Register Number: ……..

B.TECH DEGREE EXAMINATIONS: MAY/JUNE 2013

Sixth Semester

TEXTILE TECHNOLOGY

TTX204 : Work Study in Textile Industry

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. The ratio of actual output to the standard expected output is termed as -------
   a) Efficiency b) productivity
   c) production d) Productivity index
2. ------ is related to the effective utilization of input resources into produced output in the form of value added goods or services
   a) Production b) process
   c) Productivity d) profit
3. The chart on which the activities of more than one subject(like worker, Machine or equipment etc…) are each recorded on a common time scale to show their relationship is known as ----
   a) Multiple activity chart b) SIMO chart
   c) Outline process chart d) Process flow chart
4. □ Symbol indicates -------- in process flow chat
   a) Transport b) Inspection
   c) Storage d) Delay
5. ▽ Symbol indicates -------- in process flow chat
   a) Delay b) Transport
   c) Storage d) Inspection
6. PMTS means ------
   a) Predetermine motion time standards b) Predetermine manufacturing time standards
   c) Predetermine motion time scale d) Predetermine motion tool supply
7. ------- are used to describe the basic elements of movements or fundamental hand motion of the work cycle.
   a) Stop watch b) Flow chart
   c) Therbligs d) Simo chart

8. Basic time = -------

a) Observed time (rating/standard rating) b) Observed time ─ (rating/standard rating)

c) (Observed time/ standard rating) ─ (rating) d) (Observed time + rating) / standard rating

9. The number of spindles allocated to a ring frame tenter depends on -----

a) Type of spinning machine b) Count processed

c) Spindle speed d) Age of the worker

10. Number of drums allotted to a winder in a non automatic cone winding machine depends on ----

a) Ring cop content b) Speed of the machine

c) Cop content, speed of the machine d) Skill of the worker

PART B (10 x 2 = 20 Marks)

11. What is productivity index?
12. What do you mean by work content?
13. Give the objectives of work study.
14. Define work study.
15. Briefly give the principles of motion economy.
16. Write short notes on string diagram.
17. For determining the sample size of stop watch time study, five sets of observations are taken. These time units are 8,7,8,9 and 7 (I time unit = 0.01 minute). Find the appropriate sample size for a confidence level of 95% and ± 10 % accuracy level.
18. Give the constituents of standard time if observed time is performed at a pace greater than standard pace.
19. Give the factors to be considered while fixing work load for a ring frame tenter.
20. Give the factors to be considered for optimsing the work load in case of Shuttleless loom tenter.

PART C (5 x 14 = 70 Marks)

21. a) Explain with suitable example with respect to textile industry the work content and suggest suitable method of reducing work content due to the product and process method.

(OR)

b) Consider the textile company which gives the following data for a particular time period.

Output revenue = Rs 1,00,000

Material Input = Rs 20,000

Human input = Rs 30,000

Capital input = Rs 30,000

Energy input = Rs 10,000

Other expense input = Rs 5000

Calculate

i) Human productivity, ii) Material productivity, iii) Capital productivity

iv) Energy productivity and other expenses productivity

v) Total factor productivity and Total productivity

22. a) Explain in detail the steps involved in work study.

(OR)

b) Explain the importance of working condition and working environment to enhace production in a textile unit.

23. a) With a help of block diagram explain the procedure of method study.

(OR)

b) Explain with suitable sketches the various Therbligs symbols and its application in sewing department in course of method study

24. a) Give the format of time study sheet and explain the procedure of taking time study using stop watch.

(OR)

b) Explain how will you set time standards for various works in apparel production.

25. a) Explain in detail the method of optimizing work load for a winder working in a non automatic cone winding machine in a spinning mill.

(OR)

b) Explain in detail the method of optimizing work load for a worker working in automatic loom.

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