

## HS-106-GARMENT CONSTRUCTION

|                                |                      |                       |                    |
|--------------------------------|----------------------|-----------------------|--------------------|
| Course Title                   | Garment Construction | Course Code           | HS-106             |
| Year                           | <b>I Year</b>        | Course Group          | Core               |
| Teaching Scheme in Hrs (L:T:P) | 4:1:0                | Credits               | <b>3</b>           |
| Methodology                    | Lecture+ Assignment  | Total Contact Periods | <b>150 Periods</b> |
| CIE                            | <b>60 Marks</b>      | SEE                   | <b>40 Marks</b>    |

### Pre-requisites

Basic knowledge of fabrics, measurements, sewing tools, stitching techniques, and handling of sewing machines is the pre-requisite for studying Garment Construction.

### Course Outcomes

Upon completion of the course the student shall be able to

| COURSE OUTCOME |                                                                                                                                      |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------|
| CO1            | Explain the description and use of tools and equipment needed for sewing work.                                                       |
| CO2            | Explain the process of taking and recording body measurements manually and by computerized method for different garments.            |
| CO3            | Adapt the fabric preparation process based on fabric type and use the appropriate sewing terms.                                      |
| CO4            | Explain the process of making stitches and seams manually and by machine and their right choice based on fabric, garment, and trend. |
| CO5            | Explain the process of making fullness and closures and plan the appropriate closures to use.                                        |
| CO6            | Evaluate the facings to be applied for finishing different raw edges and explain the listed apparels.                                |

### COURSE CONTENT

#### UNIT – I: Tools and Equipment

##### **Duration: 28 Periods**

Knitting tools – dress maker’s shears, scissors, pinking scissors, buttonhole scissors, ripping scissors, thread clips, electric scissors, cutting gauge, and cutting board.

Measuring tools – tape measure, yard stick, rulers, and skirt marker.

Marking tools – tracing wheel, dress maker’s carbon, tailor’s chalk, tailor’s wax, and tailor tacker.

General tools – pins, needle threader, seam ripper, thimble, pin cushion, emery bag, bodkin, stiletto, French curve, mirror, embroidery frame, and emery bag.

Pressing equipment – iron, ironing board, ironing board pad and cover, press cloths, sponge, press mitt, tailor’s ham, seam roll, wooden clapper, point presser, and needle board.

Equipment – domestic model sewing machine, straight stitch, zigzag machines, semi-automatic machine, automatic and super automatic machine.

Industrial model single needle lock stitch sewing machine – parts and functions of sewing machine, features of domestic model sewing machine and industrial model single needle lock stitch sewing machine.

Care and maintenance of sewing machine. Selection of needles and threads based on fabric type.

Sewing machine troubles and remedies – breaking of needles, breaking of bobbin thread, skipping of stitches, puckered seams, loop stitch, missing stitch, fabric puckering, machine running heavily, tangled thread at the beginning, material not feeding correctly, and uneven stitch length.

## **UNIT – II: Anthropometric (Body) Measurements**

### ***Duration: 22 Periods***

Definition of anthropometry.

Basic landmarks.

Precautions while taking body measurements.

Computerized body measuring systems.

Taking of dress form measurements.

Recording of measurements for garments like skirt of different lengths, frock, shirt, pant, nighty, saree blouse, salwar, and kameez.

## **UNIT – III: Preparation of Fabric for Cutting and Sewing Terminology**

### ***Duration: 26 Periods***

Definition of grain, selvedge, on grain, off grain, off grain print, and with the grain.

Importance of grain in fabric cutting and garment construction.

Preparation of fabric for cutting – checking each end of fabric and straightening it.

Methods of straightening fabric ends.

Checking and straightening the fabric grain.

Methods of straightening fabric grain – stretching method, steam press method, and immersion method.

Shrinking fabrics – cotton, linen, wool, steam pressing, and rolling fabric in a dampened sheet.

Sewing terminology – allowance, clip, crease, drape, ease, ease allowance, edge stitch, extension, facing, insertion, inset, lap, marking, notch, pucker, ravel, rip, seam allowance, seam line, silhouette, slash, tack, yardage, taper, trim, mitre, boning, braid, crease, design allowance, notions, pin fit, pinking, pivot, reinforce, and tension.

Marking with accuracy – tracing wheel and dress maker's tracing paper, tailor's tacks, tailor's chalk or marking pencil, and thread tracing.

## **UNIT – IV: Basic Stitches and Seams**

### ***Duration: 24 Periods***

Temporary stitches – even basting, uneven basting, diagonal basting, and slip basting.

Permanent stitches – running stitch, slip stitching, hemming, back stitch, run and back stitch or combination stitch, overcasting, overhanding, and whipping.

Hems – purpose of hem, preparing the hem, and types of hems.

Stitched and turned hem, seam binding hem finish, catch stitched hem, narrow machine stitched hem, rolled or whipped hem, shell edged hem, and hem for circular and flared skirt.

Methods of hemming circular and flared skirts.

Seams and seam finishes – stay stitching, directional stitching, and constructing a seam.

Joining seam lines, stitching, reinforcing a corner seam, trimming, grading, notching, and pressing.

Definition and choice of seam.

Plain seam, welt seam, flat felled seam, slot seam, lapped seam, strap seam, top stitched seam, single top stitching, double top stitching, hemmed flat felled seam, French seam, mantua makers seam, and piped seam.

Seam finishes – pinked finish, edge stitched finish, double stitch finish, overcast finish, herringbone finished seam, and bound seam edge finish.

## **UNIT – V: Fullness and Closures**

### ***Duration: 26 Periods***

Darts – types and principles of basting and stitching darts.

Tucks – fabric calculation and methods of making tucks.

Pin tucks, piped tucks or corded tucks, shell or scalloped tucks, cross tucking, and group tucking with scalloped effect.

Pleats – fabric calculation and types of pleats.

Knife pleats, box pleats, inverted pleats, kick pleats, fan pleats, cartridge pleats, and pinch pleats.

Flares and godets.

Gathers and shirrs – gathering by hand, gathering by machine, gathering using elastic, shirring or gauging, and shirring with cord piping.

Frills or ruffles, double ruffle, circular ruffle, and flounces.

Buttons and buttonholes – position of buttonholes and buttons.

Steps in constructing a worked buttonhole and bound buttonhole.

Button loops – thread loop, fabric loop, corded loops, and corded frogs.

Materials used in making buttons.

Marking position of buttons and sewing buttons with holes, shank buttons, and link buttons.

Hooks and eyes, stitching of hooks and eyes, eyelets, and cords.

Plackets – standards of good placket, continuous bound placket, two-piece or bound and faced placket, tailored placket, zipper placket, and any two methods of making zipper placket.

## **UNIT – VI: Facings and Apparel Terminology**

### ***Duration: 24 Periods***

Purpose and application of facing.

Fitted or shaped facings.

Facing cut in one with garment piece.

Neckline and armhole facing cut in one.

Extended facings and bias facings.

Cutting and joining bias strips.

Applying binding – single binding, double binding or French binding, and machine applied binding.

Facing slashed V-neckline and decorative facings.

Apparel terminology – caftan, apron, bib, bloomer dress, pullover, tunic blouse, wrap blouse, bodysuit, cape, casual wear, bolero, blazer, cuff, band cuff, culotte dress, flapper dress, jumper, kimono dress, pedal pushers, stole, bubble skirt, tunic, sundress, draped skirt, polo shirt, jumper, bolero, and formal shirt.

### **Reference books**

1. Mary Mathews, *Practical Clothing Construction, Part I & II*, Madras.
2. Constance Talbot, *The Complete Book of Sewing*, London Museum Press Ltd.
3. Collins, *Encyclopedia of Dress Making*, Golden Hands.
4. A.C. & E.M. Barrowman, *Step by Step Sewing, Vol. I & II*, MacMillan Company, London.
5. Frances Blondin WMH, *The New Encyclopedia of Modern Sewing*, Wise & Co., New York.
6. Alison Beazley and Terry Bond, *Computer Aided Pattern Design and Product Development*, Blackwell Publishing.
7. *Reader's Digest, Complete Guide to Sewing*.
8. Charlotte Mankey Calasibetta, *Dictionary of Fashion*, Fairchild, New York.
9. Evelyn A. Mansfield, *Clothing Construction*, Houghton Mifflin Company, Boston.
10. Charlotte Mankey Calasibetta, *Dictionary of Fashion*, Fairchild, USA.
11. *McCall's Sewing in Colour*, Paul Hamlyn, London.

### **Suggested learning Outcomes**

After completion of this course, the student should be able to:

## **CO1: Explain the description and use of tools and equipment needed for sewing work.**

1.1 Describe the tools and equipment used in garment making.

- 1.2 Describe the cutting tools used for garment making.
- 1.3 State the uses of scissors and dressmaker's scissors, uses of pinking shears and buttonhole shears.
- 1.4 Describe the embroidery tools used for garment making.
- 1.5 State the uses of embroidery scissors, embroidery frame and needles, uses of needle threader and threads, the uses of thimble and stiletto, and the uses of bodkin.
- 1.6 Explain the measuring tools used for garment making.
- 1.7 State the uses of measuring tape and meter scale, uses of L-scale and small ruler, and uses of French curves.
- 1.8 Explain the marking tools used in garment making.
- 1.9 State the uses of pencils, carbon paper, tracing wheel, and tailor chalk in pattern making and garment construction.
- 1.10 Explain the general tools used in garment making.
- 1.11 Explain the uses of pins, pin cushions, seam ripper, sewing thread, cutting table, mirror, and dress form.
- 1.12 Describe the pressing tools used in garment making.
- 1.13 Explain the uses of iron box, ironing board, sleeve board, and press cloth.
- 1.14 Explain domestic model sewing machines (features/functions).
- 1.15 Explain straight stitch and zigzag sewing machines.
- 1.16 Explain semi-automatic sewing machines.
- 1.17 Explain automatic and super automatic sewing machines.
- 1.18 Explain industrial model sewing machines.
- 1.19 Explain the features and working of industrial model (heavy duty) single needle lock stitch sewing machine.

**CO2: Explain the process of taking and recording body measurements manually and by computerized method and for different garments.**

- 2.1 Explain the precautions to be taken while recording body measurements.
- 2.2 Define anthropometry and basic landmarks.
- 2.3 Classify the measurements needed for upper and lower torso.
- 2.4 Explain the procedure of measuring the basic measurements of dress form.
- 2.5 Explain the procedure of measuring the basic measurements of human body.
- 2.6 Explain computerized body measuring systems.

**CO3: Adapt the fabric preparation process based on fabric type and use the appropriate sewing terms.**

- 3.1 List the steps involved in preparation of fabric for cutting.
- 3.2 Explain the steps involved in preparation of fabric for cutting.
- 3.3 List and explain the methods of straightening fabric ends.
- 3.4 List and explain the methods used for straightening fabric grain.
- 3.5 Explain the three methods used for straightening fabric grain.
- 3.6 Explain shrinking and pressing of fabric.
- 3.7 Define sewing terms.

#### **CO4: Explain the process of making stitches and seams manually/with machine and their right choice based on fabric garment and trend.**

- 4.1 Explain the temporary stitches used in garment making with diagrams.
- 4.2 Explain the permanent stitches used in garment construction – running stitch, back stitch, overcasting, combination stitch, overhanding, and overcasting.
- 4.3 Name different hems used in garment making.
- 4.4 Define hem.
- 4.5 State the purpose of hem.
- 4.6 Explain the various factors to consider when choosing the width of hem.
- 4.7 Explain the procedures for making different types of hem – stitched and turned hem, seam binding hem finish, catch stitched hem, narrow machine stitched hem, rolled or whipped hem, and shell edged hem.
- 4.8 Define seam and list the uses of different seams.
- 4.9 State the factors to consider in selection of seams on a garment.
- 4.10 Explain the process of making plain seam and top stitched seam – single top and double top stitching, lapped seam, welt seam, flat fell seam, slot seam, French seam, and Mantua maker's seam.
- 4.11 Explain the working of piped seam.
- 4.12 State the purpose of seam finishes.
- 4.13 Explain the process of making pinked finish, double stitch finish, and edge stitched finish with figures.
- 4.14 Sketch and explain the making of different seam finishes – bound seam edge finish, herringbone finished seam, and overcast finish.

#### **CO5: Explain the process of making fullness, closures and plan the appropriate closure to use.**

- 5.1 State the reasons for introducing fullness in garments.
- 5.2 List the different ways of introducing fullness.
- 5.3 List different types of darts.
- 5.4 Explain the making of various types of darts with figures.
- 5.5 Name the different types of tucks.
- 5.6 Explain the various methods of tucks used in apparel – pin tucks, piped or corded tucks, shell or scalloped tucks, cross tucks, and group tucks with scalloped effect.
- 5.7 Name the different types of pleats.
- 5.8 Explain the different types of pleats with figures – knife pleats, box pleats, inverted pleats, kick pleats, fan pleats, cartridge pleats, and pinch pleats.
- 5.9 List the different ways of gathering or shirring.
- 5.10 Explain the different ways of gathering with figures – gathering by hand, gathering by machine, gathers made by using elastic, shirring or gauging, and gathering with cord piping.
- 5.11 Explain the different types of frills or ruffles with sketches.
- 5.12 Explain the use of flares and godets in garments.
- 5.13 Define placket.
- 5.14 State the areas in a garment where plackets are placed.
- 5.15 List the uses of plackets in garments.
- 5.16 Explain the standards of a good placket.
- 5.17 List the different types of plackets.

- CO6: Evaluate the facings to be applied for finishing different raw edges and explain the apparels listed.**

- ### CO-PO mapping Matrix

[illegible]

## **QUESTION PAPER PATTERN FOR MID SEMESTER EXAMS**

### **MID-I Examination**

| S. No                  | Unit   | Questions to be set for MID Exam |              |              |         |
|------------------------|--------|----------------------------------|--------------|--------------|---------|
|                        |        | R                                | U            | A            | Remarks |
| 1                      | UNIT-1 | 1, 2                             | 5(a)<br>5(b) | 7(a)<br>7(b) |         |
| 2                      | UNIT-2 | 3, 4                             | 6(a)<br>6(b) | 8(a)<br>8(b) |         |
| <b>Total Questions</b> |        | <b>4</b>                         | <b>4</b>     | <b>4</b>     |         |

### **MID-II Examination**

| S.No                   | Unit   | Questions to be set for MID Exam |              |              | Remarks |
|------------------------|--------|----------------------------------|--------------|--------------|---------|
|                        |        | R                                | U            | A            |         |
| 1                      | UNIT-3 | 1, 2                             | 5(a)<br>5(b) | 7(a)<br>7(b) |         |
| 2                      | UNIT-4 | 3, 4                             | 6(a)<br>6(b) | 8(a)<br>8(b) |         |
| <b>Total Questions</b> |        | <b>4</b>                         | <b>4</b>     | <b>4</b>     |         |

### **Semester End Examination**

| Sl No           | Unit No.          | Questions to be set for SEE |   |     |                   |                       | Remarks |
|-----------------|-------------------|-----------------------------|---|-----|-------------------|-----------------------|---------|
| 1               | I                 |                             | 1 |     | 9(a)              | 13(a)                 |         |
| 2               | II                |                             |   |     |                   |                       |         |
| 3               | III               |                             | 2 |     | 10(a)             | 14(a)                 |         |
| 4               | IV                |                             |   |     |                   |                       |         |
| 5               | V                 | 4                           | 3 | 5,6 | 9(b),11(a), 11(b) | 13(b),<br>15(a),15(b) |         |
| 6               | VI                |                             |   | 7,8 | 10(b),12(a),12(b) | 14(b),16(a),16(b)     |         |
| Total Questions |                   | 8                           |   |     | 8                 | 8                     |         |
| Legend:         | Remembering (R)   | 1 Mark                      |   |     |                   |                       |         |
|                 | Understanding (U) | 3 Marks                     |   |     |                   |                       |         |
|                 | Application(A)    | 5 Marks                     |   |     |                   |                       |         |

**STATE BOARD OF TECHNICAL EDUCATION & TRAINING: TELANGANA**  
**DIPLOMA EXAMINATIONS (C-26)**  
**MID -I EXAMINATION**

**HS-106-GARMENT CONSTRUCTION**

**Model Question Paper**

**Duration: 1 Hour**

**Max. Marks: 20**

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**PART-A**

**Marks:  $4 \times 1 = 4M$**

*Instructions:*

*Answer all questions and each question carries one mark.*

1. State the use of dress maker's shears.
2. State the use of pinking shears.
3. Define the term anthropometry.
4. Explain the procedure to take chest measurement on dress form.

**PART-B**

**Marks:  $2 \times 3 = 6M$**

*Instructions:*

*Answer either (A) or (B) in each question.*

5. (A) Explain the functions of ripping scissors and thread clip.  
(Or)  
(B) Explain the advantages of electric scissors.
6. (A) Explain the procedure to take chest measurement of human body required for shirt drafting.  
(Or)  
(B) Explain the procedure for taking body measurement for shirt length.

**PART-C**

**Marks:  $2 \times 5 = 10M$**

*Instructions:*

*Answer either (A) or (B) in each question.*

7. (A) What are the features seen in a basic domestic model sewing machine?  
(Or)  
(B) What are the features seen in a semi-automatic sewing machine?
8. (A) What is the process of taking waist and hip measurement?  
(Or)  
(B) What is the procedure followed for taking knee measurement and crotch measurement?



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**DIPLOMA EXAMINATIONS (C-26)**  
**MID -II EXAMINATION**

**HS-106-GARMENT CONSTRUCTION**

**Model Question Paper**

**Duration: 1 Hour**

**Max. Marks: 20**

**PART-A**

**Marks:  $4 \times 1 = 4M$**

*Instructions:*

*Answer all questions and each question carries one mark.*

1. Define the term grain.
2. Define the term selvedge.
3. State the use of even basting stitch.
4. State the uses of uneven basting stitch.

**PART-B**

**Marks:  $2 \times 3 = 6M$**

*Instructions:*

*Answer either (A) or (B) in each question.*

*Each question carries three marks.*

5. (A) Explain on grain and off grain.  
(Or)  
(B) Explain the terms pucker and ravel.
6. (A) Explain the process of making diagonal basting.  
(Or)  
(B) Explain the process of making slip basting.

**PART-C**

**Marks:  $2 \times 5 = 10M$**

*Instructions:*

*Answer either (A) or (B) in each question.*

7. (A) How are tailor's tacks used in marking on fabric?  
(Or)  
(B) How is it possible to mark accurately on fabric with tracing wheel and tracing paper?
8. (A) Describe the process of making bound seam edge finish and pinked seam edge finish.  
(Or)  
(B) Describe the procedure to make French seam.

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DIPLOMA EXAMINATIONS (C-26)  
END EXAMINATION**

**HS-106-GARMENT CONSTRUCTION**

**Model Question Paper**

**Duration: 2 Hour**

**Max. Marks: 40**

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**PART-A**

**Marks: 8 × 1 = 8M**

*Instructions:*

*Answer all questions and each question carries one mark.*

1. State the use of tracing wheel.
2. Define the term grain.
3. Define the term caftan.
4. Define the term slash.
5. Define the term placket.
6. List the types of buttonholes.
7. Define the term apron.
8. Define the term bib.

**PART-B**

**Marks: 4 × 3 = 12M**

*Instructions:*

*Answer either (A) or (B) in each question.*

*Each question carries three marks.*

9. (A) Explain the marking tools used for garment making work.  
(Or)  
(B) Write the standards of a good placket.
  10. (A) Explain any one method used for straightening fabric grain.  
(Or)  
(B) Explain the application of single bias binding.
  11. (A) Explain the process of making any two types of tucks.  
(Or)  
(B) Explain the use of flares and godets in garment making.
  12. (A) Define the following:
    1. Pedal pushers
    2. Stole
    3. Bubble skirt  
(Or)  
(B) Define the following:
    1. Bodysuit
    2. Cape
    3. Casual wear
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**PART-C**

**Marks: 4 × 5 = 20M**

*Instructions:*

*Answer either (A) or (B) in each question.*

13. (A) What are the embroidery tools required for doing embroidery work on garments?  
(Or)  
(B) What are the different ways of making gathers?
14. (A) How do you make a bound seam edge finish?  
(Or)  
(B) Explain the application of double bias binding to neckline.
15. (A) What is the procedure involved in the construction of bound pocket?  
(Or)  
(B) Explain the process of making tailored placket.
16. (A) Explain the procedure of making decorative facing.  
(Or)  
(B) Explain the procedure for making extended facing.