Seat No.: _____ Enrolment No._____

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**

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