Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME – SEMESTER IV (NEW) – • EXAMINATION – SUMMER 2016

Subject Code: 2745003 **Date:04/05/2016**

Subject Name: Lean Manufacturing System and Implementation

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.**

Q.1	**(a)**	Explain the concept of lean Manufacturing and also Explain the basic element of lean manufacturing.	**07**
	(b)	Write the short notes on-(i) Lean manufacturing tool (ii) Conventional manufacturing versus lean manufacturing (iii)Two card KANBAN system	**07**
Q.2	**(a)**	Explain the principle of JIT and List the major objective and explain how can be JIT implemented in industry.	**07**
	(b)	Explain the various types of machine cells and layout in cellular manufacturing system with neat sketches	**07**
		OR	
	(b)	Explain the role of TPM in lean manufacturing system. Enlist the pillars of TPM system and clearly describe any two of them	**07**
Q.3	**(a)**	Discuss in detail about technology used for setup time reduction.	**07**
	(b)	Briefly explain 5S concept and its steps and also its relevance to TQM	**07**
		OR	
Q.3	**(a)**	What is the principle of VSM? Explain the steps to perform VSM for process Improvement.	**07**
	(b)	Define "TQM". What is the role of TQM philosophy in successful lean implementation?	**07**
Q.4	**(a)**	Define and explain following with respect to Lean Manufacturing. (i) Andon (ii) Heijunka (iii) Jidoka	**07**
	(b)	What are the steps for lean manufacturing implementation	**07**
		OR	
Q.4	**(a)**	Define the understanding various lean implementation frameworks	**07**
	(b)	Discuss the process of Lean manufacturing concept evolution.	**07**
Q.5	**(a)**	Write the short notes on- Enablers and Barriers of Lean implementation	**07**
	(b)	Why do we implement lean manufacturing? and mention the benefit of implementing lean manufacturing	**07**
		OR	
Q.5	**(a)**	Explain various steps for successful implementation of lean in any industry. Justify the answer by means of case study	**07**
	(b)	Describe the natural progression of changes that may seen in a manufacturing System as it is gradually converted to a lean system.	**07**

****