

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VIII (NEW) EXAMINATION – WINTER 2018****Subject Code: 2182504****Date: 03/12/2018****Subject Name: Facilities Planning****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 facility & facilities planning. **03**  
 (b) What are the objectives of facilities planning? **04**  
 (c) Explain the basic facility layout types with neat sketches. **07**
- Q.2** (a) Name six major material handling equipments. **03**  
 (b) Explain elements of costs. **04**  
 (c) Describe the salient features of job-shop layout with its advantages. **07**
- OR**
- (c) Differentiate between a process layout and a group technology layout in terms of their features. **07**
- Q.3** (a) State names of various algorithms used to generate facility layouts while designing a layout (other than mentioned in Q.4(a) below). **03**  
 (b) Explain the following as related to plant location problem: (i) Supply of raw materials (ii) Transportation facility. **04**  
 (c) Write short note on The Indian Factories Act 1948. **07**
- OR**
- Q.3** (a) What are the basic differences between construction type and improvement type layout algorithms? **03**  
 (b) State the principles of material handling. **04**  
 (c) Write short note on The Industrial Dispute Act 1947. **07**
- Q.4** (a) Write the full form of: (i) CRAFT (ii) ALDEP (iii) CORELAP. **03**  
 (b) Explain following terms: Marginal cost, Marginal revenue, Sunk cost and Opportunity cost. **04**  
 (c) Explain classification of material handling system. **07**
- OR**
- Q.4** (a) What is the need of replacement & obsolesce in an industry? **03**  
 (b) What are the steps for evaluating a facilities plan in general? **04**  
 (c) With the help of neat diagrams explain various flow patterns used within work station, within department and between departments. **07**
- Q.5** (a) Draw an activity relationship chart for a seven-department-layout and state the meaning of the codes & ratings used in this chart. **03**  
 (b) Describe fixed automation in brief. **04**  
 (c) Write the advantages and disadvantages of selecting a plant location in urban areas. **07**

**OR**

- Q.5** (a) Define the following: Depreciation, Future worth, Rate of return. **03**
- (b) Write the subject, resource and communication aspects of a flow process for a material management system and a material flow system. **04**
- (c) Describe flexible manufacturing system. **07**

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