

**B.Tech. – VIEP – MECHANICAL ENGINEERING  
(BTMEVI)**

**Term-End Examination**

00521

**June, 2019**

**BIMEE-020 : MATERIAL HANDLING**

*Time : 3 hours*

*Maximum Marks : 70*

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*Note : Attempt any five questions. All questions carry equal marks.*

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1. (a) Discuss in detail, the importance of material handling in industry. 7
- (b) Explain the criteria for effective selection of material handling equipment in industry. 7
2. (a) What are the different types of material handling equipments ? Explain their roles in material handling. 7
- (b) Explain the working of air cushion handling frames with a neat sketch. 7

3. (a) What is counter balancing ? How can it be applied in trucks ? 7
- (b) Discuss how material handling depends upon the nature of product and the quantity of product. 7
4. (a) Explain the working of a mobile lifting frame with a neat sketch. 7
- (b) Describe safety and care considerations in material handling. 7
5. (a) What are the different types of conveyors ? How are they employed by different industries in material handling ? 7
- (b) Describe the unit load concept. How does it help in designing a specific handling system ? 7
6. (a) Explain the different types of Automated Guided Vehicles (AGVs). Compare their performance with cost. 7
- (b) What is the function of crane ? Explain the working principle of jib cranes. 7

7. Write short notes on any *four* of the following :

$$4 \times 3 \frac{1}{2} = 14$$

- (a) Powered Stackers
  - (b) Material Handling Cost
  - (c) Warehouse Layouts
  - (d) Industrial Robots
  - (e) Hydraulic Pallet Truck
  - (f) Trolleys and Tractors
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