

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

PAPER ID : 4040

Roll No.

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B.Tech.

FOURTH SEMESTER EXAMINATION, 2004-2005

INDUSTRIAL ENGINEERING

Time : 3 Hours

Total Marks : 100

- Note : (i) Answer **ALL** five questions; there are choices within.
(ii) Marks are indicate therein.

1. Answer **any four** of the following : (6x4=24)
- Define Productivity. Give the comparison of Production and Productivity. Discuss how it can be improved.
 - Define "method study" and "motion study". Discuss the role of methods engineer in raising the industrial productivity.
 - What is Man-Machine chart ? How is it used to make method analysis ?
 - The total observed time for an assembly operation of a switch is 2.00 minutes. If the rating is 120% find Normal time. If total allowance allowed are 10% for the job, determine the standard time.
 - Define job evaluation. State the objectives of Job Evaluation and describe the technique of job evaluation.
 - Define Merit Rating. Explain the different methods of merit rating.

2. Answer *any four* of the following : (6x4=24)
- (a) Describe the principles of plant layout. Also describe plant layout by fixed position.
 - (b) What are the factors that are considered for selecting a site for an industrial unit? How important is plant location to productivity?
 - (c) What are the objectives of material handling? Enumerate the guiding principles of material handling.
 - (d) What are the primary functions of Production Planning and Control? Discuss major problems associated with production planning and control.
 - (e) "Production planning and control being a service function, it is not possible to measure its effectiveness". Comment.
 - (f) Discuss the various control elements and planning elements of Production Planning and Control. Explain the function of production control department.

3. Answer *any three* of the following : (8x3=24)

- (a) Explain ABC analysis used in inventory control.
- (b) A motor company requires 50000 speedometer/year. The ordering, receiving and handling cost is Rs.3/order, while inspection cost is Rs.12/order. Interest Cost = Rs.0.06/unit/year. Obsolescence Cost = Rs.0.004/unit/year. Storage Cost = Rs.1000/yr. for 50000 units. Calculate following
 - (i) EOQ
 - (ii) Re-order period
 - (iii) No. of orders/yr.
 - (iv) Total variable cost of inventory

- (c) What is a replacement problem ? Describe various types of replacement problem.
- (d) State some of the simple replacement policies. Discuss in brief replacement procedure for the items that deteriorate with time.
4. Answer *any three* of the following : (4x3=12)
- (a) Write short note on any one :
- (i) TQM
- (ii) SQC
- (b) Define organization. Explain the importance of organization in an industry.
- (c) State the factors governing the amount of compensation paid to the worker under the Workmen's Compensation Act.
- (d) What is Break even analysis ? Enlist its advantages and limitations.
5. Write short notes on *any four* of the following : (4x4=16)
- (a) Transportation Problems
- (b) Graphical methods of Linear programming
- (c) Project Management
- (d) Budgetary Control
- (e) Human relationship
- (f) Project crashing

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