

Register Number:

B.TECH DEGREE EXAMNATIONS: APRIL/MAY 2012

Fourth Semester

TEXTILE TECHNOLOGY (FASHION TECHNOLOGY)

FTY108: Apparel Machinery and Equipment

Time: Three Hours

Maximum Marks: 100

Answer ALL Questions:-

PART A (10 x 1 = 10 Marks)

1. Skipped stitches may be caused by
 - (a) Needle inserted improperly.
 - (b) Needle being bent by wrong handling.
 - (c) Thread tension being too loose or too tight.
 - (d) Improper synchronization of needle and shuttle hook.
2. Surface finish given to the needle enhances the sewing operation by
 - (P) Reduction of friction
 - (Q) Resistance to mechanical wear
 - (R) Corrosion resistance
 - (S) Reduce needle breakage

(a) P,Q,S (b) P,Q,R (c) Q,R,S (d) P,R,S
3. Identify the *incorrect statements*
 - P. Over lock machine is having lower looper
 - Q. Fancy stitches can not produce able in flat lock machine
 - R. Single lock stitch machine does not require bottom thread
 - S. Chain lock machine has one needle thread

(a) P, R (b) Q, S (c) Q, R (d) R, S
4. Consider the following statement pertaining to timing sequence of single needle lock stitch machine
 - P. Feed dog motion starts to move forward to deliver one stitch length
 - Q. Looper moves downward and makes one revolution
 - R. Looper pick up the needle thread
 - S. Needle moves downward and take up lever starts to move down ward direction

(a) R,S,P,Q (b) S,R,Q,P (c) Q,P,S,R (d) Q,R,P,S

5. Match the following

- | | |
|------------------------|----------------------------------|
| (a) Plasma cutting | - (i) Linear patterns |
| (b) Band knife cutting | - (ii) Thermo plastic cutting |
| (c) Waterjet cutting | - (iii) 1064 nm |
| (d) Laser cutting | - (iv) High velocity ionized gas |
- (a) a-i, b-iv, c-ii, d-iii (b) a-iv, b-iii, c-ii, d-i
(c) a-iv, b-i, c-ii, d-iii (d) a-iii, b-ii, c-iv, d-i

6. The 'Feed dog' used in a sewing machine is

- (a) To move one thread uniformly (b) To help the top thread to insert into the fabric
(c) To form a loop along with bottom thread (d) To move the cloth forward and backward

7. Match the following

- | | |
|-------------------|-------------------------|
| (a) Button fixing | - (i) Collar |
| (b) Button holler | - (ii) Appliqué cutting |
| (c) Die cutting | - (iii) Stitch and cut |
| (d) Fusing | - (iv) Chain stitch |

- (a) a-ii, b-iii, c-iv, d-i (b) a-ii, b-i, c-iv, d-iii (c) a-iv, b-iii, c-ii, d-i (d) a-i, b-iv, c-iii, d-ii

8. Calculate the stitching speed of the single lock sewing machine which has motor speed at 4200 rpm, motor pulley Ø 8 cm and fly wheel Ø 12 cm.

- (a) 3450 spm (b) 3150 spm (c) 2850 spm (d) 2800 spm

9. The part of chain stitch machine with an eye which carries the lower thread to form chain stitch is called

- (a) Thread fingers (b) Loopers (c) Hook (d) Bobbin case

10. Identify the following sewing machine bed which allows the easy rotation of tubular parts during stitching?

- (a) Flat bed sewing machine (b) Cylinder bed sewing machine
(c) Post bed sewing machine (d) Feed off the arm sewing machine

PART B (10 x 2 = 20 Marks)

11. How will you rectify fabric defect while spreading operation?

12. Write any four factors affecting marker efficiency.

13. Compare notches and drills used in cutting department.

14. State the technical specifications of band knife cutting machine.

15. How will you alter stitch density in overlock sewing machine?
16. What is the purpose of guides and folders in SNLS machine?
17. State the advantages of differential feed system in sewing machine.
18. List any four common sewing defects in stitching operation.
19. Write the merits and limitations of feed off the arm sewing machine.
20. Compare button fixing and button holing sewing machines.

PART C (5 x 14 = 70 Marks)

21. a) (i) With neat sketch explain the various methods of laying fabrics using fully automatic spreading machine and also state their merits and limitations. (10)
(ii) Brief the faults and their remedies while spreading the knitted fabrics. (4)

(OR)
- b) (i) Explain the working principle of the computer controlled automatic spreading machine with neat sketch and also state their technical specifications. (10)
(ii) Compare the technical features of computer aided marker making. (4)
22. a) (i) With neat sketch explain the working operation of band knife cutting machine and state their merits and limitations. (10)
(ii) Highlight the advantages and limitations of plasma cutting machines. (4)

(OR)
- b) (i) Discuss in detail on maintenance of computer controlled cutting machines. (8)
(ii) Brief any three common defects while cutting operations and state their remedial measures with illustrations. (6)
23. a) With neat sketch explain the working operation of following feed mechanisms used in the industrial sewing machines;
(i) Differential feed systems in Overlock sewing machine.
(ii) Belt feed systems in chain lock sewing machine.
(iii) Unison feed system in heavy duty sewing machine.

(OR)
- b) Write short notes on
(i) Threading fingers (ii) Folders and guides (iii) Pressure foot (iv) Trimmers

24. a) (i) With neat sketch explain the working principle of single needle lock sewing machine and also state their technical specifications. (10)

(ii) Timing diagram of SNLS machine and its importance in quality of stitch. (4)

(OR)

b) (i) Discuss in detail on latest developments of single needle lockstitch sewing machine (SNLS). (8)

(ii) Illustrate the mechanism and stitch formation of four threads flatlock sewing machines. (6)

25. a) Discuss in detail on maintenance of industrial sewing machines and also suggest how to prepare maintenance schedule for 200 sewing machines operating apparel industry.

(OR)

b) Write short note on

(i) Stitch cycle diagram for overlock sewing machine.

(ii) Lubrication system in the industrial sewing machines.

(iii) Bar tack sewing machine – stitch formation.
