Code No: R32036   **R10**   **Set No: 1**

III B.Tech. II Semester Supplementary Examinations, January -2014
INDUSTRIAL ENGINEERING & MANAGEMENT
(Mechanical Engineering)

Time: 3 Hours   **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
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1. Define industrial management? Explain the functions of Industrial management.

2. Explain different types of plant layout? Give a critical appraisal for each of them.

3. Define productivity? Explain different types of production systems with appropriate examples.

4. Define Quality control? Explain in detail how the Statistical Quality control technique is been approached.

5. What are the objectives of merit rating? Explain.

6. a) Explain Quality circles.
   b) Define zero defect concepts?

7. Explain in detail supply chain management in detail.

8. A PERT network has the following activities with their time estimates given below. Calculate the expected time of activities given in the problem.

Activity	Optimistic	Most likely	pessismistic
0-1	2	3.5	8
0-2	3	3.75	6
0-3	1	2.5	7
1-2	3	7.5	9
1-4	4	5.5	10
2-4	2	5	8
3-4	2	2.75	5
3-5	3	6	9
4-5	2	5	8

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Code No: R32036   **R10**   **Set No: 2**

III B.Tech. II Semester Supplementary Examinations, January -2014
INDUSTRIAL ENGINEERING & MANAGEMENT
(Mechanical Engineering)

Time: 3 Hours   **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
*****

1. How did F.W Taylor propose to modify the functions of foremen?

2. Explain the steps in plant layout. What are the various merits and demerits of process layout?

3. a) Define work measurement and narrate the objectives of work measurement?
   b) What are the steps required in making Time study?

4. The results of inspection of 10 samples each contains 4 units are tabulated in the following form. Compute the control limits for the $\overline{X}$ - R charts and predict the following chart.

No. of Observation	Sub Groups			
	1	**2**	**3**	**4**
1	47	32	44	35
2	33	33	34	34
3	34	34	31	34
4	22	21	24	35
5	35	23	38	40
6	29	37	31	27
7	23	45	26	37
8	33	22	29	43
9	25	22	37	33
10	29	32	30	23

5. Why is there an increased emphasis on HRM these days?

6. Explain the concept of six sigma and mention the advantages of using them.

7. Explain the procedure for Value analysis carried out for value engineering.

8. Define the terms
   a) Normal cost   b) Crash cost   c) Normal time   d) Crash cost
   *****

Code No: R32036   **R10**   **Set No: 3**

III B.Tech. II Semester Supplementary Examinations, January -2014
INDUSTRIAL ENGINEERING & MANAGEMENT
(Mechanical Engineering)

Time: 3 Hours   **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
*****

1. What is the contribution of Henry Fayol to management thoughts? Explain Fayol's 14 principles of management thoughts?

2. Explain Quantitative techniques for optimal design of layouts. Explain the preventive steps to be taken to avoid the machine breakdowns.

3. a) How is Standard time computed?
   b) Briefly explain predetermined motion and time systems?

4. Define sampling inspection and explain types of sampling inspection in detail and mention its advantages.

5. Compare and contrast job evaluation and merit rating.

6. Explain in detail ISO quality systems? Mention the advantages of using ISO quality systems

7. Explain in detail Enterprise resource planning? Mention its applications and advantages.

8. The following table gives the information about various activities of a project network

Activity	Normal time	Normal cost	Crash time	Crash cost
1-2	9	8000	7	10000
1-3	5	5000	3	8000
2-3	7	7000	5	8600
2-4	8	6000	6	7000
3-4	6	9000	4	11,400

The overhesd costs are 1,300 per day. Determine the optimum cost and duration of the project.

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Code No: R32036   **R10**   **Set No: 4**

III B.Tech. II Semester Supplementary Examinations, January -2014
INDUSTRIAL ENGINEERING & MANAGEMENT
(Mechanical Engineering)

Time: 3 Hours   **Max Marks: 75**

Answer any FIVE Questions
All Questions carry equal marks
*****

1. Explain the role of an industrial engineer with regards to the shop floor? Explain the difference between production management and industrial management.

2. What are the factors governing the plant location of
   a) Textile mill b) Manufacturing shop floor.

3. Explain Micro Motion study and rating techniques.

4. Construct an $\bar{X}$ - R chart from the data given below. The sample size is 5.

Sample NO.	$\bar{X}$	Range
1	6.0	5
2	6.4	5
3	6.6	4
4	6.6	8
5	4.4	5
6	5.8	8
7	5.4	7
8	4.8	8
9	6.0	9
10	7.6	4

5. Explain the functions of personal management in detail?

6. Explain the concept of TQM in detail and mention the advantages upon applying them.

7. a) Define value engineering. Mention its advantages.
   b) How the scrap and surplus items should be disposed off profitably. Explain.

8. a) Explain the meaning of crashing in the network technique.
   b) Discuss in what aspect P.E.R.T and C.P.M techniques differ from each other.
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