

GUJARAT TECHNOLOGICAL UNIVERSITY
ME - SEMESTER–I(New course)• EXAMINATION – WINTER- 2015

Subject Code: 2715005**Date: 02/01/2016****Subject Name: Production and Operation Management****Time:2:30 pm to 5:00 pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) What is generative process planning? Compare variant and generative process planning methodologies. **07**
- (b) Describe the various stages involved in satisfying a customer's need. Which of these stages form a part of production & operations management? **07**

- Q.2** (a) Explain OPTIZ classification system with suitable example. **07**
- (b) Enlist various advanced forecasting methods. And Explain different forecasting errors. **07**

OR

- (b) Explain Box Zerkins method of forecasting with suitable example. **07**

- Q.3** (a) Explain concept of computer process planning and also discuss benefits of CAPP. **07**
- (b) Explain Open and close channel queuing networks. **07**

OR

- Q.3** (a) Write a short note on scheduling and sequencing. **07**
- (b) What is the role of MPS in MRP? **07**

- Q.4** (a) Write short note on JIT. **07**
- (b) A maintenance project has following estimate s of times in hours and cost in rupees for jobs. Assuming that jobs can be done either at normal or at fast pace, but not any pace in between. Assuming a relationship between the job duration and job cost and with overhead cost of Rs. 25/- per hours, find the optimal duration and optimal cost. **07**

Activity	Predecessor	Normal		Crash	
		Time (Hrs.)	Cost (Rs.)	Time (Hrs.)	Cost (Rs.)
A	-	8	80	6	100
B	A	7	40	4	94
C	A	12	100	5	184
D	A	9	70	5	102
E	B,C,D	6	50	6	50

OR

- Q.4** (a) How do you distinguish between resource leveling and resource allocation problems? Explain the algorithm for resource allocation. **07**
- (b) Explain Line of Balancing concept with suitable example. **07**
- Q.5** (a) Why aggregate production planning is needed? Differentiate between Chase strategy and Level strategy of aggregate production planning. **07**

- (b) What are the steps involved in implementing ERP? **07**
- OR**
- Q.5** (a) Explain the following Facility layouts: Job shop process layout, Product-oriented layout, cellular layout and Group technology layout. **07**
- (b) Distinguish between MRP, Closed loop MRP and MRP-II. **07**
