

# GBCS SCHEME

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18MA741

## Seventh Semester B.E. Degree Examination, Jan./Feb. 2023 Facility Planning and Design

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions, choosing ONE full question from each module.**

### Module-1

- 1 a. Briefly explain the various factors influencing plant location. (10 Marks)  
b. Briefly explain the various objectives and principles of plant layout. (10 Marks)

OR

- 2 a. Briefly explain Richard Muther's approach to plant layout. (10 Marks)  
b. Briefly explain the various principles of material handling. (10 Marks)

### Module-2

- 3 a. Explain with a neat diagram : i) ALDEP ii) PLANET. (10 Marks)  
b. Explain the salient features of : i) COFAD ii) CORELAP. (10 Marks)

OR

- 4 a. List the various methods of constructing the layout and explain qualitative layout evaluation technique. (10 Marks)  
b. What is efficiency index? Explain some of the important efficiency indices. (10 Marks)

### Module-3

- 5 a. Explain the various factors to be considered for area allocation. (10 Marks)  
b. List the various objectives of plot plan. Explain the various factors to be considered in space planning. (10 Marks)

OR

- 6 a. Explain sequence demand straight line method and non-directional method. (10 Marks)  
b. Write short notes on establishing total space requirement and storage space determination at a location in a plant. (10 Marks)

### Module-4

- 7 a. Explain the salient features of warehouse layout model. (10 Marks)  
b. Explain briefly the different methods of indoor storage. (10 Marks)

OR

- 8 a. List out the different types of facility location problems based on the distance between facilities. Explain them briefly. (10 Marks)  
b. Explain quadratic assignment problem method used for solving location allocation problems. (10 Marks)

### Module-5

- 9 a. Explain the different phases in the implementation of facilities plan. (10 Marks)  
b. What are the reasons for using simulation models in facility planning? How simulation models can improve the understanding of the facilities plan. (10 Marks)

OR

- 10 a. Give the salient features of : i) Conveyor model ii) Waiting line model. (10 Marks)  
b. Briefly explain the areas that should be examined in performing the facilities planning audit. Further, explain some of the common reasons for firms failing to conduct audit. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.