Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER II (NEW) – • EXAMINATION – SUMMER 2016

Subject Code: 2722810 **Date: 31/05/2016**

Subject Name: Production & operations Management

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.**

Q.1 **(a)** Explain scope and strategic level decisions of production management. **07**

(b) Give comparison among job production, batch production and mass production system. **07**

Q.2 **(a)** Discuss the factors influencing plant location in detail. **07**

(b) State objective of plant layout and explain principles of plant layout. **07**

OR

(b) Define what is material handling? Write a detailed note on different types of material handling equipments. **07**

Q.3 **(a)** Explain different judgmental techniques of sales forecasting. **07**

(b) The demand for the particular product is given for the 10 periods. Compute the forecast using exponential smoothing method for Ŭ=0.1 and Ŭ=0.3. Given forecast for first period is 18 units. Compare and comment which of the forecast is better. **07**

Period	1	2	3	4	5	6	7	8	9	10
Demand (units)	15	23	32	17	30	14	16	15	21	18

OR

Q.3 **(a)** Explain functions of PPC in detail. **07**

(b) Define Material Requirement Planning (MRP) and explain MRP system. **07**

Q.4 **(a)** With usual notations derive an expression for economic order quantity and total inventory cost (with instantaneous stock replenishment. i.e. basic model) and also state assumptions made in this model. **07**

(b) A vendor has estimated demand of a product as 6000 units per annum , the carrying cost is Rs 15/unit and ordering cost is Rs. 80, then find **07**

(i) EOQ (ii) optimum no of orders per annum (iii) annual inventory cost (iv) time between two orders

If lead time is 10 days and safety stock is 250 units then also find out reorder level and average inventory.

OR

Q.4 **(a)** Explain different types of material flow pattern w.r.t. plant layout and give comparison between product layout and process layout. **07**

(b) Write a detailed note on Business Process Reengineering covering following aspects. **07**

(a) definition (b) characteristics (c) Need (d) methodology

Q.5 **(a)** State classification of maintenance and explain methodology of condition based maintenance. **07**

(b) Describe in detail what Total productive maintenance is? **07**

OR

Q.5	**(a)**	Explain ABC analysis of inventory control in detail.	**07**
	(b)	Write a note on Supply chain Management (SCM) and Enterprise Resource Planning (ERP).	**07**

****