



Printed Pages : 3

TME – 401

(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 4079**

Roll No.

## **B. Tech.**

(SEM. IV) EXAMINATION, 2006-07

### **INDUSTRIAL ENGINEERING**

*Time : 3 Hours]*

*[Total Marks : 100*

*Note : Attempt **all** questions. Choice is given in each question. All questions carry **equal** marks.*

**1** Attempt any **two** parts : **10×2=20**

- (a) Differentiate between production and productivity. Describe various methods to improve productivity.
- (b) Explain salient points of job shop, batch, and Mass production system with suitable examples.
- (c) What is man-machine (multiple activity) chart? Discuss its importance in time and motion study.

**2** Attempt any **two** parts : **10×2=20**

- (a) What are the factors affecting plant location ? Discuss the situations when one has to take plant location decision.
- (b) Discuss merits and demerits of process layout and product layout.
- (c) Discuss principle of material handling list and explain classification of material handling equipment.

**3** Attempt any **two** parts : **10×2=20**

- (a) The fixed costs for the year 2004-05 for a manufacturing company are Rs.1,00,000/-. The estimated sales are Rs.3,00,000/-. The variable cost for a single product made is Rs.5.00. If each unit sells at Rs.30/-, construct Break-Even chart and
- (i) Determine Break-Even Points, and
  - (ii) Find profit at a turn over of Rs.2,00,000.
- (b) Replacing manual labour in a loading operation by automatic equipment will reduce net operating expenses by Rs.27,200/- in a year. The equipment costs Rs.1,00,000/- (Rupees one lakh) and the scrap value will just cover removal cost at the end of its 5 year life. Should the equipment be installed when the minimum acceptable rate of return on new investment is 10%.
- (c) What are various types of maintenance? Explain them in brief.

**4** Attempt any **two** parts : **10×2 =20**

- (a) A company needs 2,000 units per month. Cost of placing an order is Rs.40/-. Inventory carrying cost is Rs.10/- of average inventory per year. Find economic order quantity and number of orders placed per year, if cost of an item is Rs.15/-
- (b) Write short note on :  
Supply chain management
- (c) Describe operating characteristics (OC) curve and explain LTPD and AQL.

**5** Attempt any **two** parts : **10×2=20**

- (a) What is meant by joint stock company?  
Describe briefly procedure for forming joint stock company.
- (b) Explain Urwick's ten principles of organization.
- (c) Describe the following methods of job evaluation :
  - (i) Ranking method
  - (ii) Job classification method.
- (d) Mention the full form and write very briefly about PPC, JIT, SQC, TQM.

---