

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

Term-End Examination

June, 2016

00316

BIMEE-020 : MATERIAL HANDLING

Time : 3 hours

Maximum Marks : 70

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

1. (a) Discuss in detail the importance of material handling in an industry. 7
- (b) What are the criteria for effective selection of material handling equipment ? Explain in detail. 7
2. (a) Explain the types of equipments and their maintenance in material handling. 7
- (b) What role does plant layout play in material handling ? Explain its importance as well. 7

3. (a) Explain the working of air cushion handling frames with a neat sketch. 7
- (b) What is counter balancing ? How can it be applied in the trucks ? Elaborate. 7
4. (a) Explain the working of hand pallet trucks and stokers. 7
- (b) Elaborate on different types of carts and trolleys used in material handling. 7
5. (a) How are conveyors classified ? Explain in detail. 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) How are the elevators and lifts used in construction sites for material handling ? Explain. 7
7. Write short notes on the following : $4 \times 3 \frac{1}{2} = 14$
- (a) Industrial Robots
- (b) Load Carriers
- (c) Trolleys and Tractors
- (d) Overhead Rail