



- Notes :
1. Answer **three** question from Section A and **three** question from Section B.
  2. Assume suitable data wherever necessary.
  3. Illustrate your answer necessary with the help of neat sketches.
  4. Use of pen Blue/Black ink/refill only for writing the answer book.

**SECTION – A**

1. a) Discuss following. 9
  - i) Fixed position Layout.
  - ii) Process Layout.
  - iii) Product Layout.
- b) Define plant Layout? Why it is necessary to plan it well? 5
2. a) Explain the principles of efficient Layout. 6
- b) “Plant layout study is incomplete without proper study of material handling system,” Comment. 7
3. a) How locational factors will change while designing layout in big cities & small towns? 7
- b) Discuss the locational advantages & disadvantages of one of the major plant in India. 6
4. a) Explain following terms. 9
  - i) CRAFT
  - ii) CORELAP
  - iii) ALDEP
- b) How does the location of site influences a Layout design? 4
5. a) Discuss various operator’s error in forklift operation. 6
- b) Explain the role of preventive maintenance system related to material handling equipments. 7

**SECITON – B**

6. a) Explain in detail following material handling principles. 8
  - i) Planning principle.
  - ii) Gravity principle.

- b) "Material handling is an integral part of plant layout" comment. 5
- 7. a) Enlist three lifting & lowering devices with their industrial uses. 5
- b) In general when you would select: 9
  - i) Conveyors.
  - ii) Cranes.
  - iii) Industrial trucks.
- 8. a) Compare Passenger safety in escalators & in passenger lifts. 5
- b) Discuss the following material handling systems: 8
  - i) Method (Production) oriented system.
  - ii) Function oriented system.
- 9. a) Explain with neat sketches the construction & working of: 8
  - i) Under running bridge crane.
  - ii) Top running bridge crane.
- b) What factors should be considered for equipment investment Analysis? 5
- 10. Design Belt conveyor for its conveying capacity & conveying length. 13

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