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B. TECH.
FOURTH SEMESTER EXAMINATION, 2003-2004
INDUSTRIAL ENGINEERING

Time : 3 Hours

Total Marks : 100

Note : Attempt ALL the questions.

1. Answer any THREE of the following :— (6×3=18)

- (a) What are the causes of low productivity ?
How can the productivity be improved ?
- (b) Discuss the position of "Work Study Department" in the organisational structure of a manufacturing unit.
- (c) Why is it necessary to rate the performance of the operator ? Discuss any one method of performance rating and clearly point out its advantages and limitations.
- (d) Use an example to illustrate the different schemes of wage-incentive plans.

2. Answer any THREE of the following :— (7×3=21)

- (a) List and discuss the factors influencing plant location.
- (b) How are the plant layouts related to type of production ?
- (c) What are the main functions of PPC ?
- (d) What is Dispatching ? Compare centralized and decentralized dispatchings.

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3. (a) The following data are available for existing equipment and for the proposed equipment to replace the existing one. Find whether the concern should go for replacement or not :

<u>Factors</u>	<u>Existing Equipment</u>	<u>Proposed Equipment</u>
1. Cost	Rs. 1,500 (Market Value)	Rs. 10,000
2. Operating expenses (annual)	Rs. 5,000	Rs. 3,890
3. Scrap Value	Rs. 500	Rs. 1,000
4. Interest	10%	10%
5. Life of equipment	1 year	9 years (8)

- (b) Answer any THREE of the following :— (4×3=12)

- (i) Discuss limitation of EOQ model.
- (ii) State the basic elements of JIT.
- (iii) Explain why \bar{X} and R charts are used together.
- (iv) Explain sequential sampling plan with example.
- (v) Discuss ABC analysis of inventory.

4. Answer any FOUR of the following :— (5×4=20)

- (a) Discuss principles of organisation.
- (b) Compare Private sector with Public sector.
- (c) What are the principles of Personnel Management ?
- (d) State the factors governing the amount of compensation paid to the worker under Workmen's Compensation Act.
- (e) Explain the purpose and scope of ESI Act.
- (f) Differentiate between costing and cost estimate.

- (a) Describe the Break-Even Chart with its limitations and specific uses.
- (b) Explain the three time estimates of PERT.
- (c) Explain Cost analysis, Crashing and Updating.
- (d) Formulate a transportation problem as a Linear Programming Problem.
- (e) Explain the steps involved in solving an assignment problem.