

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER V • EXAMINATION – WINTER - 2012****Subject code: 151503****Date: 16-01-2013****Subject Name: Facilities Layout and Material Handling Systems****Time: 02:30 pm to 05:00 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) Discuss key selection criteria and factors taken in to account while selecting site for new plant. Discuss keeping in view location of automobile plants near Sanand. **07**

(b) Discuss various charts used in preparing a plant layout. **07**

Q.2 (a) Differentiate plant location decision and Layout decision. Explain salient features differentiating them. **07**

(b) Discuss information to be collected to prepare a layout. Take an example of a casting industry. **07**

OR

(b) Discuss pitfalls in selection of site, and their remedies. **07**

Q.3 (a) You are required to recommend a location for a multiplex cinema with a food court in your city. Describe different evaluating criteria and a typical layout for the same. **07**

(b) Take a case of an assembly line and discuss interrelations between plant layout and labour productivity. **07**

OR

Q.3 (a) Discuss application of quantitative techniques in deciding most suitable plant layout. Discuss use of any one technique. Also name the software used. **07**

(b) Labour productivity is the influencing factor in mechanization decision. Criticise. **07**

Q.4 (a) Discuss unit load concept of material handling. Discuss in detail design of a Petroleum gas containing/Carrying vehicle. **07**

(b) Discuss most suitable type of layout for manufacturing of i) Wall clocks and ii) Cement. **07**

OR

Q.4 (a) Discuss Basic types of material handling equipments and their characteristic as classified by each type. **07**

Q.4 (b) Discuss Selection of material handling equipment for a Cement manufacturing industry. **07**

Q.5 (a) Discuss gravity principle of material handling, and the equipment suitable for handling such materials/goods. **07**

(b) Discuss Capacity calculation for belt conveyor, as in material handling equipment design. **07**

OR

Q.5 (a) Discuss use of cubic space principle of material handling, Citing application in a Soft-drink manufacturing industry. **07**

(b) Discuss importance of a good layout for success of material handling system. Take an example of a newspaper printing press. **07**
