Roll No											

PRESIDENCY UNIVERSITY
BENGALURU

SCHOOL OF ENGINEERING
END TERM EXAMINATION - JUN 2023

Semester : Semester VI - 2020
Course Code : MEC3068
Course Name : Sem VI - MEC3068 - Production and Operations Management
Program : MAM,MCM&MEC

Date : 12-JUN-2023
Time : 9.30AM - 12.30PM
Max Marks : 100
Weightage : 50%

Instructions:
(i) Read all questions carefully and answer accordingly.
(ii) Question paper consists of 3 parts.
(iii) Scientific and non-programmable calculator are permitted.
(iv) Do not write any information on the question paper other than Roll Number.

PART A

ANSWER ALL THE QUESTIONS **(10 X 2 = 20M)**

1. Mention different types of Production systems.
(CO1) [Knowledge]

2. What is Group technology?
(CO2) [Knowledge]

3. What is the purpose of Gantt chart in production settings?
(CO3) [Knowledge]

4. Differentiate production and manufacturing.
(CO1) [Knowledge]

5. What is the use of Quality Function Deployment (QFD)?
(CO4) [Knowledge]

6. What are all the levels in Production Planning and Control?
(CO2) [Knowledge]

7. Mention any four priorities rules used in production system to sequence the jobs.
(CO3) [Knowledge]

8. What is the meaning of Poka-Yoke? Mention the purpose of it.
(CO4) [Knowledge]

9. What are all the important flows in a Supply Chain?
(CO4) [Knowledge]

10. How will you differentiate product and service?
(CO2) [Knowledge]

PART B

ANSWER ALL THE QUESTIONS **(5 X 10 = 50M)**

11. Consider the following flowshop scheduling problem. Sequence and schedule to minimize the makespan.

Jobs	M1	M2	M3	M4	M5
A	7	5	2	3	9
B	6	6	4	5	10
C	5	4	5	6	8
D	8	3	3	2	6

(CO3) [Comprehension]

12. Consider the following two machines and six job scheduling problem. Using Johnson's algorithm, obtain the optimal sequence which will minimize the makespan.

Job 'i'	Processing Time in Machine 1	Processing Time in Machine 2
1	5	4
2	2	3
3	13	14
4	10	1
5	8	9
6	12	11

(CO3) [Comprehension]

13. Explain in detail about the scope for production management in a manufacturing environment.

(CO1) [Comprehension]

14. A company which has already eight facilities intends to build another one and is currently looking for the most convenient location. It was determined that the most appropriate place is the one which is closest to the existing facilities. The locations of the current facilities are given below. Find the best minimax locations for an additional facility. What will be the maximum distance to any other facility?

(CO2) [Comprehension]

15. Why Just in Time principles are so popular among industries? Explain in detail about the various elements involved in Just in Time inventory management.

(CO4) [Comprehension]

PART C

ANSWER ALL THE QUESTIONS **(2 X 15 = 30M)**

16. Explain the background, benefits and principles of Business Process Reengineering in the context of production and operations in detail.

(CO4) [Application]

17. Solving the following 5 jobs and 3 machines problems using extended Johnson's algorithm and find the minimum makespan. Also find out the idle time of each machine.

JOB	A	B	C	D	E
M1	8	10	6	7	11
M2	5	6	2	3	4
M3	4	9	8	6	5

(CO3) [Application]