

Code No: 117DV

**R13****JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD****B. Tech IV Year I Semester Examinations, April/May - 2018****INDUSTRIAL MANAGEMENT  
(Mechanical Engineering)****Time: 3 Hours****Max. Marks: 75**

**Note:** This question paper contains two parts A and B. Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

**PART-A****(25 Marks)**

- 1.a) State the two salient features of Herzberg's Two-Factor Theory of Motivation. [2]
- b) State the social responsibilities of management. [3]
- c) State the concept of organization chart. [2]
- d) State the features of boundary less organization. [3]
- e) State the factors to be considered for location of plant. [2]
- f) State the steps involved in RPW method for line balancing problem. [3]
- g) What is allowance? What are the different types of allowances to be considered in establishing standard time. [2]
- h) What is meant by producer risk and consumer risk with respect to OC curves? [3]
- i) State the advantages of job evaluation. [2]
- j) What is meant by crashing? How is it done? [3]

**PART-B****(50 Marks)**

- 2.a) Define leadership. What are the characteristics of leadership?
- b) Discuss the contributions of Taylor to the theory of management. Explain why is he regarded as the father of scientific management. [5+5]

**OR**

3. Explain the McGregor's theory 'X' and theory 'Y'. How do these theories help to motivate the employees? [10]

- 4.a) Explain the method of departmentation by product. What are its advantages?
- b) What is meant by decentralization? What are its advantages? [5+5]

**OR**

- 5.a) Explain the salient features of matrix organization. Explain its advantages and disadvantages.
- b) What is boundaryless organization? Give its chart, advantages and disadvantages. [5+5]

6. Write the characteristics of the following methods of production
  - a) Job order
  - b) Batch
  - c) Mass. [10]

**OR**

7. Explain features, advantages, limitations and suitability of following layouts:
  - a) Product layout
  - b) Process layout
  - c) Fixed position layout. [10]

- 8.a) Explain steps in stop watch time study for determining Standard time.  
 b) State the advantages and limitations of stopwatch time over work sampling. [5+5]

OR

- 9.a) The following table gives the number of defects in a casting used for making crank case of a diesel engine.

Casting no	1	2	3	4	5	6	7	8	9	10
Number of defects (c)	15	11	25	10	12	20	15	10	17	13

Construct a C-chart with 3 sigma limits and comment on the casting process.

- b) Explain working principle of double sampling plan with a flow chart. [5+5]  
 10. List out various methods of job evaluation. Explain any two them in detail. [10]

OR

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

Activity	Immediate Predecessors	Times(days)		
		Optimistic time	Most likely time	Pessimistic time
A		10	22	28
B	A	4	4	10
C	A	4	6	14
D	B	1	2	3
E	C	1	5	9
F	C,D	7	8	9
G	E,F	2	2	2

- a) Draw the network  
 b) What is critical path & the expected project completion time  
 c) What is the probability of completing this project within 35 days. [10]

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