Paper-9

OPERATIONS MANAGEMENT AND INFORMATION SYSTEMS

Test Paper –II/9//OMS/2008/T-1

Time Allowed: 3 hours | Marks: 100

SECTION-I
OPERATIONS MANAGEMENT
Full Marks: 50

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

Q1] **(a)** Write full description of the following:
(i) R&D, (ii) CPM, (iii) SD, (iv) ADB, (v) WHO, (vi) UTI, (vii) EDP, (viii) BPE, (ix) ISO, (x) NITIE, (xi) O & M, (xii) OR **12**

(b) Indicate whether the following statements are **True or False**:

(i) A Bill of Materials is prepared by the Sales Department in an organization.
(ii) Progressing ensures that production takes place according to plan.
(iii) Most castings are made in green and mouldings.
(iv) Only railway workshops use engine lathes.
(v) Drawings, where applicable, are the best means of expressing product specification.
(vi) Work content of a job is established by job evaluation.
(vii) Industrial engineering is not a line function.
(viii) The Scanlon Plan is a system of Production Planning and Control. **8**

Q2] **(a)** Mention the type of material handling equipment which is used for:
(i) Handling large steel plates in an open steel yard.
(ii) Handling and moving coal in a thermal power house and feeding it on to the hoppers.
(iii) Transporting the newly dug iron ore from the mines to the stocking yard.
(iv) Handling crates of sizes 18” × 12” × 15” in lots within a factory premises.

(v) Transporting liquid chemicals from a warehouse to retailer's premises. **5**

Q2] (b) Fill in the blanks with the more suitable word/phrase chosen from the pair given within brackets:

(i) Factor comparison is a method of ……. (Job Evaluation/Value Analysis).
(ii) Taylor originated the idea of …….. …….. type of organization (line/functional).
(iii) Statistical analysis is used in ……. maintenance (preventive/breakdown).
(iv) The pattern Shop directly feeds the …….. in a factory (Foundry/Machine Shop)
(v) Network Analysis is most often used in …… planning and control (Production/Project).
(vi) …… cannot be delegated (Authority/Responsibility).
(vii) General purpose machine tools are less prone to ……(Obsolescence/Breakdown)
(viii) Human Engineering is another name for ……. (Econometrics/Ergonomics)
(ix) CPM is a concept used in…… (Project / Inventory Management)
(x) EBQ is a concept used in……... (Operations Management/Sales Budget). **10**

Q3] (a) On making a limited number of preliminary observations a machine appears to be idle 40% of the total time available for its operation. Use a proper statistical formula to calculate how many observations should be made to obtain a more accurate estimate of idleness within limits of $\pm$ 10% error at 95 confidence level. **10**

Q3] (b) For a certain element of work, the basic time is established to be 20 seconds. If, for three observations, a time study observer records ratings of 100, 125, and 80 on a "100 normal" scale, what are the observed timings? **5**

Q4] (a) Mention the various types of productivity indices. **8**

Q4] (b) Mention main factors to be considered when planning a good matrial handling system?**7**

Q5] (a) Explain in brief, the interface, if any, between Quality circle and TQC. **7**

Q5] (b) Suggest ways by which number of machines whose capacities are not balanced may be put to better utilization for the organization as a whole. **8**

Q6] (a) A company consumes 12000 units of a particular item. The company has a production capacity of 60 units/day. The cost of each unit produced by the company is Rs. 8. The setup and tooling up cost is Rs. 96 per setup. The carrying charges are 15 per cent of cost per unit. Determine:

(i) Economic quantity to be manufactured in each batch. (ii) How frequently should the production runs be made. (iii) Determine the production period. Assume 300 working days per annum. **10**

Q6] (b) Which is considered to be the most versatile machine tool? Describe some of machining operations which can be performed on it. **5**

SECTION-II
INFORMATION SYSTEMS
Full Marks: 50

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

Q1] (a) What are the Characteristics of an Information System ?
Q1] (b) Describe how growth of information system is contributing to business development ? 18

Q2] (a) Describe how information system help in strategic decision making.
Q2] (b) Describe the requirement for a good Information System Infrastructure. 16

Q3] Draw a picture of good System Organization and describe the role of different functional specialists. 16

Q4] Write short notes on (any four)

(i) High Level Language
(ii) Assembly Language
(iii) Application software
(iv) Virus
(v) Forth Generation Language
(vi) Flow Chart 16