Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

PDDC- SEMESTER–VI • EXAMINATION – WINTER - 2016

Subject Code: X61904 **Date: 24.10.2016**

Subject Name: Industrial Engineering

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)** "Mere increase in production may or may not contribute to increase in productivity" Justify. **07**

(b) The demand for the particular product is given for the last 8 periods. Compute the exponentially smoothed forecast for the upcoming month taking α=0.3. **07**

Month	1	2	3	4	5	6	7	8
Demand	10	12	08	11	09	10	15	14

Q.2 **(a)** Define "Route sheet" with suitable example. **07**

(b) Enlist the various recording techniques used in method study. Give the various symbols utilized as recording techniques with their meaning. **07**

OR

(b) State various obstacles in the way of entrepreneur's development. **07**

Q.3 **(a)** Describe the different types of plant layout and explain various principles of plant layout. **07**

(b) Define sales forecasting explain qualitative methods to forecast the sales. **07**

OR

Q.3 **(a)** State reasons for the location of: **07**

(i) Glass and Bangle industries at Firozabad.

(ii) Iron and steel industries in Bihar and Orissa.

(iii) Textile industries at Bombay and Ahmadabad.

(b) Explain assembly line balancing in detail with suitable example. **07**

Q.4 **(a)** What is job evaluation? Explain any one method of Job evaluation. **07**

(b) What are the major safety provisions in factory act 1948? **07**

OR

Q.4 **(a)** Define wages and explain in detail various types of incentives. **07**

(b) What is S.Q.C.? What is the purpose of control charts? **07**

Q.5 **(a)** Which factors to be considered by the design engineer in the design and development of the product? **07**

(b) Enlist the productivity improvement tools. Explain Flow Diagram with suitable example. **07**

OR

Q.5 **(a)** Six consecutive lots received from a vendor where inspected by sampling process. The sample size was varied as per variation in the lot size. The data were recorded as under. Construct p-Chart and np-Chart. **07**

Sample No.	1	2	3	4	5	6
Lot size	2850	1860	480	870	4385	2568
Sample size	125	125	50	80	200	125
No. of defectives	1	3	0	2	4	1

(b) Write a short note on TQM. **07**