



- Notes :
1. All questions carry marks as indicated.
 2. Solve Question 1 OR Questions No. 2.
 3. Solve Question 3 OR Questions No. 4.
 4. Solve Question 5 OR Questions No. 6.
 5. Solve Question 7 OR Questions No. 8.
 6. Solve Question 9 OR Questions No. 10.
 7. Solve Question 11 OR Questions No. 12.
 8. Due credit will be given to neatness and adequate dimensions.
 9. Assume suitable data whenever necessary.
 10. Illustrate your answers wherever necessary with the help of neat sketches.
 11. Use of non programmable calculator is permitted.

1. a) Describe the terminology of material handling system with its objectives. **7**
- b) Describe the interrelation between material handling and plant layout. **6**

OR

2. a) Classify the various material handling equipment. **7**
- b) Describe the objectives and benefits of proper material handling system in brief. **6**
3. a) Explain the concept of unit load with suitable example. **7**
- b) Describe General analysis and procedures of material handling equipment. **6**

OR

4. a) Explain the various functions and parameter affecting on packing and storage of material. **7**
- b) Discuss the economic analysis for designing the components of material handling system. **6**
5. a) Describe the derives for hoisting mechanisms. **7**
- b) Explain the various types of bridge cranes. **7**

OR

6. a) Explain the factors for designing conveyor belts in brief. **7**
- b) Explain the travelling mechanism of monorail cranes. **7**
7. a) Describe hand propelled EOT overhead travelling cranes. **7**

b) Explain the various load chains and types of ropes used.

6

OR

8. a) Explain the various design consideration for conveyor belt.

7

b) Explain the various applications of Load lifting attachment in detail.

6

9. a) What are the objective of material storage? Also explain the various systems used in material storage.

7

b) With the help of neat sketch explain the working of bucket elevators.

6

OR

10. a) Discuss the working principle of screen conveyor with neat sketch.

7

b) Discuss & elaborate complete working of vibratory conveyors also state its applications.

6

11. a) Explain in detail the computerized ware house planning.

7

b) What are the various safety regulations and describe with reference to material handling and ware house equipment's.

7

OR

12. a) Explain in brief the levels and means of mechanization in material handling.

7

b) Explain the various factors affecting in ware house automations.

7
