



B.E (Full Time) DEGREE END SEMESTER EXAMINATIONS, MAY 2012

INDUSTRIAL ENGINEERING

SIXTH SEMESTER

IE 384 – FACILITY LAYOUT AND MATERIAL HANDLING

(REGULATIONS 2004)

19

Time: 3 hr

Max Mark: 100

Answer ALL Questions

PART A – (10 X 2 = 20 Marks)

1. Define the term facility location
2. Write any two single facility location problem
3. What are the objectives of layout study?
4. Differentiate between product layout and process layout.
5. What are the advantages of computerized layout planning?
6. Define the term line balancing.
7. What is the relationship between layout and materials handling?
8. Write the basic material handling system design
9. Contrast between CORELAP and CRAFT
10. What is the effect of noise on human performance?

PART B – (5 X 16 = 80 Marks)

11. Explain the classification of layout with suitable example (16)
 12. (i) Explain any three location analysis techniques (8)
(ii) Derive the general formulation of single facility location problem (8)
- (OR)
- b) Explain the all the factors affecting location decision (16)

13. a) The Karan job shop has requested that a new layout be designed for their operation in Madurai, Tamilnadu. There are 12 departments involved. The department areas and activity relationships for the job shops are given below: Design a block layout using ALDEP algorithm.

Activity	Area (sq.ft)	
Office	600	I
Personnel Services	1200	U
Welding	800	U U
Press	800	A U U
Foundry	1200	I E I U
Machining	1000	I U U U U U
Assembly	800	E U E U U U
Painting	600	E I U I I I
Steel storage	700	U A I I
Finished storage	1000	U E U I
Other storage	800	U U
Maintenance	700	U

(OR)

b) Write the complete procedure of CRAFT algorithm with suitable REL chart (16)

14. a) Describe the basic materials handling equipments used in a manufacturing industry. (16)

(OR)

b) Explain all the principles of materials handling (16)

15. a) Describe the systematic layout planning with suitable example.

(OR)

b) Write short notes on (i) Noise technology (ii) Line Balancing