

Code No: 07A6HS02

**R07****Set No. 2**

III B.Tech II Semester Examinations, APRIL 2011

INDUSTRIAL MANAGEMENT

Common to Mechanical Engineering, Production Engineering, Automobile Engineering

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions  
All Questions carry equal marks

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1. What is meant by the term management? Explain its importance. [16]
2. Explain the following terms:
  - (a) Carrying cost
  - (b) Order cost
  - (c) Shortage cost.
  - (d) EOQ. [16]
3. (a) Explain the procedure involved in PERT analysis for a network to determine critical path and the probability of completing the project by due date.  
(b) Compare PERT and CPM. [8+8]
4. Define work sampling. Explain the procedure of work sampling for calculating standard time. [16]
5. (a) Explain Halsey plan of wage incentive scheme and what are the advantages and disadvantages of it.  
(b) Time allowed for a job is 18 hrs, actual time taken is 14hrs. What is his wage according to the Halsey plan if hourly wage rate is Rs 1.0. [8+8]
6. Explain various aspects of modern organization theory briefly. [16]
7. The following is the record of 4 measurements per sample of 15 samples:

Sample No	Observation	Sample No	Observation
1	31, 21, 32, 7	9	11, 22, 29, 30
2	43, 35, 53, 49	10	35, 31, 34, 27
3	24, 16, 52, 62	11	33, 17, 34, 29
4	20, 35, 34, 23	12	29, 34, 54, 50
5	28, 31, 28, 30	13	20, 31, 33, 36
6	29, 35, 23, 19	14	29, 32, 33, 28
7	33, 32, 29, 33	15	15, 23, 14, 13
8	12, 20, 19, 17		

Determine the control limits for  $\bar{X}$  and R charts and draw these charts. [16]  
Determine the control limits for  $\bar{X}$  and R charts and draw these charts.

8. (a) List the general factors to be considered for plant location problem

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- b) Select a major manufacturing facility in your Geographic area and identify the factors that make it a good or poor site in your opinion.

[8+8]

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1. Explain Fulkerson's rule for numbering the events by taking an example. [16]
2. What is meant by direction? Explain the principles of direction and control. [16]
3. Explain ranking method? What are the advantages and disadvantages. [16]
4. Explain the following in detail
  - (a) Responsibility and authority
  - (b) Span of control. [8+8]
5. Explain features of various types of Flow process charts with suitable examples. [16]
6. The Goliath Tool Company produces slip-ring bearings which look like flat washers. They fit around shafts or rods such as drive shafts in machinery or motors. In the production process for a particular slip-ring bearing the employees have taken 10 samples of 5 slip-ring bearings. The individual observations from each sample are shown as follows:

Sample No	Observations (slip-ring diameter, cm)				
	1	2	3	4	5
1	5.02	5.01	4.94	4.99	4.96
2	5.01	5.03	5.07	4.95	4.96
3	4.99	5.00	4.93	4.92	4.99
4	5.03	4.91	5.01	4.98	4.89
5	4.95	4.92	5.03	5.05	5.01
6	4.97	5.06	5.06	4.96	5.03
7	5.05	5.01	5.10	4.96	4.99
8	5.09	5.10	5.00	4.99	5.08
9	5.14	5.10	4.99	5.08	5.09
10	5.01	4.98	5.08	5.07	4.99

Construct  $\bar{X}$  and R charts and indicate whether the process is under control or not. [16]

7. Explain the characteristics, advantages, disadvantages & suitability of cellular layout. [16]
8. Explain various aspects of stores management. [16]

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**R07****Set No. 1**

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Max Marks: 80

Answer any FIVE Questions  
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1. Define Management. Explain its nature and significance. [16]
2. (a) What is meant by plant layout problem?  
(b) Give the important objectives of a specific plant layout. [8+8]
3. What is Human Resource Management? Compare it with Personal Management. [16]
4. (a) Explain the terminology of a typical acceptance sampling plans.  
(b) Explain the working of single sampling plan. Discuss its advantages and disadvantages. [8+8]
5. (a) Explain various equipment and forms used in time study briefly  
(b) Define performance rating. Explain different methods of performance ratings briefly. [8+8]
6. Time taken by different activities of P.E.R.T project is as given below:

Activity		Activities Times		
Tail Event (i)	Head event(j)	Optimistic time	Pessimistic time	Most likely time
1	2	1	3	2
2	3	1	7	4
2	7	2	4	3
3	4	1	5	3
3	5	0	0	0
4	6	0	0	0
5	6	3	13	5
7	8	4	12	8
6	9	4	14	6
8	9	1	2	2

- (a) Draw the network
- (b) Determine the expected time and variance for each activity.
- (c) Determine critical path. [16]
7. (a) Explain the principles of sound organization briefly  
(b) Distinguish between lean and flat organization structures. [8+8]

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8. Explain and compare fixed order quantity and fixed order period model and state their applications. [16]

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1. (a) Define plant location.  
(b) Explain the reasons for plant re-location? [8+8]
2. Define method study. What are its objectives? [16]
3. (a) Explain methodology in CPM analysis for determining the critical path of a network.  
(b) What is meant by crashing of an activity? [8+8]
4. How are wage incentive plans classified? Explain any two of time based plans. [16]
5. (a) Explain various steps involved in Always Better Control approach for classifying items.  
(b) Mention drawbacks of the above approach. [8+8]
6. (a) What are the disadvantages of departmentation?  
(b) List out various methods of departmentation. Explain any one in detail. [8+8]
7. A number of samples are selected and their average values and ranges are tabulated below:

Sample No	Mean( $\bar{X}$ )	Range (R)
A	8.0	2.5
B	8.5	2.0
C	8.0	3.0
D	9.0	2.5
E	10.0	3.5
F	7.0	2.0
G	8.0	3.0
H	8.5	3.0
I	9.0	2.5
J	8.0	3.0

Draw the  $\bar{X}$  chart and the R-chart. If the tolerance limit specified for mean dimension is given as  $\pm 2.0$ , calculate the process capability figure  $C_p$  and process capability factor  $C_{pk}$ . [16]

8. Discuss the contributions of Fayol to the theory of management. Explain why is he regarded as the father of modern management theory. [16]

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