

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2024****Subject Code:3152512****Date:02-12-2024****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.
4. Simple and non-programmable scientific calculators are allowed.

|            |   | <b>MARKS</b> |
|------------|---|--------------|
| <b>Q.1</b> | (a) Elaborate the importance of Industrial Engineering.   | <b>03</b>    |
|            | (b) Discuss the factors to be considered for the selection of the site for automobile industry.                             | <b>04</b>    |
|            | (c) Differentiate between product layout and process layout with suitable example.  | <b>07</b>    |
| <b>Q.2</b> | (a) Discuss the ways to increase productivity in the organization.  | <b>03</b>    |
|            | (b) Describe various symbols used in method study.  | <b>04</b>    |
|            | (c) What is therbligs? Describe its importance in micro motion study. List four therbligs with their symbols.               | <b>07</b>    |
| <b>OR</b>  |   |              |
|            | (c) What is pre-determined motion and time systems (PMTS)? State its procedure. How is it used for carrying out time study? | <b>07</b>    |
| <b>Q.3</b> | (a) Define merit rating. State its objectives.  | <b>03</b>    |
|            | (b) What is wage? State and explain types of wages if brief.  | <b>04</b>    |
|            | (c) Explain the point rank method of job evaluation.  | <b>07</b>    |
| <b>OR</b>  |   |              |
| <b>Q.3</b> | (a) Explain Halsey Incentive plan.  | <b>03</b>    |
|            | (b) What is job evaluation? Discuss its objectives.   | <b>04</b>    |
|            | (c) What are factory act? Discuss the major provisions for safety and health in factory act.                                | <b>07</b>    |
| <b>Q.4</b> | (a) What is industrial dispute?   | <b>03</b>    |
|            | (b) Discuss in brief about the sources of industrial finance.   | <b>04</b>    |
|            | (c) Discuss the important characteristics of an entrepreneur.   | <b>07</b>    |
| <b>OR</b>  |   |              |
| <b>Q.4</b> | (a) State the requirement of industrial legislation.  | <b>03</b>    |
|            | (b) Explain in brief the terms: (i) Surplus (ii) Waste (iii) Scrap (iv) Obsolescence  | <b>04</b>    |
|            | (c) Discuss about the various methods of identification and control of waste.   | <b>07</b>    |
| <b>Q.5</b> | (a) State the need of inspection in industry.   | <b>03</b>    |
|            | (b) Discuss the concept of quality circle.  | <b>04</b>    |
|            | (c) What is an OC curve? Explain the procedure for the construction of an OC curve.   | <b>07</b>    |
| <b>OR</b>  |   |              |
| <b>Q.5</b> | (a) Explain in brief about Total Quality Management (TQM)   | <b>03</b>    |
|            | (b) Discuss about 'Variables' and 'Attributes' in context of quality control charts.  | <b>04</b>    |
|            | (c) Explain the method of construction of p-chart and 100 p-chart. Explain its applicability.                               | <b>07</b>    |

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