JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year II Semester Examinations, July/August - 2022
INDUSTRIAL MANAGEMENT
(Mechanical Engineering)

Time: 3 Hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

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1.a) "Theory X and Theory Y are concerned with the nature of people". How does the job situation affect the application of this theory? What are its implications?

b) How can Maslow's theory of human needs be applied in a workplace? [8+7]

2.a) Describe the theory systems approaches to management.

b) Examine the scientific nature in Taylor's scientific management. [8+7]

3.a) Explain the salient features of matrix organization. Explain its advantages and disadvantages.

b) How does the method of departmentation have its own advantages? [8+7]

4.a) Briefly explain about the different types of organization structures.

b) Analyze the working of a virtual organization with its merits and demerits. [7+8]

5.a) Explain features, advantages, limitations and suitability of following layouts: Process layout, and Fixed position layout.

b) What is value analysis? Explain in detail. [8+7]

6.a) Analyze and suggest an appropriate layout for a Pump manufacturing unit for local market and for an apparel shop in a posh area of Hyderabad and justify your answer.

b) An organization has warehouses for oxygen cylinders for medical uses at five different locations whose coordinates are given in the following table. The organization is in the process of locating one more critical central warehouse which will distribute drugs to all the existing warehouses on emergency request. Find the location of the new warehouse. Existing warehouse number Coordinates of Centroids. [7+8]

A	150, 100
B	200, 120
C	400, 300
D	220, 250
E	100, 180

7.a) The following table gives the number of defects in a casting unit. Construct a C-chart with 3 sigma limits and comment on the casting process.

Casting no.	1	2	3	4	5	6	7
Number of defects	13	16	22	11	9	23	14

b) Explain the working principle of double sampling plan with a flow chart. [8+7]

8.a) Differentiate between CPM and PERT analysis.

b) The following represents a project that should be scheduled using PERT.

Activity	Immediate predecessor	Optimistic time	most likely time	Pessimistic time
a	-	11	22	24
b	a	5	5	12
b	a	6	14	18
c	b	1	2	3

i) Draw the network
ii) What is critical path & the expected project completion time?
iii) What is the probability of completing this project within 35 days? [7+8]

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