions. Each sub-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. Please read the instructions given in the answer sheet.
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Part – A (attempt all questions) (1 x32 = 32 marks)

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

- 1.1. Operations Strategies are to address the needs of stakeholders:
(a) Shareholders & Society (b) Employees
(c) Customers & Suppliers (d) All
- 1.2. Product Life Cycle refers to:
(a) Design of the product (b) Stage in the life of the product
(c) Reliability of the product (c) None of the above
- 1.3. Natural lighting refers to:
(a) Tube lights & Bulbs (b) Sun light
(c) Roof lights (d) None of the above
- 1.4. Production Planning consists of:
(a) Capacity Planning (b) Material Routing & Feedback
(c) Scheduling (d) All of the above
- 1.5. The functions of Purchase Department relate to
(a) Reduction in Input Cost (b) Incoming Quality Assurance
(c) Continuous flow of supplies (d) All of the above

- 1.6. Job design helps to determine:
 - (a) What and how tasks are done
 - (b) Job rotation
 - (c) Job enrichment
 - (d) none of the above

- 1.7. Improving Productivity means:
 - (a) Improved production Quantity
 - (b) Reduced Rejections
 - (c) Improving production with reduced resources
 - (d) none of the above

- 1.8. If in your company JIT Manufacturing is to be successful:
 - (a) Reduce & eliminate set-up time
 - (b) Reduce lot sizes
 - (c) Ensure JIT supplies
 - (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 Pollution Control means only Air Pollution control
- 2.4 Layout is based on the products produced.
- 2.5 Aggregate Planning is the final step in Material Planning
- 2.6 Production activity control is to know the current status of the job
- 2.7 Kanban is a pull system controlled by card & empty containers
- 2.8 The reason for Time Study is to establish Standard Time

Q.3 Fill in the blanks:

- 3.1 "Time Series Analysis" is a technique used in
- 3.2 JIT Manufacturing System uses for Production & Movement.
- 3.3 Mechanization replaces thepower.
- 3.4 Waste Water recycling plant is part of
- 3.5 Materials should move in direct flow pattern and avoid
- 3.6 MRP1 will work well, only when Stock figures are
- 3.7 Speculative Buying is done with the motive to make profit when
- 3.8 The Learning Curve means gains inover a period of time.

Q.4 Expand the following:

- 4.1 CAD-CAM
- 4.2 FMS
- 4.3 ETP
- 4.4 BOM
- 4.5 FCFS
- 4.6 LOB
- 4.7 SQC
- 4.8 TPM

Part – B (answer any 3)

16 x 3 = 48 marks

Q.5 (A) What is meant by Process Planning? What factors are to be considered for Process Design?

(B) Elaborate on the five types of Process Flows.

Q 6 (A) What are the Seven Principles of Material Handling?

(B) What are the steps to be followed in the selection & design of the material handling system?

Q7 (A) Briefly describe how MRP1 System works?

(B) What are the benefits of MRP System application?

Q8 (A) What is meant by Statistical Quality Control?

(B) What is the importance of Quality Circles & Kaizen Teams?

Q9 Answer any four of the following:

Write Short Notes on:

(A) Developing Operations Strategies.

(B) Mechanization & Automation.

- (C) Master Production Scheduling
- (D) Machine Loading Charts – Gantt Chart
- (E) Make or Buy Decisions
- (F) Principles of Ergonomics
- (G) 7 Wastes in the Manufacturing System
- (H) Objectives of Maintenance Management

Part – C (compulsory)

20 marks

Q 10 CASE STUDY – COMPANY ALPHA

On that Monday afternoon, Mr, Gopala Rathnam, Managing Director, Alpha Limited, called for an emergency meeting of all functional heads. He mentioned that the major customer M/s. Super Automobile Company, proposed a price cut of 5% on all the vendors including Alpha Ltd. This would result in tremendous pressure on profitability.

Alpha Ltd. is a leading Auto-component business group in India. The top management was facing complaints from various departments of the company regarding problems like late delivery of products to customers, delay in new product development, non-availability of materials at times and surplus materials at other times, frequent changes in schedules, poor quality of incoming materials, etc.

Mr. Chandra Mohan, GM (Materials), felt that it was imperative that a completely different perspective is needed for the entire operations management system

- The focus has shifted from tactical to strategic, due to increased competition and the need to cut down the cost to remain cost competitive.
- Significant amount of capital is tied up in inventory.
- Large lead-time is involved in procuring items and delivering the finished products to customers.
- Increasing demands but customers insisting on quick response time.
- The supplier base itself is undergoing transition and it has become paramount that an effective and responsive supply chain is quickly established

. By the end of the session the team identified the following as critical factors which need to be addressed for successful operations.

- Focus on Cost reduction in every operation
- Improve Quality of the parts and assemblies
- Strengthen Planning system
- Reduce Cycle Time in the total supply chain
- Optimize Operations
- Enhance Customer Service.

Questions:

- A. What are the operational issues of the company?
- B. What are the identified Materials Management solutions to address the key issues?
- C. How can the organization re-engineer the SCM?
- D. What are the various steps, in your opinion, that needs to be focused to achieve the critical factors?
