Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER – VI (NEW).EXAMINATION – WINTER 2016

Subject Code: 2161907 Date: 26/10/2016

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)** Compare urban area and rural area for site selection of plant. **07**

(b) What is pre-determined motion and time systems (PMTS)? What is the procedure for PMTS? How it is used for carrying out time study? **07**

Q.2 **(a)** Define terms in terms of sampling plans: (i) AQL (ii) RQL (iii) IQL (iv) AOQ **07**

(b) What do you understand by normal distribution curve? What are its characteristics? **07**

OR

(b) State various government incentives to entrepreneurs. **07**

Q.3 **(a)** What do you mean by flow pattern? What are the different factors affecting the flow pattern? **07**

(b) Explain different types of wages briefly. **07**

OR

Q.3 **(a)** Explain aims and objectives of industrial legislation? **07**

(b) An *np* chart is to be established on a painting process that is in statistical control. If 35 pieces are to be inspected every four hours, and the fraction non-conforming is 0.06, determine the central line and control limits. **07**

Q.4 **(a)** Explain step by step procedure of method study. **07**

(b) What is work sampling? How it is performed? **07**

OR

Q.4 **(a)** What are the various tools and techniques to improve productivity? **07**

(b) Write a short note on : Ergonomics **07**

Q.5 **(a)** What do you mean by process planning? Explain step by step procedure of process planning. **07**

(b) There are seven jobs which are to be processed first on M_1 and then on M_2. Processing time in hours are as under : **07**

Job	A	B	C	D	E	F	G
Machine M_1	06	24	30	12	20	22	18
Machine M_2	16	20	20	13	24	02	06

Find optimal sequence, total elapsed time and also Total Idle time of M_2.

OR

Q.5 **(a)** What do you mean by line balancing? What is the procedure for line balancing? **07**

(b) Write a short note on : SEZ **07**

****