

# Paper-9

## OPERATIONS MANAGEMENT AND INFORMATION SYSTEMS

Test Paper –II/9//OMS/2008/T-3

Time Allowed: 3 hours

Marks: 100

### SECTION-I OPERATIONS MANAGEMENT

Full Marks: 50

(Answer Question 1 and any TWO from the remaining)

Q1] (a) Match the terms shown in (A), with their relevant terms of (B).

A	B
1. Copper wire	a. Inventory Control
2. Two-Bin System	b. Machine shop
3. Patterns	c. Electric Motor
4. Carbide Tips	d. Foundry
5. Merit Rating	e. Plant layout
6. Energy Audit	f. Welding
7. X- R Chart	g. Time Study
8. Group Technology	h. Dimensional Variation
9. Oxy-acetylene Gas	i. Cost Reduction
10. Stop-watch	j. Salary Appraisal

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Q1] (b) Indicate whether the following statements are **True or False**.

- (i) Work content of a job is established by Job Evaluation,
- (ii) No handling is best handling,
- (iii) A preventive Maintenance programme can be fully installed within a short time.
- (iv) Aeroplane bodies are made of High Speed Steel.
- (v) Quality of a lot submitted for inspection is the percentage of defectives actually present in it.
- (vi) Programme Evaluation and Review Technique is used to assess the merit of an employee.
- (vii) Industrial Engineering is a staff function.

- (viii) A Drilling Machine cannot be used for other operations.
- (ix) Value Analysis does not require the involvement of many departments.
- (x) Weights and measures, other than in Metric units, are not legally permitted to be used in India. 10

**Q2] (a)** What is “Fabrication process”? How does it differ from Metal Working Processes? 7

**Q2] (b)** What is Line balancing in the context of Operations Management? 8

**Q3]** Write short notes on (Any Three):

(a) Rest Allowance

(b) Operations Research

(c) Method Study.

(d) Time Standards 15

**Q4] (a) (i)** A Work Study Observer has rated the performance of a worker at 80% rating. If this worker has taken 0.8 minutes for a job, how much time would a standard worker take? 2

(ii) A Work Study Practitioner who conducted a work-sampling study assesses the activity level of a worker to be 70%. During the space of 8 hours working, this worker turns out 320 components. If company policy is to inflate the normal time arrived at by work sampling study by 20%, what should be the “allowed time” for the job. 8

(b) A foundry firm wishes to install enough automatic moulders to produce 2,50,000 good castings per years. The moulding operation takes 1.5 minutes per casting - but its output is typically about 3% defective. How many moulders will be required if each one is available for 2,000 hours (of capacity) per year? 5

**Q5] (a)** A manufacturing company has developed the accompanying forecast. The company uses a modified response model (with a control number of  $K = 0.8$ ) to set actual production levels. Since it takes almost 30 days of lead time to adjust production, the incremental response is effective after an intervening month.

	Forecast	Actual
September	24000	23000
October	32000	
November	28000	
December	20000	

If the actual demand (which includes inventory and delivery charges) is 23000 units in September, what 'modified' production quantity should be scheduled for November? **8**

**Q5] (b)** Explain the need for Acceptance Sampling. **7**

**Q6] (a)** Discuss the three broad areas where quality control should be effectively done in manufacturing industry. **5**

**(b)** List six resources on which quality depends. **5**

**(c)** Give four objectives of using control charts for variable characteristics of products undergoing manufacture **5**

**SECTION-II**  
**INFORMATION SYSTEMS**

**Full Marks: 50**

(Answer Question **1** and any **TWO** from the remaining)

**Q1] (a)** What are the objectives of developing a good Management Information System ?

**Q1](b)** What the steps involved in developing an MIS ?

**Q1] (c)** What are constraints towards developing MIS ? **18**

**Q2] (a)** What are the different types of Reports under an MIS in a business house ?

**Q2] (b)** Explain the Components of Business Information System..

**Q2] (c)** Explain the need for Integration of Information enterprise-wide **16**

**Q3] (a)** Why an ERP package is getting popular these days ? How BPR helps in implementing an ERP System ?

**Q3] (b)** What are the steps involved in implantation of an ERP System ?

**Q3] (c)** What is the selection process for an ERP Package ? **16**

**Q4]** Write Short Notes on :

- (i) Knowledge Management ?
- (ii) Business Process Re-engineering ( BPR)
- (iii) Expert System
- (iv) Artificial Intelligence
- (v) Decision making process
- (vi) Decision Support System

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