

R16

Code No: 136FF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, February - 2023

INDUSTRIAL MANAGEMENT

(Common to CE, EEE, ME, ECE, CSE, MIE)

Time: 3 Hours

Max. Marks: 75

Note: i) Question paper consists of Part A, Part B.

ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.

iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

- 1.a) What is scientific management? [2]
- b) Elaborate on the evolution of management thought and its relevance in today's scenario in brief. [3]
- c) Are virtual and boundary-less organization structures the same? Comment. [2]
- d) Define organization as a structure. Why is it important? Explain in brief. [3]
- e) What are the objectives of good layout? [2]
- f) What is value analysis? Explain the different stages in value analysis. [3]
- g) Define work sampling with an example. [2]
- h) What types of control charts are required to control the processes in real world situations? [3]
- i) What is the purpose of job evaluation? State its benefits. [2]
- j) Discuss the tools and techniques of project management. [3]

PART – B

(50 Marks)

- 2.a) Discuss the nature, importance and characteristics of Management.
 - b) What is leadership? What are the various leadership styles? Explain in brief. [5+5]
- OR**
- 3.a) Illustrate the social responsibility of management towards different organizations.
 - b) Discuss Douglas McGregor's Theory X and Theory Y in detail. [5+5]

- 4.a) Write an essay on the types of organization structures.
- b) A steel manufacturing company has the following main jobs
 - i) Manufacturing
 - ii) Finance
 - iii) Marketing
 - iv) Personnel
 - v) Research and developmentWhich type of organizational structure will you choose for this type of a company and why? Explain the concept of that organization and state any four advantages of it. [5+5]

OR

- 5.a) Discuss about lean and flat organization structure. State its merits and applications.
- b) Explain in brief i) Line and staff organization ii) Virtual Organization. [5+5]

- 6.a) Briefly explain the Alfred weber's plant location theory.
 b) What facilities would influence (both favorable and unfavorable) the location decisions in the case of the following: i) city/urban sites, ii) sub-urban sites, and iii) rural/countryside sites. [5+5]

OR

- 7.a) Explain FAST diagram. Enumerate the advantages with examples.
 b) Discuss the steps of RPW method for line balancing. [5+5]
- 8.a) Explain, how use of work study leads to higher productivity in a manufacturing unit.
 b) Why the job is divided into elements? State the general rules to be followed while breaking the job into elements. [5+5]

OR

- 9.a) Write a short note on acceptance sampling plans.
 b) A manufacturer receives large batches of components daily and decides to institute an acceptance sampling scheme. Three possible plans are considered, each of which requires a sample of 30 components to be tested:
 Plan A: Accept the batch if no non-conforming components are found, otherwise reject.
 Plan B: Accept the batch if not more than one non-conforming components are found, otherwise reject. Find:
 i) For each plan, calculate the probability of accepting a batch containing 2% and 8% non-conforming.
 ii) Sketch the operating characteristic curve of each plan on the same axes. [4+6]

- 10.a) With a suitable case study, explain the factor comparison method. Also state its advantages and disadvantages.
 b) Distinguish between factor comparison method and point method in job evaluation. [5+5]

OR

- 11.a) What is PERT? Define optimistic time, pessimistic time and most likely time.
 b) In a transmission line project, the normal estimate and the 'crash' estimate are as given below:

Activity	Normal Estimate		Crash Estimate	
	Time (Weeks)	Direct cost for the activity (Rs. lakhs)	Time (Weeks)	Direct cost for the activity (Rs. lakhs)
1-2	12	1	9	2.5
2-3	4	--	3	0.4
2-4	20	--	20	--
3-5	20	5	14	6.5
3-6	8	--	4	0.2
3-7	8	--	4	0.2
4-7	8	0.5	4	1.0
6-7	8	0.4	5	1.0
7-8	12	3	9	4.0
8-9	4	0.1	1	0.5

Indirect costs: Rs. 35,000 per week

- i) Draw the project network. Find out the critical path and its duration.
 ii) Calculate the cost slope of various activities.
 iii) Crash the project to 43 weeks and calculate the total cost. [3+7]