Register Number: ……..

M.TECH DEGREE EXAMINATIONS: JUNE 2012

Second Semester

APPAREL TECHNOLOGY MANAGEMENT

FTY507: Apparel System Engineering

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

Answer ALL Questions:-

PART A (10 x 2 = 20 Marks)

1. Mention few concepts of system engineering used in product design and control of manufacturing process.
2. State the basic components for productivity measurement system.
3. What are factors to be considered while selecting an operation for work study?
4. List out the principles of motion
5. What is meant by Work Content? Mention few factors that influence work content.
6. How does work sampling differ from time study?
7. What is the significance of leveling skills?
8. On what basis allowances are determined?
9. Give few uses of MTM.
10. Mention few factors that influence line balancing.

PART B (5 x 16 = 80 Marks)

11. a) (i) What are the important strategies that one can follow to improve the productivity? (10)

(ii) Calculate the operator productivity, total labour productivity and machine productivity of a shirt manufacturing unit. (6)

a. Number of machines:	205
b. Number of operators:	180
c. Number of helpers:	35
d. Number of checkers:	10
e. Number of supervisors:	3
f. Duration of work shift:	450 minutes
g. SAM of the shirt (sewing):	21.29 minutes
h. Average daily output (per shift):	3750 shirts

(OR)

b) Explain the method of applying system engineering in a manufacturing unit.

12. a) (i) Explain the need for process analysis and method of analyzing cutting process. (10)

(ii) An operator is observed to complete a job in 0.33 minutes at a 75 rating (B.S.Scale 0-100). If he worked at rating of 60, 80, 90 and 100, how long would it take to complete the job in each case? (6)

(OR)

b) (i) Explain the principles of motion analysis. (8)

(ii) Explain with suitable examples the application of multiple activity chart. (8)

13. a) Explain with suitable example the operation analysis to improve quality consistency and productivity.

(OR)

b) With suitable examples, discuss any two work station design for better operation analysis related to apparel industry.

14. a) Explain the method of setting standard time for a sewing operation and various parameters influencing the standard time

(OR)

b) Give a detailed account on method of conducting time study.

15. a) Explain the principles for improving the sewing operation in apparel manufacture.

(OR)

b) (i) Explain the various methods of line balancing techniques in apparel industry. (8)

(ii) Work out the sewing machinery and man power requirements to produce 60,000 round rib neck T-shirts per month. Give the balanced machinery requirements. Assume necessary data. (8)

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