

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER– V (New) EXAMINATION – WINTER 2019****Subject Code: 2151505****Date: 21/11/2019****Subject Name: Material Handling Systems****Time: 10:30 AM TO 01:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
<b>Q.1</b>	(a) Define material handling.	<b>03</b>
	(b) Explain various functions of material handling.	<b>04</b>
	(c) Discuss factors affecting the selection of materials handling equipment in a production shop.	<b>07</b>
<b>Q.2</b>	(a) What is 'unit load concept'?	<b>03</b>
	(b) Discuss gravity principle of material handling.	<b>04</b>
	(c) What are the steps in analyzing material handling problems? Explain them in brief.	<b>07</b>
	<b>OR</b>	
	(c) Discuss major guidelines for cost reduction in Materials handling	<b>07</b>
<b>Q.3</b>	(a) Explain why material handling is very important in production.	<b>03</b>
	(b) Discuss use of cubic space principle of material handling, Citing application in a paint manufacturing industry.	<b>04</b>
	(c) "Material handling activity is non-productive activity" - Criticize the statement.	<b>07</b>
	<b>OR</b>	
<b>Q.3</b>	(a) List the circumstances under which manual handling is preferred.	<b>03</b>
	(b) Explain care and safety in material handling.	<b>04</b>
	(c) Write short note on : Degree of mechanization in M.H.	<b>07</b>
<b>Q.4</b>	(a) List the circumstances under which mechanical handling is preferred.	<b>03</b>
	(b) Discuss material handling vis-a-vis labour productivity.	<b>04</b>
	(c) Write short note on: Palletization and containerization.	<b>07</b>
	<b>OR</b>	
<b>Q.4</b>	(a) Explain with figure application of the Bucket Elevator.	<b>03</b>
	(b) List different types of conveyors. Explain any one of them in detail.	<b>04</b>
	(c) List out the names of commonly used materials handling equipment.	<b>07</b>
<b>Q.5</b>	(a) Explain: "Zero handling is the best handling".	<b>03</b>
	(b) Name different types of Hoisting equipment. Explain any one in detail.	<b>04</b>
	(c) Discuss Capacity calculation for belt conveyor, as in material handling equipment design.	<b>07</b>
	<b>OR</b>	
<b>Q.5</b>	(a) Explain with figure application of the Fork lift truck.	<b>03</b>
	(b) Explain the systems concept for Material handling.	<b>04</b>
	(c) Explain the slewing mechanism.	<b>07</b>

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