

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2018****Subject Code:2151505****Date:20/11/2018****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**

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|------------|---|-----------|
| <b>Q.1</b> | (a) Define 'material handling'.   | <b>03</b> |
|            | (b) "Zero handling is the best handling" Criticize the statement.                   | <b>04</b> |
|            | (c) Describe various functions of material handling in brief.                       | <b>07</b> |
| <b>Q.2</b> | (a) Discuss gravity principle of material handling.                                 | <b>03</b> |
|            | (b) Write note: Belt conveyors.   | <b>04</b> |
|            | (c) Discuss wire ropes and chains.  | <b>07</b> |
| <b>OR</b>  |   |           |
|            | (c) Explain the procedure for establishing a material handling system.              | <b>07</b> |
| <b>Q.3</b> | (a) Discuss on 'Modern trends in material handling'.                                | <b>03</b> |
|            | (b) Discuss Basic types of material handling equipments.                            | <b>04</b> |
|            | (c) Explain care and safety in material handling.                                   | <b>07</b> |
| <b>OR</b>  |   |           |
| <b>Q.3</b> | (a) What are the symptoms of poor handling?   | <b>03</b> |
|            | (b) Explain the slewing mechanism.  | <b>04</b> |
|            | (c) Explain pneumatic and hydraulic conveyors in detail.                            | <b>07</b> |
| <b>Q.4</b> | (a) In which situation conveyors are preferred? Why?                                | <b>03</b> |
|            | (b) Describe material handling at workplace.  | <b>04</b> |
|            | (c) Explain Gantry cranes and Jib cranes with the help of neat sketch.              | <b>07</b> |
| <b>OR</b>  |   |           |
| <b>Q.4</b> | (a) "Material handling activity is non productive activity" Criticize the statement | <b>03</b> |
|            | (b) Explain why material handling is very important in production?                  | <b>04</b> |
|            | (c) Write note on 'unit load concept' in material handling.                         | <b>07</b> |
| <b>Q.5</b> | (a) Discuss use of cubic space principle of material handling                       | <b>03</b> |
|            | (b) Describe various areas of material handling.                                    | <b>04</b> |
|            | (c) Explain the Computer Aided Systems for Material Handling.                       | <b>07</b> |
| <b>OR</b>  |   |           |
| <b>Q.5</b> | (a) Discuss about container used in material handling.                              | <b>03</b> |
|            | (b) What is the role of an industrial engineer in material handling?                | <b>04</b> |
|            | (c) Explain the objectives of the material handling systems.                        | <b>07</b> |

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