Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. E. - SEMESTER – VII • EXAMINATION – WINTER 2012

Subject code: 171502 **Date: 31/12/2012**

Subject Name: Work System Design

Time: 10.30 am - 01.00 pm **Total Marks: 70**

Instructions:

1. **Attempt any five questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1	**(a)**	Define work study and state its field of applications.	**07**
	(b)	Discuss the effects of working condition on productivity.	**07**
Q.2	**(a)**	Explain classification of movements and draw sketches showing normal and maximum working area.	**07**
	(b)	"Application of work study is 10% technical and 90% psychological" – Explain.	**07**
		OR	
	(b)	What do you understand by term 'critical examination' ? Explain procedure to carry out critical examination.	**07**
Q.3	**(a)**	Explain the difference between FPC and two handed process charts.	**07**
	(b)	How would ergonomics help to analyze man-machine system ? Can this study improve the work – station layout ? How ? – Discuss.	**07**
		OR	
Q.3	**(a)**	Explain in brief various techniques used to study path movements during method study and also state their application.	**07**
	(b)	Memo motion study is gaining more popularity, why ? Discuss some of its applications in industries.	**07**
Q.4	**(a)**	Can you time the complete task at one instant or you have to divide the task in to elements before timing ? Why ? - Explain.	**07**
	(b)	Explain different methods of using/reading stopwatches.	**07**
		OR	
Q.4	**(a)**	Define qualified worker. What do you understand by the work content of a job or operation. Discuss in detail.	**07**
Q.4	**(b)**	What is rating ? Discuss various methods of rating.	**07**
Q.5	**(a)**	Discuss the process of computing standard time. Name various inputs required to compute it.	**07**
	(b)	Write brief note on : (i) PMTS (ii) Synthesis	**07**
		OR	
Q.5	**(a)**	How can work sampling be used to study production in machine shop ? Explain with the help of suitable example.	**07**
	(b)	Discuss importance of maintaining "Time standards".	**07**

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