Seat No.: _____   Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY
BVOC- SEMESTER– VI EXAMINATION – SUMMER 2023

Subject Code:1160302   **Date:23-06-2023**
Subject Name:Production Planning & Control
Time:10:30 AM TO 12:30 PM   **Total Marks:50**
Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Simple and non-programmable scientific calculators are allowed.**

			Marks
Q.1	**(a)**	What is Demand Forecasting? State the objectives of forecasting.	**05**
	(b)	Explain types of forecasting methods.	**05**
Q.2	**(a)**	Define the term capacity, effective capacity, design capacity and utilization.	**05**
	(b)	State the Importance of Capacity Planning.	**05**
		OR	
	(b)	Explain Break Event Analysis for capacity planning	**05**
Q.3	**(a)**	A XYZ refrigerator supplier has experienced the following demand for refrigerator during past five months. Find out the demand forecast for the month of June using five-period moving average & three-period moving average using simple moving average method	**05**

Month	Demand
January	20
February	30
March	40
April	60
May	45

	(b)	State the objectives of Facility Layout Planning.	**05**
		OR	
Q.3	**(a)**	State the functions of Production Planning and Control	**05**
	(b)	Explain different types of facility layout with neat sketch.	**05**
Q.4	**(a)**	Explain the function of Routing.	**05**
	(b)	Explain the function of Scheduling.	**05**
		OR	
Q.4	**(a)**	Difference between batch production and mass production systems	**05**
	(b)	Discuss the application of CPM and PERT techniques.	**05**
Q.5	**(a)**	The process time for five jobs and due date (days) of the jobs are given in the following table:	**05**

Job	1	2	3	4	5
Process Time(Days)	3	6	9	5	7
Due Date (Days)	6	20	30	12	25

Job may be sequence according to following rules:
(1) Minimum Process Time.
(2) First Come First Serve
(3) Due Date (Days)

(b) What are Priority rules? Explain in brief   **05**

<div align="center">OR</div>

Q.5 **(a)** Enlist different types of sequencing methods and explain any one of them   **05**

(b) Six jobs go first over machine I and then over machine II. The order of the completion of jobs has no significance. The table shows the machine times in hours for six jobs and the two machines.   **05**

Job	J1	J2	J3	J4	J5	J6
Machine I	2	4	9	6	7	4
Machine II	6	7	4	3	3	11

Find the sequence of the jobs that minimizes the total elapsed time to complete the jobs.

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