

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI (NEW) EXAMINATION – WINTER 2018****Subject Code:2161907****Date:30/11/2018****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) Draw plant layout of 'Automobile Repair and Service shop'. **03**  
(b) Differentiate: Product Layout and Plant Layout. **04**  
(c) List out the factors, which are considered for site selection for any industry. Apply and discuss the same for 'Automobile component Manufacturing' industry. **07**

- Q.2** (a) Discuss: Two Handed process charts **03**  
(b) Prepare a list of "Therbligs" used in the industry. (Any Eight) **04**  
(c) What do you mean by 'Time Study'? Why it is essential? Discuss Pre-determined motion and time systems as a tool of 'Time Study'. **07**

**OR**

- (c) In context of Work Study, explain 'Normal Working Area and Work Place Design'. **07**
- Q.3** (a) What is 'Make or Buy' Decision? Explain with suitable example. **03**  
(b) Explain 'Variables' and 'Attributes' in context of quality control charts. **04**  
(c) Discuss the reasons for 'Low productivity' in the organization. **07**

**OR**

- Q.3** (a) Explain exponential moving average method of forecasting with suitable data. **03**  
(b) Write Explanatory note on: Process capability **04**  
(c) Discuss the phases of Production, planning and control (PPC). **07**
- Q.4** (a) Explain: Halsey Incentive Plan **03**  
(b) What is 'Job Evaluation' and why it is necessary to carry out 'Job Evaluation'? **04**  
(c) Why Quality is essential for any product? Discuss the factors affecting quality of the product? **07**

**OR**

- Q.4** (a) Explain: Emerson's efficiency Plan **03**  
(b) Discuss: 'Factor comparison method' for Job evaluation. **04**  
(c) Discuss the concept of 'Quality circle' for improving the quality through internal assessment. **07**

- Q.5** (a) Discuss the provisions of 'Working hours' as per Factories Act, 1948. **03**
- (b) Discuss major provisions of 'Workman's compensation Act, 1925'. **04**
- (c) Discuss various Government initiatives for promoting entrepreneurship. **07**

**OR**

- Q.5** (a) Under which conditions, 'Strike' is not possible by employees as per Industrial dispute Act, 1947. **03**
- (b) Discuss major provisions of 'Employee Provident Fund Scheme, 1952'. **04**
- (c) As an entrepreneur, prepare a project report on business opportunity on 'Export – import business in India'. **07**

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