

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

Term-End Examination

December, 2015

BIMEE-020 : MATERIAL HANDLING

Time : 3 hours

Maximum Marks : 70

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

1. (a) Explain the different principles of selecting material handling equipment. 7
- (b) What is Automated Guided Vehicle (AGV) ? Explain the main features of AGVs. 7
2. (a) Enumerate the material handling costs that are taken into account in the final cost of a manufactured product. 7
- (b) Describe the procedure for designing a material handling system in a food processing industry. 7

3. (a) What are the objectives of material handling ? Describe briefly how the materials handling engineer tries to achieve these objectives. 7
- (b) Suggest the material handling equipments to be used in factories engaged in Light Engineering production. Give justification for your answer. 7
4. (a) Explain the various issues involved in the design of an Automated Guided Vehicle (AGV). 7
- (b) Discuss the factors to be considered for selection of forklift truck for material handling in a manufacturing plant. 7
5. (a) What are the functions of material handling ? Discuss the relationship of material handling with other departments of a manufacturing plant. 7
- (b) Describe the unit load concept. Discuss the advantages of unit load concept in material handling. 7
6. (a) What are the objectives of warehousing ? Discuss the factors considered for planning the space requirement for a warehouse. 7
- (b) Describe the procedure you would adopt for designing a material handling system in an automobile factory. 7

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

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

- (a) General cargo handling
 - (b) Relationship of material handling and plant layout
 - (c) Line restricted material handling equipment
 - (d) Rail mounted trolleys
 - (e) Pallets, skids and containers
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