Roll No. ☐☐☐☐☐☐☐☐☐☐☐☐   Total No. of Pages : 02

Total No. of Questions : 08

M.Tech (ME) (2017 Batch)   (Sem.–1)
OPERATIONS MANAGEMENT
Subject Code : MTME-104
M.Code : 74718

Time : 3 Hrs.   Max. Marks : 100

INSTRUCTIONS TO CANDIDATES :
1. Attempt any FIVE questions out of EIGHT questions.
2. Each question carries TWENTY marks.

1. Explain the various types of manufacturing systems with their merits and limitations. 20

2. a) Explain the factors affecting the process design.   10

    b) Discuss the design and technological considerations in process design.   10

3. a) Explain the role of demand forecasting in operations decisions of an Organisation. 10

    b) Define the Degree of correlation and explain the methods to check the significance of coefficient of correlation.   10

4. The demand for a product in last 10 years is given below. Forecast the demand for the next two years by simple average and regression methods and compute the MAD, bias, MAPE and SD from 5th to 10th years.   20

Year	1	2	3	4	5	6	7	8	9	10
Units	110	131	124	143	161	174	184	198	170	182

5. a) Define Plant layout. Write the advantages and limitations of industries located in urban, rural and sub-urban areas.   10

    b) Explain the factors affecting the Multi-stage manufacturing systems.   10

6. a) Discuss the principles of good plant layout.   10

    b) Explain the Manufacturing Resource Planning with its inputs, outputs and advantages.   10

7. Find the sequence of following 7 jobs that will minimize the total elapsed time for the completion of all the jobs. Also find processing and idle time for all the three machines. Processing times (in min.) are given the following table :   20

Jobs	I	II	III	IV	V	VI	VII
Machine A	3	8	7	4	9	8	7
Machine B	4	3	2	5	1	4	3
Machine C	6	7	5	11	5	6	12

8. Write the short notes on the following :

    a) Box Jenkins and Delphi methods   6

    b) ERP   7

    c) Semi and Moving average methods   7

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.