

SWARNANDHRA COLLEGE OF ENGINEERING & TECHNOLOGY
[AUTONOMOUS]Seetharampuram, NARSAPUR-534 280

MBA. II Semester

[OUTCOME BASED EDUCATION PATTERN]

Production & Operations Management

UNIT- I

1. What is production and operations management? Explain nature and scope of POM
2. Define Production and Operations Management and outline the decisions of POM Department.
3. Explain the historical development of production and operations management
4. Discuss the types and characteristics of various production or manufacturing systems.
5. Describe recent trends in operations Management
6. State the concept of Just in time.

UNIT- II

1. Explain different stages in product design process
2. Discuss about process design.
3. Describe the steps involved in Value analysis.
4. What is plant location? Explain the factors involved in location decision.
5. Evaluate various plant layouts with their advantages and disadvantages.
6. Infer the concept of Job design.
7. 6 jobs go first on machine M_1 and then over machine M_2 . Processing time in hrs is given as follows

| Job | A | B | C | D | E | F |
|---------------|---|---|---|---|---|---|
| Machine M_1 | 5 | 9 | 4 | 7 | 8 | 6 |
| Machine M_2 | 7 | 4 | 8 | 3 | 9 | 5 |

Find the optimal sequence in which jobs should be processed.

Also find

- a) Total elapsed time and
- b) Idle times of the machines.

UNIT-III

1. Define Aggregate Planning. Discuss the nature of aggregate planning.
2. Discuss production capacity & capacity planning. Explain different types of production capacity
3. What is Scheduling? Discuss the various classifications of Scheduling?
4. Describe EOQ and graphical representation of EOQ
5. Describe the concept of ABC analysis with the help of a figure.

6. Describe Aggregate production strategies
7. The annual requirement of a company is estimated at 12,000 units and ordering costs are Rs 50 per order. In addition to Rs. 1, the carrying costs are 10% per unit of average inventory per year. The purchase price per unit is Rs. 10. Determine EOQ and minimum total cost.

UNIT-IV

1. Identify the factors affecting Productivity
2. Explain in detail work study
3. Explain different steps involved in method study
4. Explain the process charts used in method study
5. Explain different techniques used in work measurement

UNIT-V

1. Describe the dimensions of quality.
2. Infer the concept of quality circles.
3. What is Statistical Quality Control? Explain different types of control charts
4. What is Acceptance Sampling? Explain various sampling Schemes
5. A machine is set to deliver the packets of a given weight. 10 samples of size 5 each are examined and the following results were obtained.

| | | | | | | | | | | |
|--------|----|----|----|----|----|----|----|----|----|----|
| Sample | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Mean | 20 | 34 | 45 | 39 | 26 | 29 | 13 | 34 | 37 | 23 |
| Range | 23 | 39 | 14 | 5 | 20 | 17 | 21 | 11 | 40 | 10 |

Calculate the values for the central line and the control limits for the mean chart(x) and range chart(R). Draw the control chart and comment on the state of control.

6. The following table gives the inspection of 25 similar glass tubes for the number of defects in them. Using these values plot a C chart.

| | | | | | | | | | | | | | | |
|------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Glass Table No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| Defects | 2 | 1 | 2 | 6 | 8 | 2 | 4 | 9 | 3 | 4 | 5 | 3 | 3 | 7 |
| | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | | | |
| | 4 | 5 | 2 | 4 | 3 | 7 | 2 | 4 | 5 | 3 | 2 | | | |