INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)
MBA II Semester End Examinations (Regular) - May, 2019
Regulation: IARE–R18
PRODUCTION AND 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) What is operations management? Discuss the role of operations management in total management system. **[7M]**

   (b) "Production planning and control is the key to the success of a business organization".Discuss.
   [7M]

2. (a) Write a short note on process technologies. Discuss the types of process technologies. **[7M]**

   (b) Write notes on production life cycle and product life cycle.Explain the interrelationship between them. **[7M]**

UNIT – II

3. (a) Define plant location. What are the factors influencing the plant location? **[7M]**

   (b) Five jobs are to be scheduled in two machines in a manufacturing shop. All the five jobs undergo processing in both the machines(flow shop) and the Table 1 has information on the processing time in both the machines. **[7M]**

Table 1

Job i	M/C 1	M/C 2
1	4	7
2	6	3
3	2	3
4	7	7
5	8	6

   i. Identify the best sequence using Johnson's rule
   ii. Compute the flow time and make span for the jobs for this sequence.

4. (a) What do you mean by plant layout. Enumerate the different types of plant layouts. **[7M]**

   (b) Define maintenance system. Explain the types of plant maintenance. **[7M]**

UNIT – III

5. (a) What do you mean by statistical quality control. Discuss the various types of control charts.

 [7M]

 (b) The following Table 2 gives the number of missing rivets noted in a newly fabricated car. Construct a suitable control chart for the given data and comment on the process **[7M]**

Table 2

Car No	1	2	3	4	5	6	7	8	9	10
No of Missing Rivets	10	12	18	15	9	20	11	10	16	8

6. (a) What is method study. Discuss the procedure involved in method0 study. **[7M]**

 (b) Find out the standard time using the following data **[7M]**

 Average time for machine elements =6 min.

 Average time for manual elements=4 min

 Performance rating=110%

 Allowances =10%

UNIT – IV

7. (a) What are the objectives of materials management? Discuss the need and importance of materials requirement planning. **[7M]**

 (b) "Waste management is crucial for the reduction of cost in any manufacturing unit".Discuss. **[7M]**

8. (a) How do you evaluate the performance of suppliers ? What are the goals of vendor rating? **[7M]**

 (b) Discuss the criteria for selection and evaluation of suppliers for automobile manufacturing company. **[7M]**

UNIT – V

9. (a) Explain various techniques of inventory control.Mention various systems available for inventory control. **[7M]**

 (b) Normal consumption = 300units per day,Maximum Consumption = 420units per day,Min consumption =240 units per day,Reoredr quantity =3600 units,Reorder period=10-15 das,Normal re-order period= 12 days,Time required for emergrncy purchases=4days. Calculate i)Reorder Level ii)Minimum Stock Level iii)Maximum stock Level . **[7M]**

10. (a) Write notes on i)FSN Analysis ii)VED analysis **[7M]**

 (b) Explain the concept of safety stock. What are the various methods used in the computation of safety stock? **[7M]**

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