

(i) Printed Pages: 3

Roll No.

(ii) Questions : 14

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Bachelor of Commerce 5th Semester

1128

PRODUCTION AND OPERATION MANAGEMENT

Paper : BCM-504

Time Allowed : Three Hours]

[Maximum Marks : 80

Note :— (1) Attempt any **FOUR** questions from Section-A.
Each question carries **5** marks.

(2) Attempt any **TWO** questions from Section-B and
Section-C each. Each question carries **15** marks.

SECTION—A

1. Explain process flow chart.
2. What do you mean by capacity planning ?
3. What are the principles of a good facility layout ?
4. Define the term motion study.
5. Determine the optimal Job sequence of following seven Jobs.
The processing Time (in Hours) is given below :

| | | | | | | | | |
|--------------------|---|----|----|----|---|----|---|----|
| Jobs | : | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Machine A : | | 10 | 12 | 13 | 7 | 14 | 5 | 16 |
| Machine B : | | 15 | 11 | 8 | 9 | 6 | 7 | 16 |

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[Turn over

6. Annual demand for a product is 9000 units. Price per unit is Rs. 2 and ordering cost is Rs. 40 per order. The inventory holding charge is 9% of inventory value. Further the lead time is 8 working days and total working days/year are 300.

Determine :—

(a) EOQ

(b) The Reorder Level.

4×5=20

SECTION—B

7. What do you mean by Production and Operations Management ? Explain various functions of production and operations management.
8. Explain the various methods of Demand forecasting in detail.
9. "Location of a production facility is decided keeping in view the long term needs, analysis and forecast of business environment prevalent at a time." Comment.
10. A small project is composed of seven activities whose time estimates are given in the following Table :

Time required in Days

| Activity | Event | Optimistic | Most Likely | Pessimistic |
|----------|-------|------------|-------------|-------------|
| A | 1-2 | 6 | 6 | 24 |
| B | 1-3 | 6 | 12 | 18 |
| C | 1-4 | 12 | 12 | 30 |
| D | 2-5 | 6 | 6 | 6 |
| E | 3-5 | 12 | 30 | 48 |
| F | 4-6 | 12 | 30 | 42 |
| G | 5-6 | 18 | 30 | 54 |

- (i) Find the expected duration and variance of each activity.
- (ii) What is expected project length ?
- (iii) Calculate the variance and standard deviation of the project length.

$$2 \times 15 = 30$$

SECTION—C

11. Discuss the tools and techniques used for recording of facts under method study.
12. Write a detailed note on elements of Logistics management.
13. Write short notes on following :—
 - (a) Principles of purchase management.
 - (b) Difference between motion study and time study.
 - (c) Just in Time (JIT).
14. The purchase department of an organisation has received an offer of quantities discount as under :

| Price per Tonne in Rs. | Tonnes |
|------------------------|-------------------------|
| 1200 | Less than 500 |
| 1180 | 500 and less than 1000 |
| 1160 | 1000 and less than 2000 |
| 1140 | 2000 and less than 3000 |
| 1120 | 3000 and above |

The annual requirement for material is 5,000 tonnes. The delivery cost per order is Rs. 1,200. The stock holding cost is estimated at 20% of material cost per annum. You are required to advise the organisation the most Economical purchase level.

$$2 \times 15 = 30$$