

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII(NEW) • EXAMINATION – WINTER 2016

Subject Code:2171501**Date:18/11/2016****Subject Name:Operations Planning & Control****Time:10.30 AM to 1.00 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)** Explain the role of OPC deptt. in improving overall manufacturing performance of the organization. **07**
- (b)** What should be the main functions of OPC department in the following industries :(i) Automobile mfg. (ii) Steel Mfg. (iii) Pharmaceutical Mfg. **07**

- Q.2 (a)** Discuss a composite production system. Justify production planning as core to productivity of business. **07**
- (b)** Describe : Production planning V/c Production control. **07**

OR

- (b)** Discuss Aggregate planning and the nature of APP with respect to various strategies associated with APP. **07**

- Q.3 (a)** What are the elements of good sales forecasting method? Explain sales forecasting procedure. **07**
- (b)** Use method of least squares to fit a straight line trend using following data, and find trend values. Also find expected values for year 2016 : **07**

Year	2011	2012	2013	2014	2015
Sales (lakhs)	53	65	78	86	90

OR

- Q.3 (a)** What is 'Route sheet'? State how it differs from 'Operation sheet' of an engineering component. Also explain its significance for PPC. **07**
- (b)** An engineering company uses a special type of pin at an approximately constant rate of 6000 units per year. The pins are manufactured at the company's own plant. Each pin costs the company Rs. 75. The setup cost per production run is Rs. 1500. The inventory carrying charges are estimated at 20% of the average inventory investment. **07**

What quantity of pins should be manufactured in each production run for minimum cost? Also find out the frequency of production runs to be made.

- Q.4 (a)** What is scheduling? Explain the scope and importance of scheduling for any organization. **07**
- (b)** Use Johnson's rule to find out the best sequence and find total idle time for following data : **07**

Job	1	2	3	4	5	6
Lathe	5	8	6	12	10	9
Shaping	6	9	5	10	6	7

OR

- Q.4 (a)** What is assembly line balancing? Explain the procedure of assembly line balancing technique. **07**

- (b) A company produces the toys. Operations are given below. 07

Operation no.	1	2	3	4	5	6	7	8	9	10	11
Immediate Predecessor	-	-	1,2	3	4	4	5	6	6	9	7,8,10
Time (In Minute)	4	2	5	3	4	2	7	6	3	5	3

Fix cycle time of 8 Minute. Find out :

- (i) Min. no. of work stations (ii) Line efficiency

- Q.5 (a)** What is dispatching? Explain the procedure of decentralizing dispatching system. 07

- (b) Discuss MRP and its four fundamental inputs. 07

OR

- Q.5 (a)** Discuss capacity planning with an example. 07

- (b) Write note on: Computer Integrated Manufacturing (CIM). 07
