

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2021

Subject Code:2161907

Date:06/08/2021

Subject Name:Industrial Engineering

Time:02:30 PM TO 05:00 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) Define the following: **03**
(i) Productivity (ii) Method Study (iii) Work study
- (b) Describe the objectives of plant location selection. **04**
- (c) What is meant by plant layout? States its definition. State different types of layouts. **07**
- Q.2** (a) Define micro motion study and state its objectives. **03**
- (b) Write in brief about Routing and Dispatching. **04**
- (c) Explain the relationship between production planning and control. **07**
- OR**
- (c) Name the various recording techniques used in method study. Give the various symbols used in recording techniques with their meaning. **07**
- Q.3** (a) Define the following: **03**
(i) Performance rating (ii) Normal time (iii) Standard time
- (b) Describe Moving average method of sales forecasting. **04**
- (c) Explain the purpose of Workman's Compensation Act. Where it is applicable? **07**
- OR**
- Q.3** (a) Explain six line attack to improve productivity. **03**
- (b) What is method study? Explain objective of method study. **04**
- (c) What is mean by incentive wage systems? State any two important wage systems with their individual characteristics. **07**
- Q.4** (a) Briefly state sources of industrial finance. **03**
- (b) List out the obstacles in the way of Entrepreneurs development. **04**
- (c) Write a short note on (any two) **07**
(i) Flow process chart (ii) String diagram (iii)Two handed process chart
- OR**
- Q.4** (a) Discuss – Assembly Line Balancing. **03**
- (b) What is therblig? Explain importance of it. **04**

- (c) An industrial operation consists of five elements with following observed time and the performance ratings. Assume personal allowance as 12% and contingency allowance as 4% of the basic time. Calculate standard time per piece. **07**

Elements	Observed time	Rating (%)
1	0.15	80
2	0.20	85
3	0.10	90
4	0.12	75
5	0.25	80

- Q.5** (a) Explain Acceptance Sampling. **03**
(b) State the benefits and limitations of TQM. **04**
(c) What is the purpose of control charts? Explain any one attribute type chart in detail. **07**

OR

- Q.5** (a) What is quality control? State important objectives of statistical quality control. **03**
(b) Differentiate between cumulative timing and fly back timing. **04**
(c) Explain following term with respect to O.C. curve : **07**
(i) Producer's risk (ii) Consumer's risk (iii) AQL
