

Code No: **R32036****R10****Set No. 1****III B.Tech II Semester Supplementary Examinations, November - 2017****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 | a) | Write the differences between production management and industrial engineering.                                     | [8M] |
|   | b) | State and describe the Fayol's principles of management.  | [7M] |
| 2 | a) | List out and briefly explain quantitative techniques used for optimal design of layout.                             | [8M] |
|   | b) | State the advantages and disadvantages of selecting the plant location in an urban and a rural site.                | [7M] |
| 3 | a) | Define operations management. Explain the nature and scope of operations management.                                | [8M] |
|   | b) | Explain the construction of a string diagram with neat sketch.  | [7M] |
| 4 | a) | Describe the method of constructing X and R chart and explain how these charts help in determining lack of control. | [7M] |
|   | b) | Define the concept of inspection and explain various types of inspections.  | [8M] |
| 5 | a) | What is job evaluation? What objectives can be served from scientific job evaluation studies?                       | [7M] |
|   | b) | Why an employee must be rated? State and explain different methods of employee rating.                              | [8M] |
| 6 | a) | Explain the applications of quality circles in management.  | [7M] |
|   | b) | Briefly explain the concept of six sigma.   | [8M] |
| 7 | a) | Discuss the functions and significance of Enterprise Resource Planning.   | [7M] |
|   | b) | Explain the principles of supply chain management.  | [8M] |

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- 8 a) The following data gives the information about duration and cost of various activities in a project networks [8M]

Activity	Normal Duration (weeks)	Normal Cost (in Rs.)	Crash Duration (weeks)	Crash Cost (in Rs.)
1-2	4	4000	2	12000
2-3	5	3000	2	7500
2-4	7	3600	5	6000
3-4	4	5000	2	10000

The project overhead costs are Rs.2000 per week. Find the optimum duration and cost associated with it. Also, draw the least cost network.

- b) Briefly explain project crashing with an example [7M]

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2 of 2