## GUJARAT TECHNOLOGICAL UNIVERSITY BE – SEMESTER – V (NEW) EXAMINATION – WINTER 2015

Subject Code: 2151506 Date: 10/12/2015 **Subject Name: Design of Facilities layout Total Marks: 70** Time: 10:30am to 1:00pm **Instructions:** 1. Attempt all questions. 2. Make suitable assumptions wherever necessary. 3. Figures to the right indicate full marks. 07 **Q.1** (a) Suppose that you are asked to recommend the location for a hospital that is to be placed in a major city within the state. What criteria would be appropriate in evaluating alternative sites? **(b)** Discuss the dynamic nature of the layout of an industrial plant. 07 (a) Explain the circumstances when revising and improving the layout become 0.2 07 necessary. (b) What factors would you consider in choosing between extension of factory or 07 working another shift when increased production become necessary? OR (b) In case you want to locate a 'Caustic soda manufacturing plant', what factors 07 would you consider for taking a location decision? How would you go about conducting a location study? **Q.3** Compare the primary layout objectives for 'Multiplex Cinema' and 'Cotton 07 Spinning Mill'. Justify your answer with relevant advantages and disadvantages. **(b)** Discuss the procedure for designing the handling system into the layout. 07 OR Q.3 (a) Explain with the help of sketches the inter-relationship between the receiving, **07** storage, warehousing and shipping in a layout. **(b)** What is work-station layout? How would you design the work-station layout? **07** (a) Enumerate the safety considerations which must be viewed in a layout. 07 **Q.4** (b) Define 'line balancing'. Why line balancing is important in a manufacturing **07** concern? **Q.4** (a) Discuss quantitative and computer based approaches to facilities layout. **07** Discuss how 'Group technology - Production flow analysis' is useful in design of 07 facilities layout. **Q.5** Write short note on use of 'Travel chart' in plant layout. 07 (a) **(b)** Write short note on String diagram : Application, importance and limitations. **07** OR (a) How will you plan for maintenance system in plant layout? 07 Q.5 How facilities layout is affected by equipment repair or replacement decision? 07 Discuss the important considerations involved in it.

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