

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

**00861 Term-End Examination  
June, 2015**

**BIMEE-020 : MATERIALS 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) "Proper selection of material handling equipment is a must" — Justify by giving suitable reasons. 7
- (b) Explain the different types of Automated Guided Vehicles (AGVs). Compare their performance with cost. 7
2. (a) Describe the Unit Load concept. How does this concept help in designing a specific material handling system ? 7
- (b) What are the various objectives of material handling ? Discuss. 7
3. (a) Discuss how material handling methods depend on the nature of product and the quantity of product. 7

- (b) Enumerate the guiding principles of material handling. 7
4. (a) Discuss the various means of material handling which are commonly used in manufacturing plants. 7
- (b) 'Mechanical handling of materials improves the quality and quantity of manufacture.' Discuss. 7
5. (a) Describe the 'care and safety' considerations in material handling. 7
- (b) Discuss how plant layout influences the selection of material handling method, with the help of suitable examples. 7
6. (a) Explain the different types of cranes with the help of neat sketches. 7
- (b) Describe the different types of elevators. 7
7. Write short notes on any **four** of the following :
- $4 \times 3 \frac{1}{2} = 14$
- (a) Industrial robots
- (b) Warehousing layouts
- (c) Conveyers
- (d) Maintenance of material handling equipment
- (e) Functions of material handling engineer