

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’ ? **07**
Explain procedure to carry out critical examination.

- 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 ? **07**
Discuss some of its applications in industries.

- 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 ? **07**
- Explain.
(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**
