

11. (a) Explain the term computerized warehouse planning. 7
(b) Explain the indicators for consideration in warehouse automation. 7

OR

12. (a) Explain the various safety considerations for material handling equipments. 7
(b) Explain the various levels and means of mechanization. 7

NTK/KW/15/7560

**Faculty of Engineering & Technology
Seventh Semester B.E. (Mech. Engg.) (C.B.S.)
Examination**

ELECTIVE-I : MATERIALS HANDLING SYSTEM

Time—Three Hours] [Maximum Marks—80

INSTRUCTIONS TO CANDIDATES

- (1) All questions carry marks as indicated.
- (2) Solve Question No. **1 OR** Question No. **2**.
- (3) Solve Question No. **3 OR** Question No. **4**.
- (4) Solve Question No. **5 OR** Question No. **6**.
- (5) Solve Question No. **7 OR** Question No. **8**.
- (6) Solve Question No. **9 OR** Question No. **10**.
- (7) Solve Question No. **11 OR** Question No. **12**.
- (8) Due credit will be given to neatness and adequate dimensions.
- (9) Assume suitable data wherever necessary.
- (10) Diagrams and chemical equations should be given whenever necessary.

(11) Illustrate your answers wherever necessary with the help of neat sketches.

(12) Use of non programmable calculator is permitted.

1. (a) Describe the unit load concept of material handling in brief. 7
(b) Describe the importance of material handling. 6

OR

2. (a) Describe the classification of material handling equipments. 7
(b) Describe the interrelationship between Material Handling and Plant Layout. 6
3. (a) Explain the factors affecting the selection of material of handling equipment. 7
(b) Explain the basic analytical techniques for material handling. 6

OR

4. (a) Describe in brief the packing and storage of material. 7
(b) Explain the story of Activity Cost Data and economic analysis for design of components of material handling system. 6
5. (a) Describe the Drivers for hoisting in design of mechanical handling equipment. 7

(b) Explain the stability of stationary rotary and traveling rotary system. 7

OR

6. (a) Explain the mechanisms of cantilever and monorail cranes. 7
(b) Describe the breaking torque for hoisting mechanism. 6

7. (a) Explain Ramshorn Hooks used in design of load lifting attachment. 7
(b) Explain Crane Grabs and Clamps in load lifting attachments. 6

OR

8. (a) Describe the design considerations of conveyor belts. 7
(b) Explain forged hooks in load lifting attachments. 6
9. (a) Explain the objective of storage. 7
(b) Explain the gravity flow of solids through slides and chutes in material storage. 6

OR

10. (a) Explain the working of vibratory conveyor. 7
(b) Explain the working of mobile racks. 6