



# INSTITUTE OF AERONAUTICAL ENGINEERING (Autonomous)

MBA II Semester End Examinations (Regular) - May/June, 2018

## Operations Management

**Time: 3 Hours**

**(MBA)**

**Max Marks: 70**

Answer ONE Question from each Unit

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

### UNIT – I

1. (a) Describe the classification of production system based on the volume of production. [7M]  
(b) "Operations Management is an interdependent function" Substantiate. [7M]
2. (a) Define process design. Discuss about the factors influencing the process design. [7M]  
(b) Define process planning? Differentiate between process design and operations design. [7M]

### UNIT – II

3. (a) Discuss the merits and demerits of product and process layout. [7M]  
(b) Define the term location. Discuss the factors which determine the location of a plant. [7M]
4. (a) Suggest the type of layout for following industries [7M]
  - i. cement manufacturing
  - ii. Colgate tooth paste
  - iii. Aircraft Assembly
  - iv. Ready made apparels
  - v. Sugar
  - vi. Coke can
  - vii. Furniture manufacturing
- (b) Find the optimal sequence of n jobs 3 machine case for data given in Table 1. [7M]

Table 1

	1	2	3	4	5	6	7	8	9	10	11	12
M1	28	30	42	18	51	19	32	60	23	41	18	20
M2	8	7	7	6	9	8	7	10	11	8	7	9
M3	36	35	42	15	60	24	27	32	43	28	24	38

### UNIT – III

5. (a) Discuss various types of control chart used for Variables and Attributes. [7M]  
(b) Comment whether the following process is under control or not by calculating limits with suitable attributes given in Table 2. [7M]

Table 2

Batch No.	Defectives	Batch No.	Defectives
1	12	6	23
2	8	7	7
3	11	8	10
4	14	9	16
5	12	10	6

6. (a) State the objectives of work measurement. What are its benefits? [7M]  
 (b) A work study practitioner who conducted a work sampling study assesses the activity level of a worker to be 70%, during the space of 8 hours working, this worker turns out 320 components. If the company policy is to inflate the normal time arrived at by work sampling study by 20%, what should be allowed time per unit [7M]

#### UNIT – IV

7. (a) Describe the bath tub curve concept of maintenance. [7M]  
 (b) Your college is planning to issue uniforms to its entire 1000 employees. Uniform shirt and pant are available in market for Rs 1000/- irrespective of the size. Fashion design department is given challenge to stitch the same. The details are worked out as follows; The fixed cost is Rs.3.0 Lakhs and variable cost per set total is Rs.700/-. Suggest which option is best? At what quantity it is profitable to make? [7M]
8. (a) Write a note on suppliers make or buy decision? [7M]  
 (b) The details of 3 vendors supplying the same raw materials is given in Table 3. Select weight-age of 20 for quality, 20 for payment terms, 20 for delivery time, 20 for the price and 20 for suggestion implemented. [7M]

Table 3

Factor	Vendor A	Vendor B	Vendor C
Quantity supplied	100	200	350
Quantity rejected	10	25	45
Price/unit	10/-	11/-	9/-
Actual delivery	4	6	5
Promised delivery	5	5	5
Payment terms	30days credit	90days credit	45 days credit
Suggestions implemented	2	1	5
Suggestion given	5	5	30

#### UNIT – V

9. (a) Describe the concept of ABC analysis of inventory control technique. [7M]  
 (b) Identify which of the following critical items to be monitored in Table 4 inventory management by ABC analysis. [7M]

Table 4

Part	Value(Rs)	Part	Value(Rs)	Part	Value(Rs)
P1	30,000/-	P2	24000/-	P3	1500/-
P4	5000/-	P5	32000/-	P6	7000/-
P7	12000/-	P8	10000/-	P9	40000/-

10. (a) What is value analysis? Describe the potential benefit of value analysis. [7M]  
 (b) What is stores management ? Discuss the objectives of stores management. [7M]