Registration No.: | | | | | | | | | | |

Total Number of Pages: 02 **Course: MBA**

Sub_Code: MBPC1007

2nd Semester Regular Examination: 2024-25

SUBJECT: Operations Management

BRANCH(S): BA, FM, FM&HRM, GM, HCHM, HRM, IB, LSCM, MBA, MBA (A & M), MM, RM

Time: 3 Hours

Max Marks: 100

Q.Code: S400

Answer Question No.1 (Part-I) which is compulsory, any eight from Part-II and any two from Part-III.

The figures in the right hand margin indicate marks.

Part-I

Q1 **Answer the following questions:** **(2 x 10)**

a) Define Operations Management.
b) What are the key responsibilities of an operations manager?
c) Define work measurement.
d) What are the differences between single-facility and multi-facility location techniques?
e) What is line balancing?
f) What does MRP stand for?
g) What is the purpose of quality management?
h) Name any two types of control charts.
i) Define TQM (Total Quality Management).
j) What is the significance of ISO 22000?

Part-II

Q2 **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** **(6 x 8)**

a) Differentiate between manufacturing and service operations.
b) Explain process analysis and its significance in operations management.
c) What is work measurement? Discuss time study in this context.
d) Differentiate between long-term, medium-term, and short-term capacity planning with example.
e) Explain the key factors influencing facility location decisions.
f) Explain line balancing and its importance in production systems.
g) Explain the objectives and functions of inventory control.
h) What is MRP (Materials Requirements Planning)? Explain its components.
i) Discuss the key principles of Total Quality Management (TQM).
j) Explain the steps involved in developing a PERT network diagram.

k) Consider the following two machines and six jobs flow shop scheduling problem. Using the Johnson's algorithm, find the optimal sequence that will minimize the makespan.

Job(i)	Machine-1	Machine-2
1	5	4
2	2	3
3	13	14
4	10	1
5	8	9
6	12	11

l) What is ISO 9000? Explain its relevance to quality assurance.

Part-III

Only Long Answer Type Questions (Answer Any Two out of Four) **(16 x 2)**

Q3 What is aggregate planning? Explain in details its importance, cost factors, and strategies. **(16)**

Q4 Discuss the factors influencing the facility layout. Discuss in details the different types of facility layout. **(16)**

Q5 Describe the role of control charts in quality management. The following data were obtained over five-day period to indicate $\bar{X}$ and R control chart for the quality characteristic of certain manufacturing product. There is a single machine with single operator. The sample size is five and two samples are taken per day. Draw the $\bar{X}$ and R chart and comment on the process. **(16)**

Sample Number	Observations				
	1	2	3	4	5
1	10	12	13	8	9
2	7	10	8	11	9
3	11	12	9	12	10
4	10	9	8	13	11
5	8	11	11	7	7
6	11	8	8	11	10
7	10	12	13	13	9
8	10	12	12	10	12
9	12	13	11	12	10
10	10	13	7	9	12

Q6 Write short notes on the following **(8 + 8)**

(i) ISO14000 (EMS)

(ii) Economic order quantity (EOQ)