

AQ-1339

M.B.A. (Semester—II) Examination
PRODUCTION AND OPERATIONS
MANAGEMENT

Paper—MBA/206

Time—Three Hours]

[Maximum Marks—70

Note :— (1) ALL questions are compulsory.

(2) Figures to the right indicate marks.

(3) Use of scientific calculator is permitted.

SECTION—A

1. (a) Enlist and explain different types of manufacturing systems with suitable examples. 14

OR

- (b) Discuss the significance of location decision in POM. Enlist and explain factors to be considered while selecting location. 14

SECTION—B

2. (a) Discuss different key decisions in operations management. 7

- (b) Following matrix shows the time taken by four workers for four different tasks. You are required to assign the workers to tasks, and find out the optimum time required for entire task. 7

		Task			
		A	B	C	D
Workers	W ₁	5	3	1	5
	W ₂	6	6	2	7
	W ₃	5	5	3	8
	W ₄	8	2	4	3

(Time in Hrs.)

OR

- (c) What are industrial hazards ? Discuss hazard prevention techniques. 7
- (d) It requires six types of processing on two m/c's, m/c A and m/c B to produce fan blades. The following table shows the processing time on both m/cs. You are required to determine optimal sequence of the jobs on two m/c's.

Fan blade type	1	2	3	4	5	6
m/c A	30	100	50	20	90	100
m/c B	70	95	90	60	30	15

7

- (b) Explain the following terms in context of purchasing process :

- Tender
- Quotation
- EOI (Expression of Interest).

7

OR

- (c) Discuss the role and responsibilities of purchase manager. 7
- (d) What is stores management ? Explain LIFO and FIFO concept used in stores management. 7

SECTION—D

5. The following observations were recorded in a work sampling study :

Total no. of observations = 2500

No. of working observations = 2100

No. of units produced in 100 hr duration = 6000 numbers

Proportion of manual labor = 2/3

Proportion of machine time = 1/3

Observed rating factor = 115%

Total allowances = 12% of N.T.

- Calculate effective observed time per unit. 7
- Calculate standard time per unit of article produced.

7

3. (a) What is SQC ? Why is it required ? 7
- (b) The sample size is 3. The observations are as given below. Comment on the process using \bar{X} and R charts :

Sample No.	Observations		
	1	2	3
1	10	12	13
2	7	10	8
3	11	12	9
4	10	9	8
5	8	11	11
6	11	8	8
7	10	12	13
8	10	12	12
9	12	13	11
10	10	13	7

($A_2 = 1.023$; $D_3 = 0$ and $D_4 = 2.575$) 7

OR

- (c) What is aggregate planning ? Discuss the inputs required for it. 7
- (d) In a textile firm, a worker is capable of tailoring 3 garments per day. Assume the time taken for each garment is the same.

Given : Hiring Cost = Rs. 3,000

Layoff Cost = Rs. 4,000

Current employee strength = 40

Aggregate demand for next four months is given in following table :

	June	Ju'y	Aug.	Sept.
Demand	3170	3000	2900	2660
Working days	24	25	23	24

Based on the given information, generate an aggregate production plan by following the varying workforce strategy. 7

SECTION—C

4. (a) What are different types of material handling equipments ? State their applications. 7