7E7015

B.Tech. VII - Semester (Main&Back) Examination, Nov. - 2019
Mechanical Engg.
7ME5A Operations Management

Time : 3 Hours

Maximum Marks : 80
Min. Passing Marks : 26

Instructions to Candidates:

Attempt any five questions, selecting one question from each unit. All Questions carry equal marks. Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

UNIT - I

1. Explain the terms 'operation' and 'operations strategy'. Discuss the scope of operation management.   (8+8)

(OR)

1. Why forecasting is important for operation of a system? Discuss various long term, medium term and short term forecasting methods.   (4+12)

UNIT - II

2. Briefly describe the basic types of manufacturing system i.e. Job shop, Batch, Mass production, and continuous production. Give examples of situations in which each would be used.   (8+8)

(OR)

2. Is capacity planning a strategic decision? Explain how capacity planning decisions are critical for an organization? Discuss the various factors that determine the effective capacity?   (4+4+8)

UNIT - III

3. a) What factors would you consider to decide the location of a manufacturing unit? How will you evaluate alternate location?   (4+4)

   b) How is a cellular layout different from product layout and process layout? List its applications and advantages.   (4+4)

(OR)

3. Explain following terms :
   i) BPM :
   ii) MPS.
   iii) MRP
   iv) ERP

UNIT - IV

(4×4=16)

4. Consider the following two machines and six jobs scheduling problem. Using johnson's algorithm, obtain the optimal sequence which will minimize the make span. Also find idle time of both machines and draw Gautt chart.

Job	1	2	3	4	5	6
M1	5	2	13	10	8	12
M2	4	3	14	1	9	11

(16)

OR

4. Explain following terms
   a) JIT
   b) Lean Operations
   c) Synchronous production
   d) Pull and push type systems

(4×4=16)

UNIT - V

5. What do you understand with the term 'supply chain management'? Why it is important in present era? Discuss Bull whip effect.

(4+4+8)

OR

5. What is project? Discuss role of a project manager. Explain different phases of project management. Also differentiate between CPM and PERT.

(4+4+4+4)