M.TECH. DEGREE EXAMINATIONS: NOVEMBER 2009

Third Semester

APPAREL TECHNOLOGY AND MANAGEMENT

P07FTE15 LEAN MANUFATURE

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

Answer ALL Questions:-

PART A (10 x 2 = 20 Marks)

1.What are the benefits that result from the effective implementation of the 5S system?

2.Highlight the importance of 'commitment' in Total Quality Management.

3.What is Brainstorming?

4.Outline the steps in Quality Planning Roadmap.

5. List the benefits of continuous flow production.

6. What is AQL? Give example how is it analysed in apparel industry?

7. How high inventory levels impact on overhead costs?

8. What type of improvement does Kaizen signify?

9. Differentiate between production kanban and withdrawal kanban.

10. What are the two issues resolved simultaneously by the team approach adopted during lean implementation?

PART B (5 x 16 = 80 Marks)

11. (a). Explain any two inventory control techniques in lean manufacture with suitable examples.   (16)

(OR)

(b)   (i) Draw the process flow diagram to depict the following situation in a manufacturing environment: (8)

"The desired output of process D is 100 units and has a historical rework of 10%. The   parts to be reworked are sent to process I which has a history of yielding 2% scrap".

(ii) Discuss briefly the kind of problem experienced in the traditional manufacturing environment by the under-capacity departments in the downstream with excess capacity?   (8)

12. (a). Discuss in detail about the value stream mapping technique in lean manufacture.   (16)

(OR)

(b). Describe the reduction of process flow and value activities for implementation of lean manufacture.   (16)

13. (a). Explain the various sampling techniques used for determination of sample size while inspection in the apparel industry.   (16)

(OR)

13. (b). Discuss the implementation and analysis of zero defect programmes in lean manufacturing.   (16)

14. (a). (i) Discuss the applications of KANBAN cards for production planning and control in apparel industry. Give suitable examples.   (10)

(ii) Brief the reduction of inventory using Economic Order Quantity (EOQ).   (6)

(OR)

(b) (i) Explain briefly the lean implementation millstones.   (10)

(ii) Discuss the challenges of lean thinking in contrast to MRP paradigm.   (6)

15. (a). Enumerate the applications of Six Sigma in product development in apparel industry. (16)

(OR)

15. (b). (i) Explain the role of CAD and CAM in apparel industry for sensing future fashion.

(8)

(ii) Following are the data pertaining to a process in a manufacturing environment. Calculate the standard time in an operation.   (8)

Products	Volume at capacity	SOE standard time in minutes
Product 1	40	20
Product 2	50	25
Product 3	20	10
Product 4	40	15

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