

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2018****Subject Code: 2182501****Date: 26/11/2018****Subject Name: Production and Operations Management****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|------------|--|-----------|
| Q.1 | (a) List the Functions of Production Planning and Control. | 03 |
| | (b) Discuss the system concept of production. | 04 |
| | (c) Discuss the role of Production and Operation Management in 21 st Century. | 07 |
| Q.2 | (a) List the types of forecasting in decision making. | 03 |
| | (b) Define forecasting. Discuss the application of forecasting. | 04 |
| | (c) Discuss and explain the steps of Delphi Method. | 07 |
| OR | | |
| | (c) Discuss the process of vendor selection. How it affects the performance of an organization? | 07 |
| Q.3 | (a) List various measures of forecast accuracy. | 03 |
| | (b) What is Break-Even Analysis? Discuss. | 04 |
| | (c) What are the types of demand pattern? Explain them with suitable sketch. | 07 |
| OR | | |
| Q.3 | (a) What is tactical decisions in and organization? Give three examples of tactical decision. | 03 |
| | (b) Distinguish between aggregate planning and master production scheduling. | 04 |
| | (c) List and explain various pure and mixed strategies in Aggregate Planning. | 07 |
| Q.4 | (a) Briefly discuss Mixed Model Line balancing. | 03 |
| | (b) Explain the concept of Cycle Time with a suitable example. | 04 |
| | (c) For fruit drink product, following operational precedence matrix is given. To meet weekly demand of 6000 units, balance the production line. Assume 40-hours/week. | 07 |

Task	Precedence	Time (min)
A	-	0.1
B	A	0.2
C	A	0.4
D	B, C	0.3

OR

- | | | |
|------------|---|-----------|
| Q.4 | (a) List various factors affecting production planning. | 03 |
| | (b) Discuss the process of vendor rating. | 04 |
| | (c) NanoTech is ready to begin production of its exciting new technology. The company is evaluating three methods of production. The costs of each method are as given below. Determine for what level of demand each production method should be chosen. | 07 |

Production Method	A	B	C
Fixed Cost	Rs. 2,00,000/-	Rs. 6,00,000/-	Rs. 0/-
Variable Cost	Rs. 40/-	Rs. 20/-	Rs. 60/-

- Q.5** (a) Explain following terms. **03**
1. Active Schedule.
 2. Semi-active Schedule.
- (b) Write short notes on dispatching rule/priority rules. **04**
- (c) Sequence the following jobs on two machines to optimize makespan using Johnson's two machine algorithm. **07**

Jobs	A	B	C	D	E
Machine 1	6	11	7	9	5
Machine 2	8	6	3	7	10

OR

- Q.5** (a) What is Degree of Symmetry? Explain. **03**
- (b) What is Lay? Give symbols used to designate surface finish. **04**
- (c) Discuss the various systems for controlling the position of centerline. **07**

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