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|---|--|--|-----------------------------|
|  | Course Title: APPAREL MACHINERIES | | |
| | Credits (L:T:P) : 4:0:0 | Total Contact Hours: 52 | Course Code: 15FT33T |
| | Type of Course: Lectures, Self Study & Quiz | Credit :04 SEE- 100 Marks CIE- 25 Marks | Core/ Elective: Core |

Prerequisites: Knowledge of Industrial machines.

COURSE OBJECTIVES

- 1 To know the various sections of the Apparel Industry.
- 2 To understand the various types of Spreading and cutting machines.
- 3 To have the knowledge of various industrial machines.
- 4 To Know about different types of needles and threads
- 5 To have the knowledge of care and maintenances of sewing machines

At the end of the course the students should be able to:

| Course Outcomes | | CL | Linked PO | Teaching hrs |
|------------------------|--|-----------|------------------|---------------------|
| CO1 | To understand different sections in apparel industry. | U/A | 1,2,5,6,7 | 8hrs |
| CO2 | Application of various spreading and cutting methods. | U/R/A | 1,2,3,4,7,8 | 8hrs |
| CO3 | Identification on industrial sewing machines | U/R/A | 1,2,3,4,7,8,9 | 12hrs |
| CO4 | Ability to identify the various finishing machines | U/R/A | 1,2,3,4,7,8,9 | 8hrs |
| CO5 | To analyze the Usage of different threads and needles. | U/R/A | 4,6,7,9,10 | 8hrs |
| CO6 | knowledge of care and maintenances of machines | U/R/A | 1,8,10 | 8hrs |

COURSE-PO ATTAINMENT MATRIX

| Course | Programme Outcomes | | | | | | | | | |
|---------------------|--------------------|---|---|---|---|---|---|---|---|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| APPAREL MACHINERIES | 3 | 3 | 3 | 3 | 1 | 2 | 3 | 3 | 3 | 2 |

Level 3- Highly Addressed, Level 2-Moderately Addressed, Level 1-Low Addressed.

Method is to relate the level of PO with the number of hours devoted to the COs which address the given PO.

If $\geq 40\%$ of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 3

If 25 to 40% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 2

If 5 to 25% of classroom sessions addressing a particular PO, it is considered that PO is addressed at Level 1

If $< 5\%$ of classroom sessions addressing a particular PO, it is considered that PO is considered not-addressed.

COURSE CONTENT AND BLUE PRINT OF MARKS FOR SEE

| Unit No | Unit Name | Hour | Questions to be set for (5marks) PART - A | | | Questions to be set for (10marks) PART - B | | | Marks weightage (%) |
|---------|--------------------------------|-----------|---|---|---|--|---|---|---------------------|
| | | | R | U | A | R | U | A | |
| 1 | Apparel Industry | 8hrs | 1 | - | 1 | - | 1 | 1 | 15.38 |
| 2 | Spreading and cutting machines | 8hrs | - | - | 1 | - | 1 | 1 | 15.38 |
| 3 | Sewing Machines | 12hrs | - | 1 | - | - | 1 | 1 | 23.07 |
| 4 | Finishing Machines | 8hrs | - | 1 | 1 | - | - | 1 | 15.38 |
| 5 | Needles and threads | 8hrs | 1 | - | - | - | 1 | 1 | 15.38 |
| 6 | Care and maintenances | 8hrs | 1 | 1 | - | - | - | 1 | 15.38 |
| | | | 09(45marks) | | | 10(100 marks) | | | 100 |
| | TOTAL | 52 | | | | | | | |

Legend: R; Remember, U: Understand A: Application

CONTENT

| Unit | Major Topics | Hours Allotted |
|------|--------------------------------|----------------|
| 1 | Apparel Industry | 8hrs |
| 2 | Spreading and cutting machines | 8hrs |
| 3 | Sewing Machines | 12hrs |
| 4 | Finishing Machines | 8hrs |
| 5 | Needles and threads | 8hrs |
| 6 | Care and maintenances | 8hrs |
| | Total | 52hrs |

UNIT 1 8hrs APPAREL INDUSTRY

- 1.1 Evolution of apparel industry
- 1.2 Classification of apparel industry-Made-to-order , Ready-to-wear and export.
- 1.3 Different sections in apparel industry-Pattern making, cutting, sewing, finishing and packing.

UNIT 2 8hrs SPREADING AND CUTTING MACHINES

- 2.1 Spreading Machines – Introduction and importance, Manual, computerized and spreading trolleys.
- 2.2 Techniques-Flat, Steeped, Spread
- 2.3 Cutting Machines-Round Knife, straight knife, band, Drilling machine, Shears, Die cutter, laser cutting, Plasma cutting.

UNIT 3 12 hrs SEWING MACHINES

- 3.1 Introduction to sewing machines, advantages and uses-Single and Double needle lock stitch machine, chain Stitch, double chain Stitch, flat seam, linking machine, bar tack, blind stitch, Computerized sewing machines.
- 3.2 Mid processing Machines-Fusing machine, collar machines, cuff turning and pressing machines, pocket creasing and turning machines.

UNIT 4

FINISHING MACHINES

8hrs

- 4.1 Introduction, advantages and uses- Over Lock, Button Hole Making, Button Fixing, blind stitch, Thread Sucking Machines, Stain Remover & needle detector, Robots.
4.2 Machine beds-flat bed, post bed, cylinder, feed- off –the- arm.

UNIT 5

SEAMS, STITCHES, NEEDLES AND THREAD

8hrs

- 5.1 Seams- superimposed, lapped, bound, flat, decorative, edge neatening.
5.2 Stitches- chain, hand, lock, multi thread chain, overedge chain, overing chain.
5.3 Sewing machine needles- Different parts of machine needle-
5.4 Needle sizing system Classification -set point, ball point, cutting point.
5.5 Sewing Threads- Properties and construction.
5.6 Different Thread Packages-Cone, spool, Bobbin, cop, vicone, container, small vicone, cocoon.

UNIT 6

CARE AND MAINTAIANCE

8hrs

- 6.1 Cleaning the machine- general, bobbin area, upper thread tension, Hand wheel area, face plate area
6.2 Oiling the machine
6.3 Different types of lubrication mechanism.
6.4 Common defects in Industrial sewing machines- sewing machine suddenly stops, No needle movement, breaking of upper and lower thread, Irregular Stitches, fabric puckers, bunching of thread, needle breaks, loud noise.

SEMINAR

Every student to select one of the following topic for the seminar.

1. Types of feed mechanism
2. Types of looper
3. Export garment industry
4. Small scale Units
5. Environmental issues.

Indicative Reference:

1. Clothing technology---VERLAG EUROPA-LEHRIVITEL
2. Introduction to clothing manufacture—Gerry cooklin

3. Apparel Manufacturing sewn product Analysis-ruth.e.Clock,grace,I,kunz
4. Apparel Industry : Ellen Israel Rosen
5. Apparel Industry : Richard Jone
6. Apparel Industry : Edna Bonacich
7. Apparel production : R Srinivas
8. Apparel Manufacturing Analysis :Solinger Jacob

Related E - References

<https://www.youtube.com/watch?v=E3Ayppd7UrY>
<https://www.youtube.com/watch?v=k8XkH74HXh0>
https://www.youtube.com/watch?v=Uncz_1_zJ6M
<https://www.youtube.com/watch?v=TmS-f3ad1bw>
<https://www.youtube.com/watch?v=NfJy27p1Lxo>
https://www.youtube.com/watch?v=_wBF3W2gtz8
<https://www.youtube.com/watch?v=7-c31YJ-fw>
<https://www.youtube.com/watch?v=e8iSr3fTmpto>

COURSE ASSESSMENT AND EVALUATION

| | What | | To Who m | Frequency | Max. Marks | Evidence Collected | Course Outcomes |
|--------------------------|--------------------------------------|-------------------------------|-----------------|--|------------------------|------------------------|-----------------------|
| DIRECT ASSESSMENT | | IA Tests | Students | Three IA (Average marks of three IA tests are considered) | 20 | Blue Books | <u>1 to 5</u> |
| | | Class room Assignments | | Class room Assignments | 05 | Log of Activity | <u>1&2</u> |
| | | | | TOTAL | 25 | | |
| | SEE -SEMESTER END EXAMINATION | End Exam | | End Of the Course | 100 | Answer Scripts | ALL CO's |
| INDI | Student Feedback on course | | Students | Middle Of The Course | Feed Back Forms | | |

| | | | | | |
|--|-----------------------------|--|--------------------------|----------------------|-----------------|
| | End of Course Survey | | End Of The Course | Questionnaire | ALL CO's |
|--|-----------------------------|--|--------------------------|----------------------|-----------------|

Note: I.A. test shall be conducted for 20 marks. Average marks of three tests shall be rounded off to the next higher digit.

Note to I A Verifier : The following documents to be verified by CIE verifier at the end of semester

1 Blue books

2 Student suggested activities report for 05 marks

3 student feedback on course regarding Effectiveness of Delivery of instructions and Assessment Methods.

• MODEL OF RUBRICS FOR ASSESSING STUDENT ACTIVITY

| Dimension | Scale | | | | | Students Score | | | | |
|---|--|---|--|---|--|----------------|---|---|---|---|
| | Unsatisfactory 1 | Developing 2 | Satisfactory 3 | Good 4 | Exemplary 5 | 1 | 2 | 3 | 4 | 5 |
| 1.Research & gather information | Does not collect any information relating to the topic | Collects very limited information; some relate to the topic | Collects some basic information; most refer to the topic | Collects a good information; all refer to the topic | Collects a excellent deal of information; all refer to the topic | Ex: 2 | | | | |
| 2.Fulfil team's roles & duties | Does not collect any information relating to the topic | Collects very limited information; some relate to the topic | Collects some basic information; most refer to the topic | Collects a good information all refer to the topic | Collects a excellent deal of information; all refer to the topic | 3 | | | | |
| 3.Shares work equally | Does not collect any information relating to the topic | Collects very limited information; some relate to the topic | Collects some basic information; most refer to the topic | Collects a good information all refer to the topic | Collects a excellent deal of information; all refer to the topic | 4 | | | | |
| 4.Listen to other Team mates | Does not collect any information relating to the topic | Collects very limited information; some relate to the topic | Collects some basic information; most refer to the topic | Collects a good information; all refer to the topic | Collects a excellent deal of information; all refer to the topic | 5 | | | | |
| Grand Average/Total=(2+3+4+5)=14/4=3.5=4 | | | | | | 4 | | | | |

Note: The above rubric is only an example. The concerned Course Coordinator may devise appropriate rubrics for the assigned activity.

MODEL QUESTION PAPER (CIE)

| Test/Date and Time | Semester/year | Course/Course Code | Max Marks | | |
|--|--|----------------------------|-----------|----|-----|
| Ex: I test/6 th week of sem 10-11 a m | 11I SEM | APPAREL MACHINERIES | 20 | | |
| | Year: 2015-16 | Course code:15FT33T | | | |
| Name of Course coordinator : | | Units:1,2 Co: 1,2 | | | |
| Note: Answer all questions | | | | | |
| Question no | Question | | CL | CO | PO |
| 1 | Describe Export garments | | A | 1 | 1,2 |
| 2 | What is spreading explain | | U | 1 | 1,2 |
| 3 | Describe different techniques of spreading OR Explain any three cutting machines | | A | 2 | 1,2 |
| 4 | Explain different sections of apparel industry OR Write the advantages of made to order garments | | R | 2 | 1,2 |

**DIPLOMA IN APPAREL DESIGN AND FABRICATION TECHNOLOGY
THIRD SEMESTER
SUBJECT TITLE: APPAREL MACHINERIES
MODEL QUESTION PAPER
PART-A**

ANSWER ANY SIX QUESTIONS. EACH QUESTION CARRIES FIVE MARKS

1. Describe Export garments
2. What do you know about made to order garment
3. What is spreading explain
4. Describe different techniques of spreading
5. Describe computerized sewing machines
6. What is the function of chain stitch sewing machine explain
7. Explain ball point needle with neat sketch
8. Write the uses of cutting point and set point needle
9. Explain different lubrication systems

PART-B

ANSWER ANY SEVEN QUESTIONS. EACH QUESTION CARRIES TEN MARKS

1. Describe the evolution of Apparel industry
2. Explain any three cutting machines
3. Explain SNLS and DNLS sewing machine
4. Describe the functions of fusing and collar turning machine
5. Write the properties and construction of sewing thread
6. Define needle sizing system explain types of needles
7. With a neat sketch explain any two machine beds
8. Explain any three finishing machines
9. Explain class1, class2 and class3 stitches with neat sketch
10. describe class 300 lock stitch

QUESTION BANK

**COURSE: APPAREL MACHINERIES
05 MAKS EACH**

PART A

REMEMBER

- 1 Explain ready to wear garments
- 2 Describe Export garments
- 3 What do you know about made to order garment
- 4 Write the advantages of made to order garments
- 5 Enlist different sections of apparel industry and explain any one
- 6 What is spreading explain
- 7 Describe different techniques of spreading
- 8 Explain laser and plasma cutting

UNDERSTAND

- 9 write the function of round knife cutting machine
- 10 Describe computerized sewing machines
- 11 what is the function of chain stitch sewing machine explain
- 12 Write the advantages of mid processing sewing machines
- 13 Explain thread sucking machine
- 14 Describe over lock sewing machines and write their uses

- 15 with a neat sketch explain the parts of sewing machine needle
- 16 Explain ball point needle with neat sketch
- 17 Write the uses of cutting point and set point needle

APPLICATION

- 18 with a neat sketch explain thread packages
- 19 Describe properties and construction of sewing thread
- 20 Explain different lubrication systems
- 21 Enlist the common defects occurred in industrial sewing machine
- 22 Explain any two machine beds
- 23 Explain stain remover and needle detector
- 24 Explain drilling machine
- 25 Describe thread sucking machine

10 MARKS EACH

REMEMBER

- 1 Describe the evolution of Apparel industry
- 2 Classify the apparel industry and explain
- 3 Explain different sections of apparel industry
- 4 what do you know about computerized and manual spreading machine
- 5 Explain different types of spreading machines
- 6 with a neat sketch explain different types of spreading techniques
- 7 Explain any three cutting machines

UNDERSTAND

- 8 Explain SNLS and DNLS sewing machine
- 9 Describe the functions of fusing and collar turning machine
- 10 Explain any three finishing machines
- 11 with a neat sketch explain any two machine beds
- 12 with a neat sketch explain parts and functions of machine needle
- 13 with a neat sketch explain thread packages
- 14 Write the properties and construction of sewing thread

APPLICATION

- 15 Define needle sizing system explain types of needles
- 16 Explain types of lubrication system
- 17 How do you rectify any three common occurred in industry
- 18 Describe pressing machines
- 19 Explain class1, class2 and class3 stitches with neat sketch

- 20 describe class 300 lock stitch
- 21 With neat sketch describe class 500 over edge stitch
- 22 Describe 600 Covering chain stitches