

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B.E. Sem-Vth Examination December 2010

Subject code: 151503

Subject Name: Facilities Layout & Material Handling Systems

Date: 18 /12/2010

Time: 03.00 pm - 05.30 pm

Total Marks: 70

Instructions:

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

- Q.1** (a) Explain 'Product layout' and 'Process layout'. Discuss factors which influence the selection of one or the other. **07**
- (b) Define 'Materials handling'. Explain why material handling is very important in production. **07**
- Q.2** (a) In case you want to locate a 'Soft drink bottling plant', what factors would you consider for taking a location decision? How would you go about conducting a location study? **07**
- (b) Explain the systems concept for Material handling **07**
- OR**
- (b) What are the characteristics to suggest (i) No equipment, (ii) Manual equipment, (iii) Mechanized equipment, and (iv) Automated equipment? **07**
- Q.3** (a) What is meant by Facilities design? Explain its scope & objectives. **07**
- (b) Discuss major guidelines for cost reduction in Materials handling. **07**
- OR**
- Q.3** (a) Explain the circumstances when revising and improving the layout become necessary. **07**
- (b) What are the steps in analyzing material handling problems? Explain them in brief. **07**
- Q.4** (a) What factors would you consider in choosing between extension of factory or working another shift when increased production become necessary? **07**
- (b) Write short note on 'unit load concept' in material handling. **07**
- OR**
- Q.4** (a) Discuss the dynamic nature of the layout of an industrial plant. **07**
- (b) Discuss factors affecting the selection of materials handling equipment in a production shop. **07**
- Q.5** (a) What is work-station layout? How would you design the work-station layout? **07**
- (b) Name different types of conveyors. Explain any two of them in detail. **07**
- OR**
- Q.5** (a) Write short note on use of 'Travel chart' in plant layout. **07**
- (b) Describe different types of Hoisting equipment. **07**
