

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – WINTER 2018****Subject Code: 2171502****Date: 19/11/2018****Subject Name: Work System Design****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.

		MARKS
Q.1	(a) Define work study and state its field of applications.	03
	(b) What is scope of work study as an aid in raising productivity.	04
	(c) “Application of work study is 10% technical and 90% psychological” – Explain.	07
Q.2	(a) How would ergonomics help to analyze man – machine system ?	03
	(b) What do you understand by the term ‘work measurement’? What is its relationship with method study ?	04
	(c) Explain classification of movements and draw sketches showing normal and maximum working area.	07
	OR	
	(c) Discuss the concept of standard time. Explain clearly the steps involved in arriving at standard time.	07
Q.3	(a) What is the purpose of man-machine chart ?	03
	(b) Give objectives and limitations of operation process chart.	04
	(c) Explain the difference between FPC and two handed process charts.	07
	OR	
Q.3	(a) State the applications of SIMO chart.	03
	(b) Explain use of films in method analysis.	04
	(c) Give the procedure for constructing a string diagram. Discuss its applications.	07
Q.4	(a) Define qualified worker.	03
	(b) What is meant by ‘Rating’ ? Who is rated ? What for ?	04
	(c) Briefly explain different rating methods.	07
	OR	
Q.4	(a) State the different types of stopwatches used in time study.	03
	(b) State various types of allowances and explain any two of them.	04
	(c) What ‘Care’ the management has to take before a new method is to be implemented?	07
Q.5	(a) What are ‘Therbligs’?	03
	(b) Explain in short about Physiological method of work measurement.	04
	(c) How can work sampling be used to study production in machine shop? Explain with the help of suitable example.	07
	OR	
Q.5	(a) Discuss importance of maintaining “Time standards”.	03
	(b) Explain in short about Synthesis method of W.M.	04
	(c) Write brief note on : (i) PMTS (ii) MTM	07
