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

**Term-End Examination**

**June, 2014**

**BIMEE-020 : MATERIALS HANDLING**

*Time : 3 hours*

*Maximum Marks : 70*

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- Note :** (i) *Attempt any five questions.*  
(ii) *Each question carries equal marks.*
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1. (a) What is the purpose of defining material handling in its broadest sense ? Give the definition of material handling. 7+7  
(b) What are the various objectives of material handling ? Discuss briefly.
  
2. (a) Describe the unit load concept. How does it help in designing a specific handling system ? 7+7  
(b) Enumerate typical material handling costs that enter into the final cost of a manufactured product.
  
3. (a) Explain briefly : 7+7  
(i) Engineering factors.  
(ii) Economic factors in connection with material handling.  
(b) Enumerate the guiding principles of material handling.

4. (a) How will you classify material handling devices ? Give one example of each type. 7+7
- (b) State the material handling devices suitable for a plant manufacturing nuts and bolts on a mass-production basis and explain how these devices may affect the layout of the plant.
5. (a) State for which kind of material handling, the following devices are used : 7+7
- (i) Fork-lift trucks
  - (ii) Belt conveyor
  - (iii) Jib crane
  - (iv) Hydraulic Pallet Truck
  - (v) Electrical hoist
- (b) Describe any two material handling systems used in continuous production.
6. (a) Describe the following material handling equipments : 7+7
- (i) Cranes
  - (ii) Trucks
- (b) List the procedure you would adopt for designing a material handling system in a food processing industry.
7. (a) What are the different kinds of material handling equipments used ? Is a totally automated material handling system desirable in a job shop ? Describe by giving justification. 7+7
- (b) Under what conditions should the employment of the following devices be considered ?
- (i) Cranes and hoists
  - (ii) Power conveyor and lift trucks