



INDIAN INSTITUTE OF MATERIALS MANAGEMENT

June 2014

Post Graduate Diploma in Materials Management

Graduate Diploma in Materials Management

PAPER No. 8

Operations Management

Date: 17.06.2014

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

32 Marks

(attempt all questions Each sub questions carries 1 mark)

1. Select the correct option:

- a. Who developed the use of standardization in large-scale mass production using a moving assembly line?
 - i. Frederick Winslow Taylor
 - ii. Frank Gilbreth
 - iii. Adam Smith
 - iv. Henry Ford
- b. Which of the following is NOT associated with the work of Taylor?
 - i. A one-best way of doing things.
 - ii. The hierarchal needs of labor.
 - iii. The scientific method.
 - iv. Clear distinctions between the responsibilities of labor and management.
- c. Which of the following is NOT an OM tactical issue?
 - i. How many workers do we need?
 - ii. Where do we locate the facility or facilities?
 - iii. When should we have material delivered?
 - iv. Should we work overtime or put on a second shift?
- d. Which of the following is NOT an example of the shift of power from producers to consumers?
 - i. increasingly higher quality products
 - ii. a focus on shorter delivery times
 - iii. less emphasis on reducing labor and material costs

- iv. better utilization of facilities
- e. Higher productivity derived from efficient operations leads to
 - i. more expensive goods and services
 - ii. lower quality goods and services
 - iii. higher discretionary incomes for consumers
 - iv. increased dependence on expensive labor
- f. Which of the following is consistent with contemporary operations management?
 - i. limitation of expensive aluminum recycling efforts
 - ii. raw waste disposal into waterways in acceptable quantities
 - iii. restricting air pollutant production to areas where pollution is normal
 - iv. replanting of forest land to reduce erosion
- g. Which of the following best describes the concept of the value chain?
 - i. adding financial value to an organization through the acquisition of other firms
 - ii. the step-wise increases in product prices as raw materials are turned into goods/services
 - iii. the steps in manufacturing that add value to finished products
 - iv. all steps in the transformation process that add value even if they don't come from manufacturing
- h. Which of the following types of processes will be used to produce gasoline and petroleum products?
 - i. Job Shop
 - ii. Batch
 - iii. Assembly Line
 - iv. Continuous Processing

2. Match the following:

- | Column "A" | Column "B" |
|--|---------------------------|
| a. Quality tool to establish priorities for action | i. Transportation model |
| b. Capability to deliver what the customer wants within a lead time shorter than the competitors | ii. Process flow chart |
| c. Long-range capacity planning | iii. Bottleneck |
| d. Location analysis? | iv. External flexibility |
| e. Facilities layout | v. Boredom of workers |
| f. Hybrid manufacturing layout | vi. Exponential smoothing |
| g. Forecasting | vii. Top management |
| h. Specialization | viii. Cellular layout |

3. State True or False:

- a. Historically in most manufacturing organizations, operations was viewed as an internal function that is buffered from the external environment.
- b. Recently, there has been a decline in the interest in operations management.
- c. The strategic issues of OM are broad in nature including how much capacity should be acquired.
- d. Warehousing OM transformations are referred to as exchange transformations.
- e. The four basic competitive priorities are cost, quality, delivery and flexibility.
- f. In services, service production and consumption are often simultaneous.
- g. External failure costs in quality refer to costs that are incurred after the product has been delivered to the customer.
- h. Acceptance sampling and statistical process control are essentially the same thing.

4. Give the full forms:

a) EOQ	b) CAM	c) UCL	d) BOM
e) CIM	f) SQC	g) TPM	h) POP

Part – B

48 marks

(Answer any 3 questions out of 5 questions. Each sub-question carries 16 marks.)

- 5. What are the differences between products and services? What are the similarities between them?
- 6. Explain the factors affecting facilities location planning.
- 7. What is an assembly line? What are the advantages and disadvantages of product layout?
- 8. Discuss three major changes in organizations caused by the information age and reduced trade barriers ?
- 9. Write short notes on **ANY FOUR** of the following:
 - a. MRP II
 - b. JIT
 - c. Total productive maintenance
 - d. Quality circle
 - e. Master schedule

Part – C (compulsory)**20 marks**

10. Vadhodara furnitures is a manufacturer of executive tables for corporate institutions. In order to control the quality of its tables, the quality control manager selects fifteen tables at random and inspects for the number of scratches on each one of them. The results given in the following table are obtained

Sample No.	No. of Defective Tables
1	13
2	9
3	19
4	7
5	8
6	10
7	12
8	0
9	2
10	5
11	7
12	11
13	9
14	13
15	1

Prepare a 'c' chart based on the above data.
