

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2022****Subject Code:3161508****Date:06/06/2022****Subject Name:Production Planning and Control****Time:10:30 AM TO 01:00 PM****Total Marks: 70****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 meant by production planning and control? **03**  
 (b) State the main benefits of PPC. **04**  
 (c) Discuss principal functions of PPC. **07**

- Q.2** (a) What is ERP? **03**  
 (b) Justify production planning as core to productivity of business. **04**  
 (c) Discuss the role of PPC executive in materials control function in Job order production industry. **07**

**OR**

- (c) What should be the main functions of PPC department in following industries : **07**  
 (i) Automobile component mfg. (ii) Caustic Soda Mfg. (iii) Pharmaceutical Mfg.

- Q.3** (a) What is sales forecasting? **03**  
 (b) Classify various sales forecasting methods. **04**  
 (c) The sales pattern of an connecting rod mfg. company is as follows : **07**

Year	2013	2014	2015	2016	2017	2018	2019	2020
Sales (Rs.Crores)	34.2	35.6	36.5	37.8	36.7	37.9	38.4	40.1

Compute the 3 yearly moving trend and find out the sales forecast for the year 2021.

**OR**

- Q.3** (a) What is process planning? **03**  
 (b) Explain process planning procedure. **04**  
 (c) Discuss MRP and its four fundamental inputs. **07**

- Q.4** (a) What is 'Job Sequencing'? **03**  
 (b) State assumptions underlying Johnson's algorithm for sequencing. **04**  
 (c) Use Johnson's algorithm to develop optimum sequence for following data : **07**

Job J		I	II	III	IV	V
Processing Time in Minutes	M1	11	12	09	10	09
	M2	13	14	15	12	10
	M3	12	15	13	12	14

**OR**

- Q.4** (a) What is scheduling? **03**  
 (b) Explain the scope and importance of scheduling for any organization. **04**  
 (c) What is dispatching? Explain the procedure of decentralizing dispatching system. **07**

- Q.5** (a) What is assembly line balancing ? **03**

- (b) Explain the procedure of assembly line balancing technique. **04**
- (c) Using Heuristic approach, solve the following problem for a cycle time 8 min. **07**  
and find :-
- (i) Mini. no. of work stations &
- (ii) Line efficiency

Operation	1	2	3	4	5	6	7	8	9	10	11
Immediate Predecessor	-	-	1,2	3	4	4	5	6	6	8,9	7,10
Time (Min.)	4	2	5	3	4	2	7	6	3	5	3

**OR**

- Q.5** (a) What is purpose of capacity planning and control? **03**
- (b) Discuss aggregate planning. **04**
- (c) Discuss the methodology of ERP implementation. **07**

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