

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

Paper 8
Operations Management

Date : 16.06.2009
 Time : 10.00am To 1.00pm

Max. Marks :100
 Duration : 3 hrs

- Note:** 1. Part A contains 4 main questions (with 8 sub questions). Each question carries 1 mark. **Total 32 marks**
 2. Part B – Answer any 3 question out of 5 questions. Each question carries 16 marks. **Total 48 marks**
 3. Part C is compulsory and it is a case study. **Total 20 marks.**

Part A

Q1: State true or false.

- a. In least square method, the sum of square of deviations of various points from line of fit is minimum.
- b. MRP is useful for reducing inventory.
- c. Demand is always probabilistic in nature.
- d. TPM methodology deals with improving breakdown time.
- e. JIT is push type system.
- f. Operation strategy guides decision making in all phases of manufacturing.
- g. ERP is not useful for all departments to work in harmony.
- h. \bar{X} & R chart is useful for variable data.

Q2. Fill in blanks.

- a. JIT system operates with very low _____.
- b. Planned maintenance is an organized maintenance work carried out as per _____.
- c. BOM stands for _____.
- d. EOQ stands for _____.
- e. The analysis of determining strength and weakness of company is called as _____.
- f. MTBF stands for _____.
- g. PDCA stands for _____.
- h. There are generally _____ phases for project management.

Q3. Match the following.

	Column "A"		Column "B"
1	JIT	A	Quality aspects
2	TQM	B	Environmental aspects
3	ISO 9000	C	Total quality management
4	SCM	D	Zero inventory concept
5	MPS	E	Zero profit
6	BEP	F	Enterprise resource planning
7	ISO 14000	G	Master production schedule
8	ERP	H	Extending value chain

Q4: Expand the following terms.

- | | | | |
|----------|---------|--------|--------|
| 1. MRP I | 2. BPR | 3. TPM | 4. ABC |
| 5. JIT | 6. PERT | 7. CPM | 8. SBU |

PART : B

Q5: Write short notes on following (Any four)

- i. Kanban system
- ii. Acceptance sampling
- iii. Principles of JIT
- iv. PERT
- v. Aggregate planning
- vi. MRP II
- vii. Quality circles

Q6 a) Explain objectives of operation management.
b) Compare production planning with production control.

Q7 a) Explain MRP system
b) Explain various sampling plans.

Q8 a) Explain various types of maintenance
b) There are seven jobs which are to be pressed on machine I and then on machine II. Processing time in hrs. are given below

job	A	B	C	D	E	F	G
m/c I	6	24	30	12	20	22	18
m/c II	16	20	20	13	24	2	6

Find optimum sequence and total elapsed time

Q9 a) Explain need for demand forecasting? How it differs from prediction.
b) Explain various methods of forecasting.

PART : C- Compulsory

Q10: Aditya enterprises is using a raw material which is consumed in large quantities during production.

- The mean weekly demand = 300
- Standard deviation of weekly demand = 30
- Unit cost of raw material = Rs 300
- Ordering cost = Rs 500 per order
- Carrying cost = 25 % per annum.

The purchase department has indicated that the lead time for procurement of this raw material is 2 weeks. Past experience with the supplier suggests that there is no certainty with respect to the lead time. The organization has been using EOQ for the purpose of scheduling orders. However, there is general feeling that it is not working satisfactorily. It is not uncommon for the organization to experience stock outs.

Workout the parameters of the P & Q system of inventory control.
