

(Following Paper ID and Roll No. to be filled in your Answer Book)

**PAPER ID : 2178**

Roll No.

--	--	--	--	--	--	--	--	--	--

**B.Tech.**

**(SEMESTER-V) THEORY EXAMINATION, 2012-13**

**WORK STUDY & ERGONOMICS**

**Time : 2 Hours ]**

**[ Total Marks : 50**

**Note :** Attempt **all** questions.

1. Attempt any **four** parts :

**3 × 4 = 12**

- (a) Differentiate between productivity and production.
- (b) List the various methods of measurement of productivity and discuss any one method.
- (c) "Increase in production does not mean increase in productivity." Comment on this statement.
- (d) Discuss the classification of the recording techniques used in Method study.
- (e) Enumerate the contribution of ergonomics in system design.
- (f) List the principles of motion economy.

2. Attempt any **two** parts :

**6 × 2 = 12**

- (a) Draw and discuss the usefulness of multiple activity chart with an example.
- (b) What is work sampling ? And how it works in industry ? Discuss a few application of this technique.
- (c) Explain the significance of anthropometry data in the design problem.

3. Attempt any **two** parts.

$7 \times 2 = 14$

(a) Draw the flow process chart of the following activities of a steno typist :

Officer calls the steno typist into his chamber for dictation. The steno typist picks up pad and pencil walks to the officer's room 10 metres away, waits for 3 minutes as the officer is taking over the phone. After the phone call officer gives dictation for 10 minutes and steno takes it. She walks back to her place, prepares for typing, (walks to the officer 3 minutes) types the letter (10 minutes) checks up and makes the necessary correction (2 minutes), walks to the officer's room wait for 2 minutes as he is preoccupied with other work, get the signature of the officer on the letter (1 minute) walks back to her seat, put the letter in the envelope (2 minutes) write the address (3 minutes) put them in the out tray and office copy in the office file.

(b) List the different time recording techniques in time study and explain any one method.

(c) Explain the anthropometric principles in work space design.

4. Write short notes on any **three** of the following :

$4 \times 3 = 12$

(a) Method time measurement system

(b) Standard Time

(c) Standard Allowances

(d) SIMO Chart

(e) Travel Chart