Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–VII • EXAMINATION – WINTER 2013

Subject Code: 171502 **Date: 05-12-2013**

Subject Name: Work System Design

Time: 10:30 TO 01:00 **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)**	Define Work study. Discuss why work study is a direct means of raising productivity.	**07**
	(b)	Enlist the objectives of method study and work measurement.	**07**
Q.2	**(a)**	Who was the originator of process charts ? Give objectives and limitations of OPC and prepare the same for assembly of a bicycle front wheel assembly.	**07**
	(b)	"Application of work study is 10 % technical and 90% psychological" explain.	**07**
		OR	
	(b)	Explain principles of motion economy.	**07**
Q.3	**(a)**	Which are the factors for selection of a problem for method study.	**07**
	(b)	Importance of ergonomics in method study.	**07**
		OR	
Q.3	**(a)**	Describe the suitable chart for "Repairing a fan by changing bearings". Mention the improvements by comparing existing method and proposed method.	**07**
	(b)	Discuss the concept of standard time. Explain clearly the steps involved in arriving at standard time.	**07**
Q.4	**(a)**	What do you understand by the term critical examination? Explain the procedure to carry out critical examination.	**07**
	(b)	Describe the elements and give break point for time study of the following operation : Machining of a 150 mm long, 25 mm diameter stud having threads 30 mm in one side and 60 mm on other side.	**07**
		OR	
Q.4	**(a)**	What is meant by rating ? who is rated ? What for ? Briefly explain different rating methods.	**07**
Q.4	**(b)**	Why a job is broken down into elements in time study.	**07**
Q.5	**(a)**	Explain PMTS and WFS.	**07**
	(b)	Procedure of making work sampling study with example.	**07**
		OR	
Q.5	**(a)**	Which are the applications of W.M.	**07**
	(b)	Explain classification of movements.	**07**

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