

**A Manual for Practical Work
in
Fashion Studies**
Class XI



CENTRAL BOARD OF SECONDARY EDUCATION

2, Community Centre, Preet Vihar, Delhi - 110092

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Advisory Committee :

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NIFT, New Delhi
- Mr. G. Balasubramanian
Director (Academic), C.B.S.E

Contributors :

- Ms. Vandana Narang
NIFT, New Delhi
- Ms. Monika Gupta
NIFT, New Delhi
- Mr. Anupam Jain
NIFT, New Delhi

Co-ordinator

- Mr. P. Mani
Education Officer (Hum. & Lang.), C.B.S.E

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भारत का संविधान

उद्देशिका

हम, भारत के लोग, भारत को एक ' [सम्पूर्ण प्रभुत्व-संपन्न समाजवादी पंथनिरपेक्ष लोकतंत्रात्मक गणराज्य] बनाने के लिए, तथा उसके समस्त नागरिकों को:

सामाजिक, आर्थिक और राजनैतिक न्याय,
विचार, अभिव्यक्ति, विश्वास, धर्म

और उपासना की स्वतंत्रता,
प्रतिष्ठा और अवसर की समता

प्राप्त कराने के लिए,
तथा उन सब में,

व्यक्ति की गरिमा और ² [राष्ट्र की एकता
और अखण्डता] सुनिश्चित करने वाली बंधुता

बढ़ाने के लिए

दृढसंकल्प होकर अपनी इस संविधान सभा में आज तारीख 26 नवम्बर, 1949 ई० को एतद्वारा इस संविधान को अंगीकृत, अधिनियमित और आत्मार्पित करते हैं।

1. संविधान (बयालीसवां संशोधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977) से "प्रभुत्व-संपन्न लोकतंत्रात्मक गणराज्य" के स्थान पर प्रतिस्थापित।
2. संविधान (बयालीसवां संशोधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977 से), "राष्ट्र की एकता" के स्थान पर प्रतिस्थापित।

भाग 4 क

मूल कर्तव्य

51 क. मूल कर्तव्य - भारत के प्रत्येक नागरिक का यह कर्तव्य होगा कि वह -

- (क) संविधान का पालन करे और उसके आदर्शों, संस्थाओं, राष्ट्रध्वज और राष्ट्रगान का आदर करें;
- (ख) स्वतंत्रता के लिए हमारे राष्ट्रीय आंदोलन को प्रेरित करने वाले उच्च आदर्शों को हृदय में संजोए रखे और उनका पालन करे;
- (ग) भारत की प्रभुता, एकता और अखंडता की रक्षा करे और उसे अक्षुण्ण रखे;
- (घ) देश की रक्षा करे और आह्वान किए जाने पर राष्ट्र की सेवा करे;
- (ङ) भारत के सभी लोगों में समरसता और समान भ्रातृत्व की भावना का निर्माण करे जो धर्म, भाषा और प्रदेश या वर्ग पर आधारित सभी भेदभाव से परे हों, ऐसी प्रथाओं का त्याग करे जो स्त्रियों के सम्मान के विरुद्ध हैं;
- (च) हमारी सामाजिक संस्कृति की गौरवशाली परंपरा का महत्त्व समझे और उसका परीक्षण करे;
- (छ) प्राकृतिक पर्यावरण की जिसके अंतर्गत वन, झील, नदी, और वन्य जीव हैं, रक्षा करे और उसका संवर्धन करे तथा प्राणिमात्र के प्रति दयाभाव रखे;
- (ज) वैज्ञानिक दृष्टिकोण, मानववाद और ज्ञानार्जन तथा सुधार की भावना का विकास करे;
- (झ) सार्वजनिक संपत्ति को सुरक्षित रखे और हिंसा से दूर रहे;
- (ञ) व्यक्तिगत और सामूहिक गतिविधियों के सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत प्रयास करे जिससे राष्ट्र निरंतर बढ़ते हुए प्रयत्न और उपलब्धि की नई उंचाइयों को छू ले।

THE CONSTITUTION OF INDIA

PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a **¹SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC** and to secure to all its citizens :

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the ² [unity and integrity of the Nation];

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

-
1. Subs, by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "Sovereign Democratic Republic (w.e.f. 3.1.1977)
 2. Subs, by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "unity of the Nation (w.e.f. 3.1.1977)
-

THE CONSTITUTION OF INDIA

Chapter IV A

Fundamental Duties

ARTICLE 51A

Fundamental Duties - It shall be the duty of every citizen of India-

- (a) to abide the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
- (b) to cherish and follow the noble ideals which inspired our national struggle for freedom;
- (c) to uphold and protect the sovereignty, unity and integrity of India;
- (d) to defend the country and render national service when called upon to do so;
- (e) To promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
- (f) to value and preserve the rich heritage of our composite culture;
- (g) to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures;
- (h) to develop the scientific temper, humanism and the spirit of inquiry and reform;
- (i) to safeguard public property and to abjure violence;
- (j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.

FOREWORD

*T*he Central Board of Secondary Education introduced the subject of Fashion Studies as an independent elective subject at senior school level from the academic session 2004-2005. It has published the learning resource books for classes XI and XII with the active support and help of the National Institute of Fashion Technology, New Delhi. The present publication is a Manual for the Practical Work in Fashion Studies for class XI and it covers the practical component that has 30% weightage in the Board's Examination.

The manual gives simple practical tasks / projects in Elements of Design and Elements of Garment Making. Fashion Studies is basically a concept and skill-based subject requiring the students to plan, visualize and execute a number of designs to produce garments. Hence the practical component is of great importance in this subject. Moreover, students should also be taught to use different tools and equipments that are an integral part of design and garment making.

An attempt has been made to include basic exercises in exploration of designs and simple garment making. They are aimed at helping the learners acquire the right perception and the elementary skills needed to establish a foothold in the field of fashion design and fashion technology. Meticulous care has been bestowed by the authors on the details of each exercise, providing adequate information by way of introduction, aim, materials and methods, conclusions and references. The manual also includes a list of basic materials and equipment needed for the practical work besides a set of safety rules in the Laboratory. It is expected that each candidate will perform all the 27 exercises given in the manual in class XI and maintain a portfolio for assessment following the procedure outlined in the manual. The sewing kit given in Annexure I and the common machine problems given in Annexure II will be of immense help to both the teachers and students. The viva questions given at the end of some exercises will help the learners develop an insight into the concepts and processes involved.

The eminent faculty of the National Institute of Fashion Technology, New Delhi have contributed to the development of this material. I express my sincere thanks to Mrs. Gauri Kumar, Director General, NIFT and to the authors, Ms. Vandana Narang, Ms. Monika Gupta and Mr. Anupam Jain, all from the NIFT faculty. Shri G. Balasubramanian, Director (Academic) and Shri P. Mani, Education Officer (H & L) also deserve a special mention for planning and giving shape to this publication. Suggestions for further improvement of the publication will be most welcome.

Ashok Ganguly
Chairman,

Lab requirement for a batch of 30 students

Lab size - 35ft x 20 ft. (minimum)

AC environment

Item	Nos.
Industrial sewing machines with power (costs at least Rs. 4,500 each)	30
Pattern Making tables (size 5 ft x 4 ft cork top)	8 (4 students/tab)
Dress forms (half) costs Rs. 8000/- each	30 (one per student)
Steam irons @ Rs. 1000/-	4
Ironing boards @ Rs. 500/-	4
Soft boards	All around the wall
Stools	30
White board	1
Black board	1

Approximate cost will be Rs. 5,00,000/-

Selection criteria of school

They should have ability to provide appropriate environment, space, equipment, machinery and maintenance, trained faculty, exclusive library for the course, willingness to upgrade facility and faculty.

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Part A
ELEMENTS OF DESIGN
- Mr. Anupam Jain

Part B
ELEMENTS OF GARMENT MAKING
*- Ms. Vandana Narang
& Ms. Monika Gupta*

Part A

ELEMENTS OF DESIGN

Introduction

Designers, in their quest for the best functional and aesthetic solution to a problem, need to be aware of and explore as many possibilities as they can. Clarity of the final conceptual idea and its communication to others is of utmost importance. With ever advancing technology in every field of life, intensive and extensive practical knowledge will help achieve the best possible ergonomical designs. Design is all about systematic planning and clarity in effective execution of a concept, after overcoming all possible environmental and technical constraints. The following exercises will help students visualise, and practically substantiate, fundamental design concepts they learn theoretically in the textbook of Fashion Studies.

BASIC SUPPLY LIST

The following supply list is the compilation of items recommended for elements of Design. Individually faculty may recommend and add on to the list at the beginning or during the course period. Emphasis is normally on good quality but inexpensive materials:-

- 1 DRAWING BOARD:**
Drawing board: Half Imperial i.e. 14"x22" - 1pc
- 2 PAPERS:** (Quality: As when directed by faculty)
 - a. Cartridge
 - b. Sunlit Bond
 - c. News print
 - d. Ivory (Indian or Japanese)
 - e. Tracing paper/Butter paper
- 3 PENCILS:**
Brand Name- Kohinoor, Natraj, Apsara
Regular lead pencils with following lead thickness: HB,B,2B, 4 Charcoal pen cil or sticks.
- 4 ERASER**

- | | | | |
|-----------|---|--|----------|
| 5 | SET-SQUARE
Brand Name: Nalanda, Arasler, Omega | Medium Size | - 1 set |
| 6 | STAINLESS STEEL RULER
Size 12”&24” lengths | | - 1 each |
| 7 | COLOURS:
Poster Colours:- | Brand Name: (Camlin)
initially a box of 12
colours | |
| | Oil Pastels(Camlin) | one box of 12 colours | |
| | ● Black water-proof ink(Camlin) | one bottle | |
| | ● Water Colours(Camlin) | one box of 12 colours | |
| | ● Wax crayon(Camlin) | one box of 12 colours | |
| | ● Colour markers and colour pencil as and when indicated/required for the course by individual faculty. | | |
| 8 | BRUSHES:
Round water colour brushes (Camlin or Fine Art)
Size nos.0, 2, 4,5,8,10,12 | | - 1 each |
| | Flat water colour brushes (Camlin or Fine Art)
Size nos.3, 5,8,12 | | - 1 each |
| 9 | WATER CONTAINERS: Juice Mug or Coffee Mug
(Should be sufficiently heavy & stable) | | - 2 pcs. |
| 10 | PALLETTE (For mixing of colours, use plastic ice cube tray) | | - 1 pc. |
| 11 | SKETCHBOOK | Size 11”x 14” | - 1 pc. |
| 12 | WRITING PAD | Size 8”x 10” Approx. | - 1 pc. |
| 13 | SOFT COTTON MOP | Size 18”x 18”Approx. | - 1 pc. |
| 14 | HARDBOARD PORTFOLIO FOLDER (Half- Imperial Size) | | - 1 pc. |
| 15 | STAPLER | Regular Size | - 1 pc. |

16 MISCELLANEOUS Supply:

Scotch tape	Medium size	- 1 pc.
Scissors (Good quality)	Medium size	- 1 pc.
Paper cutter or paper knife		- 1 pc.
Drawing Board Pins		- 1 pkt
Drawing Board Clips		- 4/6 pkt
Writing pens: Fountain/Micro tip/Ball pen etc.		
Thumb pins, Gem Clips, all pins.		

INTERNATIONAL PAPER SIZES (FOR REFERENCE)

Size	MM	INCHES	
AO	841 x 1189	33.1 x 46.8	
A1	594 x 841	23.4 x 33.1	Imperial
A2	420 x 594	16.5 x 23.4	1/2Imperial
A3	297 x 420	11.7 x16.5	1/4Imperial
A4	210 x 297	8.3 x 11.7	
A5	148 x 210	5.8 x 8.3	

SUGGESTED GUIDELINES FOR INSTURCTORS

1. The syllabus break-up should be followed as far as possible.
2. Make full utility of OHP'S and slide projectors while teaching.
3. Do not dictate notes for theory to the students, give a Photostat copy of notes to the students & discuss the same in class.
4. A date should be given to the students for submission. Deduct 10 marks of any student who submits late 2 consecutive submissions.
5. Try & arrange at least two outings in a semester for outdoor sketching or market surveys.
6. Guest lecturers should be arranged for any important or interesting topic.
7. Maintain a daily assignment register in which the teacher writes down the subjects & topic covered in class.
8. Also maintain an assessment register in which the marks obtained by students in various practicles are entered.
9. All sheets should be marked out of 50 or 100 marks &survey reports out of 20 marks.
10. Be particular about filling up the feedback report at the end of each week. Please use 1 sheet per exercise & make entries date wise. Please give complete detail of all exercises done.
11. Use only ½ imperial size Cartridge/Ivory sheets for all assignments.

Basic Preparation

Exploration, or, the consideration of, several possible ways of answering a single question, of tackling an issue, or divergent points of view on the same subject, is necessary for a designer to achieve an overview of a problem and the best solution applicable.

A minimum of 10-12 A4 size sunlit bond sheets with 6"x 6" squares for the exploration of each expression to be represented are required.

It is from these explorations that a final concept will emerge and be finished, to present the ultimate design solution.

Stapler (Medium) - 1 pc.
Paper cutter - 1 pc.
Tape - 1 pc.
Newspaper (as and when required)

Precautions:

- Use newspaper on table/ work base as precaution against spillage.
- Careful use of paper cutter. Keep away from children under 15 years of age.
- Inks and paints are toxic – do not imbibe.
- Wash immediately if they enter eyes, mouth, nose, etc.
- Keep hands clean. Any marks on paper become a form of expression.
- Change dirty water continuously as it will effect purity of new colours mixed.
- Do not use same brush for scooping out colour from pots and mixing on palette. Original colour in pot will get soiled.
- Wash brushes immediately after use. Left over ink and paint will harden brush hair and make it useless for future use.
- Use apron to avoid soiling clothes / uniform.

PRACTICAL EXERCISE 1

Aim

Introduction to composition, working with constraints, and developing an eye for detail.

- a) To achieve one composition in a 6" x 6" square format using 9 to 12 lines, of the same length and thickness, that represents movement in single direction
- b) A second composition using 9 to 12 lines as in a) to represent passivity.

Principles

The eye will remain at a single point, passive, unless a change occurs to induce it move from that point to another, causing a movement.

Requirements

For exploration

- A4 sunlit bond sheets with a 6" x 6" square each
- Black ink/Black paper cut in stripes of equal length and width / Black marker / Black gel pen / Black poster paint
- Paint brush, Fevicol, Pencil, eraser, ruler For final concept
- Ivory sheet of A4 size
- Black ink, Correction ink / pen
- Paint brush, pencil (. 5), ruler, set square

Procedure

- Explore as many as possible ways to achieve, first a) and then b), in 6" x 6" format on A4 Sunlit Bond sheet
- Do not discuss or share.
- Explorations should be neat and well thought out, keeping the principle behind the exercise in mind
- Use absolute black lines. Lead pencils do not give required results.
- Put up your explorations on the soft board to make a final choice for yourself.
- Put up your final concepts on soft board with work of other students.

Observation & Discussion

- Students explain the visualisation of their point of view to the rest of the class and faculty
- Each student's views, explorations & final concept are quickly but thoroughly discussed

PRACTICAL EXERCISE – 2

Aim

To reach a clear understanding of how to express one's visualisation of a movement;

- a) in a single direction
- b) in 2 directions
- c) such that the movement describes an action

To practically see, learn and understand the basic principles of composition.

Principles

Placement of an object in different parts of a given spatial composition will elicit variant effects of weight and motion.

Placement of objects of different weights in the same place in a spatial composition will also elicit variant effects of expression and movement.

Requirements

As per exercise 1, EXCEPT, the Black paper strips will be cut in unequal lengths and widths

Procedure

Explore possible ways to express first, aim a), then b) and finally c) in 6" x 6" format on A4 sunlit bond sheets.

- As per exercise 1

Observation & Discussion

- As per exercise 1

Conclusion

Final concept of exercise 2 c) is neatly redone, as artwork, on an A4 Ivory sheet, with Black Ink

PRACTICAL EXERCISE – 3

Aim

To understand the relationship between Form & Space, as well as, +ve & -ve space.

Principles

Form and space are proportionally inter-related.

Procedure

- Within a 6" x 6" white square format (on A4 Sunlit bond sheet) create a form in Black that is small and is well away from the format edges.
- Within another white 6" x 6" square format increase the size of the object such that it occupies 50% of the space, but do not let it touch any part of the format edges.
- In yet another white 6" x 6" square format enlarge the object size such that it touches 2 or 3 sides of the format
- Put concepts on soft board for class discussion.

Observation & Discussion

- Observe how a form can be expand to become the background itself, by displacing the white space
- See how the white space is morphed into becoming a form.
- Discuss the importance of +ve and –ve space interaction within a composition and its effects.

PRACTICAL EXERCISE – 4

Aim

To diagrammatically represent the Hue and Value chart by simple line drawing.

Principle

Pure colour is Hue. Addition of any other hue (except for the one opposite it in the colourwheel) will not change the intensity or purity of colour. Addition of any part of the gray scale WILL change the value of a colour.

Requirement

- A4 Ivory sheet
- .5 Black pen, ruler

Procedure

- Draw a 6” vertical straight line. Label the top extreme ‘White’ and the lower extreme ‘Black’
- Mark the centre ‘Gray’
- Cut the vertical line with a 6” horizontal line at the centre. Label the two extremes ‘Hue’
- Move arrow from ‘Hue to Gray’ to indicate ‘saturation’ of colour.
- Move arrow from ‘Gray’ to ‘Hue’ to express ‘intensity’ of colour.
- Along the vertical line indicate ‘shades’, ‘tones’ and ‘tints’.

Observations & Discussion

- Maintain absolute neatness and precision in the line drawing and its labeling.
- Discuss how the value of colour and its intensity are affected on the various axis of the value chart.

PRACTICAL EXERCISE – 5

Aim

To paint and understand the Primary, Secondary and Tertiary colours in progression, using poster colours.

Practice flat application of colour.

Principle

There are 3 Primary colours that give rise to all other colours.

Requirements

- White cartridge sheets (size – A3)
- Ivory sheet A3
- Poster paints, water container, palette, brushes, HB pencil, ruler, cutter
- Soft cotton mop

Procedure

- Refer to the colour chart in your text book.
- Scoop out pure colours one at a time into your palette.
Pure Red = Scarlet Red 90% + Cuinson 10%
Pure Blue = Cobalt Blue 90% + Ultramarine 10% Pure Yel
low = Lemon yellow
- Add water to the paint to achieve medium fluid consistency.
- Apply colour to cartridge paper in approximately square area of 3" x 3" first with vertical strokes, then, before the paint dries, with horizontal strokes. Alternate the strokes till the paint is not running, but is damp not dry.
- DO NOT USE BRUSH STROKES ON DRY PAINT.
- Keep painting 3" x 3" squares till maximum flatness of colour application is achieved.
- Once the primary colours are achieved mix the secondary colours. Secondary colours consist of 50% each of two Primary colours.

Green = 50% yellow + 50% Blue

Orange = 50% Yellow + 50% Red

Purple = 50% Red + 50% Blue

- Application of the Secondary colours is done the same way as for the Primary colours.

- Tertiary colours are achieved by mixing Primary and Secondary Colours.

50% Yellow + 50% Green - Yellow green

50% Blue + 50% Green - Blue green

50% Yellow + 50% Orange - Yellow orange

50% Red + 50% Orange - Red orange

50% Blue + 50% Purple - Indigo

50% Red + 50% Purple - Violet

- On achieving flat application of all above colours set them into a colour chart on an Ivory sheet with neat labels.

Observations & Discussion

Discuss how mixing of colours produce other colours, how results may have varied, in explorations not used, due to different %s of colour additions.

PRACTICAL EXERCISE - 6

Aim

To identify and paint 3 pairs each of:
Similar colours
Complimentary colours
Contrasting colours

Principle

Colours are inter-related and interact with each other.

Requirements

Same as practical exercise-5.

Procedure

- Paint 2" x 2" square, flat application chips of the above mentioned colours, on cartridge sheets.
- Set the pairs together under their suitable headings.

Observation and discussion

- Record your observation about the effect each colour has on it's pair.
- Discuss your observations.

PRACTICAL EXERCISE - 7

Aim

To make students aware of their surroundings, and encourage them to be more observant.

To re-produce four interesting textures from nature and another four textures from man-made objects.

Principle

Design solutions abound around us; we simply need to sensitize ourselves to their presence.

Procedure

- Identify textures from the environment around you.
- Cover the texture with a Sunlit-bond sheet.
- Transfer the texture in a 6" x 6" square format by rubbing your 2B/4B lead pencil over the paper covering the texture.
- Collect as many textures as possible.
- Categorize them.
- Display your transferred textures on the board for all to see.

Observation & Discussion

- Discuss the collection of visual textures with reference to their actual tactile quotient (actual response to touch).
- How contradictory or similar is the textural representation on paper to the original visual texture.
- Observe differences and similarities between textures of natural and man-made elements.

Conclusion

- Mount four each of clearly defined reproductions, of natural and man-made textures, on Ivory sheets of A4size, in 3" x 3" square formats, 2 to a sheet.

PRACTICAL EXERCISE - 8

Aim

To create a form in a 1" x 1" square format.
Use that form to showcase compositions of:

- A sequence
- A rhythm
- A symmetrical balance
- An asymmetrical balance.

Principle

A form or motif when used in repetition creates a movement and when used within a format creates a composition.

Requirements

A4 sunlit-bond sheets

Black ink or Black poster colour

Brushes, water container, cotton mop, .5 Black pen

HB pencil, eraser, ruler

A4 size Ivory sheet

Procedure

- Explore various forms in 1" x 1" square format on an A4 Sunlit-bond sheet.
- Select a form.
- Mark 6" x 6" square format on other A4 bond sheets.
- Repeat the form made within the 1" square format in the 6" square format to achieve a sequence, a rhythm, an asymmetrically balanced composition and a symmetrically balanced composition.
- From your explorations select those concepts which achieve the above, and display on the board.

Observation & discussion

- Observe to see what kind of movement organic and inorganic forms lend themselves to.
- Discuss the compositions for the symmetrical and asymmetrical balance.
- Do positive and negative spaces play a role in these compositions? How?

Conclusion

Make artworks of the four best compositions and the motif on Ivory sheets of A4 size.

PRACTICAL EXERCISE - 9

Aim

To familiarize students with, and let them discover anew, the endless possibilities of describing a single form in different materials using various tools and techniques.

Principle

The final design solution is the culmination of one's ideas presented in the correct material, using the right techniques and tools.

Requirements

- A4 sheets with a 6" x 6" square format
- Different raw materials depending on the student's concepts for example crayons, poster colours, oil paints, inks etc.
- A variety of papers, fabric and other non-decomposing materials
- Thread, needle, fevicol, brushes, charcoals sticks, knife, scraper and tools relevant to choice of material.

Procedure

- Explore a few forms on A4 sheets in the 6" x 6" square format. Select one for improvisation.
- Choose 8 raw materials to express the form in.
- Identify a possible use of each of the end products achieved.
- Make sure the work is neat and the individual concepts are clear.

Observation & Discussion

Constructive discussion and feedback on the end results and ideas explored by the students.

PRACTICAL EXERCISE - 10

Aim

To develop a swatch card as future reference material and vocabulary, for the students.

Principle

Fabric is the basic raw material that all future aspirants of Fashion Studies should be familiar with.

Requirements

- A4 size card paper booklets (can be spiral bound or punched and tied together).
- Sourced fabric.
- Ruler and micro tip pen
- Paper stickers.

Procedure

- Visit the market and collect 25 cms. each of as many fabric qualities as possible.
- Enquire about its quality, construction weight and price.
- Use stickers on the fabric to carry the information.
- Mount and number the fabric in the booklet.
- On the facing page put down its particulars.
- Identify whether they are natural or synthetic fabrics.

Observation & Discussion

The class may discuss what kind of fall, drape, flounce etc. would specific fabric samples suit.

PRACTICAL EXERCISE-11

Aim

To put to use all that the students have been exposed to during their studies of the elements of design. The student's power of visualization, clarity of concept, degree of exploration and their presentation ability are to be put to practical use.

Principle

Application of theoretical knowledge to practical purpose will express the students understanding of the basic elements of design.

Requirements

- A4 sunlit bond sheets
- Pencils, colours pencils
- Raw fabric material

Procedure

- explore garments possibilities on A4 bond sheets.
- use different mediums, to express different fabric looks and weights in the sketches.
- Indicate, with fabric swatches, how a single look or silhouette changes by changing the fabric material.
- Select 1 final garment concept and present it with complete visual and written details.

Observation & Discussion

- Students to present their final selections giving reasons for their specific choice.

Part B

Elements of Garment Making

Introduction

This course introduces the student to the skills required for converting fabrics into a stitched garment. The basic skill of sewing which is essential to convert the design on paper into a garment is important for hands-on experience in garment assembly.

The hands on experience of working on a power machine is an essential and integral part of these practicals.

Basic preparation

Prior planning and clarity is necessary for the performance of the exercises. Read handouts, appropriate lab manuals and textbooks before performing the practical. Follow all precautions and regulations while working in the lab. Listen carefully to any introductory remarks and experimental procedure given by your teacher. Make sure that your working space is clean and organized, and all the required stocks and materials are kept ready. Maintain the discipline in your working area.

Recording Practical Results

Practical results should be recorded in the recommended record/file neatly and legibly with great care. The record of exercises may be done in the following headings:

1 Introduction/Aim

State precisely the purpose and objectives of the experiment in two or three sentences.

2. Materials and methods

The requirements like equipment, materials, etc. should be given here. Besides, methods should also be described along with principles of the techniques used.

3. Sample / Results

The sample should be attached here.

4. Discussion and Conclusions

Here, the results should be interpreted and conclusions be drawn.

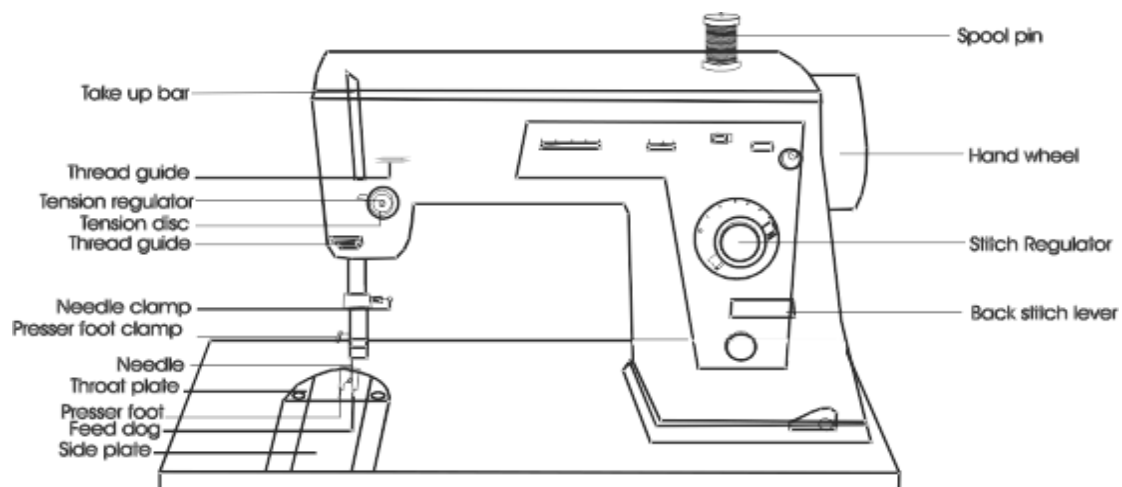
5. References

Reading materials that were consulted for the experiment be given as reference (e.g. your lab manual) along with the name of the author and the book, pages referred and year of publication.

Safety rules in the laboratory

- Safety rules to be observed while working on the machine: Safety is important to everyone and it is ones responsibility to maintain a safe working place.
- When operating the machine, do not be careless.
- Always inspect the machine before starting the work. Be sure it is clean and threaded correctly, with no loose threads on the pulley belt and all guards in place.
- When in doubt, ask the teacher.
- Report any injuries or accidents immediately to the teacher.
- Wipe up any oil spilled on the floor immediately to prevent anyone from slipping.
- Operate machines only with permission.
- When sewing on a power machine, wear low shoes and close-fitting clothing. Avoid loose-fitting sleeves, sweaters, jewellery, ties and ribbons when operating the machine. If your hair is long, tie it at the back.
- Do not tilt your chair forward or backward while operating the machine.
- Use both hands to raise and lower the machine head.
- Always keep your head above the table.
- Keep your feet off the treadle when you are not operating the machine.
- Keep your feet off the treadle when you are setting or threading the needle.
- Turn the motor off when you are not stitching.
- Turn the motor off before cleaning, oiling or adjusting the machine.
- Turn the motor off before removing or replacing the pulley belt and run the machine out. Wait until all motion has stopped.
- Turn the motor off in case of an emergency or when in doubt.

- Turn the motor off before unplugging the machine.
- Do not use your hand to stop and start the hand wheel.
- Use your hand only to set the hand wheel.
- Before operating the machine, close the slide bed cover. When operating the machine, keep your hands, scissors and other sharp objects away from the belt.
- Keep the machine and work station clean with all tools in the side drawer.
- Unplug the machine at the end of the day.
- Know the location of the main power switch, outlets and fuses in case of an emergency.
- Do not remove any safety devices from the machines.
- Turn off the iron at the end of the class.
- Always place the iron on the iron pad to avoid burning the ironing board cover.
- When trimming or cutting, put all trimmings in the wastebasket.
- Scissors should be handed to another person with the handles toward the person.
- Never toss or throw scissors or equipment.
- Do not eat or drink in the work area.
- Keep your machine covered when not in use.



Practical 1 – FAMILIARITY WITH THE MACHINE

Aim

Know your sewing machine.

Principles

Sewing Machine is an important piece of sewing equipment. A basic understanding of how the machine operates will enable the student to use any machine efficiently and correct stitching defects. The stitch looks same from both the sides & it is absolutely flat.

Requirements

Machine

Pre Lab Preparation

Student should be familiar with the safety rules.

Procedure

1. Identification of the following machine parts

- Arm
- Back Stitch Lever
- Bed
- Bobbin
- Bobbin case
- Bobbin Winder
- Feed Dog
- Hand -wheel
- Hand Lifter
- Head
- Knee Lifter

- Needle Bar
- Pan
- Presser Foot
- Presser Foot Lifter
- Shuttle
- Stitch Regulator
- Tension Regulator
- Thread stand or Spool Pin
- Thread take up lever
- Throat Plate

2. Learn to operate treadle

3. Turn hand wheel

4. Switch on the machine

Observations

The student should be able to identify all parts of the machine and understand the importance of each part.

Viva Questions

1. What all does bed of sewing machine contain?
2. What are the different parts required for threading the machine?

Practical 2 - THREADING THE MACHINE

Aim

To thread the sewing machine.

Principles

It is important for a beginner to learn to thread the machine correctly as a lot of problems in stitching and final seams occur due to incorrect threading. Machine will not work properly until it is threaded in right sequence.

Requirements

Machine, thread

Pre Lab Preparation

Student should be familiar with the safety rules.

Procedure

UPPER THREADING

The thread is fed from the spool through the tension discs, and then the take up lever before it is threaded through the needle.

Before threading the machine,

- (1) Raise the pressure foot
- (2) Always have the take-up lever to its highest point before threading

The following steps need to be followed in exact sequence-

- Place spool of thread on spool pin. Be sure nick on spool will not catch thread as it is reeled off spool. Take hold of thread end.
- Pass thread end through first thread guide.
- Bring thread down toward the tension assembly.
- Pass thread under and around tension discs, taking care that it falls between two of the discs.
- Pull thread upward and then let it go slack. This allows thread to be caught by the hook and thread check spring, which together hold thread in position between tension discs.

- Bring thread up and behind next thread guide.
- Pass thread into the take-up lever.
- Bring thread down and through thread guides.
- Pass thread end through eye of needle, being sure that it goes in proper direction for machine. Pull at least 3" of thread through needle.

LOWER THREADING

- Threading the lower portion of the machine involves threading the bobbin into its case.
- Insert the filled bobbin into the bobbin case so that the thread is pulled back on itself through the spring.
- Fit the bobbin case into the machine, holding the case by the lever on the back. The open lever locks the bobbin into the case.
- Push the case into the socket until it clicks then release the lever, close the cover. If it does not click, the mechanism inside is not aligned.

RAISING THE BOBBIN THREAD

- To raise the bobbin thread, thread the needle, holding the top thread, turn the hand wheel with the other hand until the needle has gone down in the bobbin area.
- Bring the needle up again to the highest point, still holding the thread and rotating the hand wheel. With the needle, a loop of bobbin thread will also come up.
- Pull the upper thread to bring the bobbin thread out. Take both threads through the pressure foot and bring them toward the back. The thread ends should be at least 2" - 3" long.

Observations

If the machine is threaded properly it will run smoothly.

Viva questions

1. What problems are you likely to face when the upper thread is not in right place?
2. If bobbin thread is not pulling up what may be the cause for it?

Practical 3 - Machine Practice

Aim

To master control of sewing machine.

Principles

The students are required to achieve proficiency of the control of machine. The student should be able to control the machine in straight line, curved lines and various shapes.

Requirements

Machine & sewing kit (as given in annexure I)

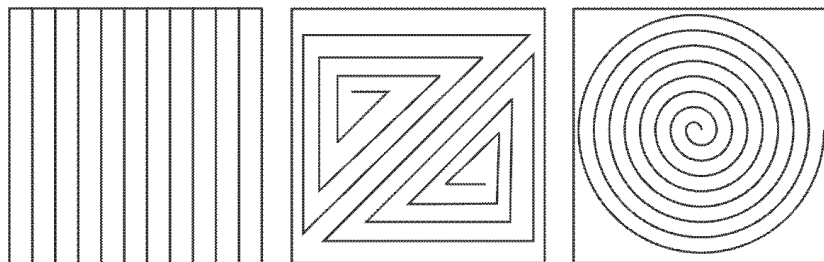
Pre Lab Preparation

Student should be familiar with the safety rules.
Nine pieces of muslin of 7"x 7"

Procedure

All the exercises are to be done on fabric first on single layer of muslin and then double layer. Stitch the following

- a) Parallel lines
- b) Corners
- c) Curved lines.



Observations

Take care while stitching so that all line are parallel, the corners are at 90 degrees and curves are smooth and there are no puckers and seam slippage.

Viva questions

1. How do you ensure that your corner is perfect?
2. How do you ensure parallel lines?

Practical 4 - A STRAIGHT SEAM

Aim

Prepare a sample of straight seam.

Principles

Seams are result of joining together two or more pieces of fabric by means of stitching & the basic function of a seam is to hold pieces of fabric together. To perform its function correctly the seam should have properties or characteristics closely allied to those of the fabric being sewn.

Requirements

Machine & sewing kit (as given in annexure I)

Pre Lab Preparation

Two pieces of muslin of 6"x 4" each

Procedure

1. Lay two layers of material together, right side facing right side.
2. Machine stitch at edge leaving an allowance of 1". Start with backstitch and end with backstitch.
3. Press opens the seam, to avoid bulkiness and to make it smooth and flat.

Observations

Check if the seam line is straight and there are no puckers or pulls.

Viva questions

1. What are the qualities of a straight seam?
2. How many stitches per inch should be used for cotton fabric?
3. Where all do you use the straight seam?

Practical 5 - A CURVED SEAM

Aim

To prepare a sample of curved seam.

Principles

A curved seam requires careful guiding as it passes under the needles so that the entire seam line will be the same even distance from the edge. To get better control, use a shorter stitch length (15 per stitch) and slower machine speed.

Requirements

Machine & sewing kit (as given in annexure I)

Pre Lab Preparation

Two pieces of muslin of 6"x 6" each

Procedure

1. Stitch a line of reinforcement stitching just on seam line of the curve.
2. Clip into seam allowance all the way to the stitching line at intervals along the curve.
3. Cut out wedge-shaped notches in the seam allowance of outer curve by making small folds in seam allowance and cutting at slight angle. Be careful not to cut into stitching line.
4. Press seam open over the curve, using tip of iron only. Do not press into body of the sample. If not pressed to required curves, seam lines become distorted and look pulled out of the shape.

Observations

Check if the seam line is curved, without breaks and there are no puckers or pulls.

Viva questions

1. What are the qualities of a curved seam?
2. How many stitches per inch should be used for cotton fabric?
3. Give two uses of curved seam.

Practical 6 A CORNERED SEAM

Aim

To prepare a sample of cornered seam.

Principles

A cornered seam needs reinforcement at the angle to strengthen it. This is done by using small stitches (15 to 20 per inch) for 1" on either side of the corner. It is important to pivot with accurately.

Requirements

Machine & sewing kit (as given in annexure I)

Pre Lab Preparation

Two pieces of muslin of 6"x 4" each

Procedure

1. To join an inward corner with an outward corner or straight edge, first reinforce the inward angle stitching just inside the seam line 1" on either side of corner.
2. Insert a pin diagonally across the point where stitching forms the angle clip exactly to this point, being careful not to cut past the stitches.
3. Spread the clipped section to fit the other edge; pin in position then with clipped side up, stitch on the seam line pivoting at the corner

Observations

Ensure that the corners are at perfect right angle.

Viva questions

1. Where all do you use the cornered seam?
2. Why do we need to reinforce the corner seam?

Practical 7 STITCHED & PINKED SEAM

Aim

To prepare a sample of stitched & pinked seam.

Principles

A seam finish in which a line of machine stitching is made $\frac{1}{4}$ " from the raw cut edge before pinking. It is done to prevent the pinked edge from raveling, to prevent the seam from curling & on fabrics which ravel slightly. It is a quick and easy finish suitable for firmly woven fabrics.

Requirements

Machine & sewing kit (as given in annexure I)

Pre Lab Preparation

Two pieces of muslin of 6"x 4" each

Procedure

1. Take two layers of fabric, right side facing right side; stitch on wrong side, leaving a distance of 1" from edge. Press open the seam allowance.(straight plain seam)
2. Using a short stitch place a line of a stitching $\frac{1}{4}$ " away from the edge of the seam allowance. On the one side of seam allowance. Repeat the same on the other end of seam allowance.
3. Then pink the outer edge of the seam allowance away from the seam you have just applied.
4. Press open flat seam allowance.

Observations

Ensure that the fabric does not ravel after pinking.

Viva questions

1. How does pinking help in finishing the sample?
2. Give names of fabric for which Pinked seam is most suitable for.

Practical 8 TURNED AND STITCHED SEAM

Aim

To prepare a sample of turned and stitched seam.

Principles

A seam finish in which the raw edge of the seam allowance is turned under stitched and concealed. This is a neat tailored finish for light to medium weight fabrics of cotton, linen and viscose.

Requirements

Machine & sewing kit (as given in annexure I)

Pre Lab Preparation

Two pieces of muslin of 6"x 4" each

Procedure

1. Take two layers of fabric, right side facing right side, stitch from wrong side at a distance of 1" from the edge. Press open the allowance. (straight plain seam)
2. Turn under the edge of the seam allowance $\frac{1}{4}$ " stitch along the edge of the fold. Repeat the same step on the other edge of seam allowance.

Observations

Check if the seam line is straight and there are no puckers or pulls.

Viva questions

1. Where all do you use the turned and stitched seam?
2. How is this seam different from the stitched and pinked seam?

Practical 9 HONG-KONG SEAM

Aim

To prepare a sample of Hong Kong seam.

Principles

A seam finish in which the raw edge of the seam allowance is covered with a folded ribbon tape or bias binding.

Requirements

Machine & sewing kit (as given in annexure I)

Pre Lab Preparation

Two pieces of muslin of 6"x 4" each

Two pieces of light weight muslin on bias grain of 1" x 6"

Procedure

1. Place two layers of fabric right side facing right side. Stitch at a distance of 1" from the edge on wrong side. Press opens the allowance.
2. Using 1" wide bias strip, with right sides together stitch bias strip to seam allowance $\frac{1}{4}$ " from edge on one side of the seam allowance.
3. Turn bias over edge to the underside and press. From the right side. Stitch in the crevice of the first stitching (stitch in ditch) trim unfinished edge of bias.
4. Finish the other side similarly.

Observations

The edges should be neatly concealed in the bias strip.

Viva questions

1. Where all do you use the Honk Kong seam?
2. How is this seam different from the turned & stitched seam?

Practical 10 FRENCH SEAM

Aim

To prepare a sample of French seam.

Principles

A seam constructed so that a narrow seam is contained within a case on producing a clear finish. This is a very secure and neat seam as the raw edges are not exposed.

Requirements

Machine & sewing kit (as given in annexure I)

Pre Lab Preparation

Two pieces of muslin of 6"x 4" each

Procedure

1. Lay two layers of material together, wrong side facing wrong side. The first stitch is 1/8" or 1/4" outside the fitting line, depending on the desired finished width of the seam. Trim the edge so that it is less than desired finished width of the seam. It looks best when finished width is 1/4" or less.
2. Press the seam in one direction. Turn the fabric so that right side is facing right side. Fold on the line of stitching. Machine stitch on the seam line. Since the raw edges are enclosed, this seam requires no special finish.

Observations

The seam should not be too broad and bulky. The edges should be neatly enclosed in the seam.

Viva questions

1. What are the advantages of this seam?
2. Where all is this seam used and why?
3. Give other names of this seam.

Practical 11 FLAT FELLED SEAM

Aim

To prepare a sample of flat felled seam.

Principles

The flat-felled seam is very sturdy and so often used for garment that are made to take hard wear.

Requirements

Machine & sewing kit (as given in annexure I)

Pre Lab Preparation

Two pieces of muslin of 6"x 4" each

Procedure

1. Place two layers of fabric with the wrong side facing wrong side. Stitch from right side leaving an allowance of 1". Press open the seam (straight plain seam)
2. Trim the inner seam allowance to $\frac{1}{4}$ ". Press under the edge of the outer seam allowance which is trimmed to $\frac{1}{2}$ ".
3. After pressing or folding outer seam allowance on inner one, stitch this folded edge to the garment.

Observations

The seam should be of uniform width from one seam to another.

Viva questions

1. Which category of seam finish does this seam fall?
2. Give two uses of this seam.

Practical 12 DOUBLE TOP STITCHED SEAM

Aim

To prepare a sample of double top stitched seam.

Principles

A seam which has been pressed open and stitched parallel to and on both sides of the seam line, through garment and seam plies.

Requirements

Machine & sewing kit

Pre Lab Preparation

Two pieces of muslin of 6"x 4" each

Procedure

1. Take two layers of fabric, right side facing right side, stitch at a distance of 1" from the edge on wrong side. (straight plain seam)
2. Press plain seam open. Top stitch at equal distance from each side of seam line, (1/4" away from seam line on both sides) catching seam allowances into stitching.

Observations

The stitch line should be uniform on the both sides of the seam. The under layers should be flat and pressed open.

Viva questions

1. Give two uses of the seam & where it can be used as decorative seams.
2. Can you give variations of this seam?

Practical 14 GATHERED SEAM

Aim

To prepare a sample of gathered seam.

Principles

Gathering is the process of drawing fullness into a much smaller area by means of two rows of machine basting.

Requirements

Machine & sewing kit (as given in annexure I)

Pre Lab Preparation

Two pieces of muslin of 6"x 4" and 18"x4"

Procedure

The stitch length for gathering is longer than for ordinary sewing. Use a stitch length of 6 to 8 stitches per inch for medium weight fabrics. For soft or sheer fabrics, use 8 to 10 stitches per inch. A long stitch makes it easier to draw up the fabric but a shorter stitch gives more control when adjusting gathers.

1. Take a bigger fabric piece and from the right side stitch (8 to 10 per inch) one basting line just next the seam.
2. Stitch another line (on the same single piece of fabric) $\frac{1}{4}$ " away in the seam allowance.
3. Pin seam edges together at matching points, such as notches.
4. Draw up bobbin threads, distributing fullness evenly and with drawn threads wound around a pin on either side to secure gathers.
5. Pin baste and stitch seam with gathered side up.

Observations

The gathers should be distributed evenly and should not form pleats.

Viva questions

1. What stitch size should be used for gathering?
2. Why do we need two rows of stitch line to gather evenly?

Practical 15 PLEATS

Aim

To prepare a sample of pleats.

Principles

Pleats are made by folding the fabric in various ways. Pleating may occur as a single pleat, as a cluster or around an entire garment section. Side pleats are all turned in the same direction. Box pleats have the two folds turned away from each other. Inverted pleats, which have an underlay, have the two folds meeting at the centre.

Requirements

Machine & sewing kit

Pre Lab Preparation

One pieces of muslin of 6"x 18" each

Procedure

1. Mark and fold the pleats as desired.
2. Stitch on the seam line $\frac{1}{4}$ " away in the seam allowance.
3. Now stitch the pleats in place and finish as desired.

Observations

The pleats should be even and according to the design.

Viva questions

1. How much extra fabric is required for 2 box pleat of 2" depth?
2. What is the best way to finish the pleats?

Practical 16 TUCKS

Aim

To prepare a sample of tucks.

Principles

Tucks are parallel folds of fabric used for a decorative effect on the right side of the fabric. The spacing can vary from the very narrow pin tucks to deeper, spaced tucks.

To ensure perfection in stitching tucks, the markings must be exact. The pin tuck is an edge stitch evenly spaced 1/16" from the fold, for wider or more widely spaced tucks, increase the amount of fabric in each fold or the space between the tucks.

Requirements

Machine & sewing kit

Pre Lab Preparation

One pieces of muslin of 6"x 12" each

Procedure

1. Mark and fold the tucks as desired.
2. Stitch on the seam line of the tuck as shown.
3. Now finish the sample as desired.

Observations

The tucks should be of even depth and equally distributed. Check if the seam line is straight and there are no puckers or pulls.

Viva questions

1. What is the ideal width of pin tucks?
2. Why are they called pin tucks?

Annexure I

SEWING KIT

All pins : fine, long, rust proof pins.

Magnetic pin holder / pin cushion: to hold pins.

Muslin : to experiment and develop samples.

Push pins : Drum shaped 1/2" long pin, to hold pattern pieces and fabric on table.

Tracing wheel : An instrument with small serrated or needle point wheel mounted on one end of a handle. For transferring markings from paper patterns on the muslin.

Tailor chalk: for marking on fabric.

12" / 24" scale: to mark straight lines to measure.

Measuring tape: Metal tipped narrow, firmly woven double tape of cloth or plastic usually 60" long (150cm) marked with both inches and centimeters.

Grading scale : 2" X 18" transparent straight plastic with grid in inches and fraction of inches (or millimeters) ruler.

Pencil: to mark lines in developing the muslin, pattern or sloper.

L-square : Plastic or metal ruler with two arms at right angles of varying lengths usually 12" and 24", to square off corners.

Carbon paper: Coated paper on one side with white or coloured wax, to transfer marking on fabric or paper.

Transparent tape: to hold paper pieces and mend tears.

Paper shears/scissors: a cutting instrument, ranging in size from 8" to 12", with two sharply pointed straight blades, to cut paper patterns.

Tailor's shears: A cutting instrument ranging in size from 12" to 16" with two wide blades, to cut fabric and muslin.

Magnet: a high carbon alloy steel that has a property of attracting iron and steel can be of any shape, to pick up pins and needles.

Annexure II

COMMON MACHINE PROBLEMS

The student needs to understand the common problems that may be there while sewing and should be able to rectify these as they are common and irritating and slow down the sewing process. A person operating the machine should be able to rectify these and solve the problems.

Bobbin

1. Does not wind :
 - Make sure the thread is wrapped around the bobbin in proper direction.
 - Check to see if bobbin has been placed properly in the winder.
 - The rubber ring might be worn out and needs to be replaced.
2. Winds unevenly :
 - The thread may not be inserted in the thread guide.
 - You may be running the machine too fast.
 - The tension spring may need adjustment.
3.
 - The Needle moves up and down during winding
 - Needle has not been disengaged

Fabric

1. Layers feed unevenly
 - Presser foot pressure incorrect
 - May need to stitch slowly
 - The fabric may be very light weight use tissue paper while stitching
2. Does not feed in straight line
 - Presser foot may be loose or bent
 - Pressure of the presser foot may be incorrect

- Needle may be bent
- There may be a defect in the machine feed
- You may be pushing or pulling the fabric

3. Puckers when stitched

- Many fabrics pucker when stitched in a single layer
- The stitch length may be not in correct relation to the fabric type
- If the fabric is sheer or light weight, the presser foot tension may need to be regulated
- Thread may be too thick
- Needle may be coarse
- Bobbin thread may be uneven
- Stitch tension may be unbalanced
- Feed dog may be worn out

4. Shows feed mark on the underside

- Presser foot pressure may be too heavy. You may need to put tissue paper between the fabric and the feed
- The feed may be damaged or set too high

5. Fabric is damaged or holes around the stitches

- Check needle type suitable for fabric.
- Needle may be blunt or too coarse.
- Check for the nick in the throat plate, foot or feed

MACHINE

Motor does not run

1. Cord is not plugged in.
2. Power switch off.
3. Knee or foot accelerator may be jammed or improperly attached to power source.

Motor runs but hand wheel does not turn

- Thread or lint may be caught or tangled in the bobbin case area.

Motor runs, hand wheel turns, but needle does not move

1. The needle may have been disengaged for bobbin winding and not tightened back to sewing position
2. If needle has been tightened but still does not move, the motor belt is slipping because it is loose or worn.

Motor, hand wheel and needle move but fabric does not feed

1. Make sure the presser foot is down
2. Check the stitch length regulator
3. The pressure regulator may be at the least/ light pressure. If fabric is heavy, more pressure may be necessary for fabric to feed.
4. The feed dog may be in the lowered or “down” position

Motor, hand wheel, needle and fabric move but no stitch is formed

1. Thread may have come out of the needle.
2. Needle may be threaded in the wrong direction.
3. Needle may be inserted backward or may not be pushed all the way up into the clamp.
4. Needle may be the wrong length for the machine.

5. Machine may be threaded incorrectly
6. Bobbin may be empty
7. Bobbin and / or case may be inserted incorrectly
8. The timing of the machine might be off

Runs sluggishly

1. Bobbin winder may still be engaged
2. Knee or foot control might be improperly positioned
3. Machine may be in need of oiling and / or cleaning

Runs noisily

1. Machine probably needs oiling and / or cleaning
2. The needle could be bent and hitting against foot or throat plate
3. Bobbin and / or case may not be tight enough
4. Bobbin may be almost out of thread.

Will not stitch in reverse

1. If machine is very old, it may not have this capability
2. If it is a recent model, check the stitch control. It may be set for stretch stitch” or “buttonhole”, sometimes these stitches cannot be reversed manually.

NEEDLE

Unthreads

1. Insufficient thread may have been pulled through the needle before the seam was started
2. Machine may be out of top thread

Breaks

1. You may be using the incorrect presser foot
2. Presser foot and / or throat plate may be loose or improperly fastened.
3. Needle might have bent and hit the presser foot and /or throat plate
4. Needle may be incorrectly inserted
5. Needle might be too fine for the fabric being sewed and for the job being done
6. You may have pulled too hard on fabric while stitching
7. Check machine settings.
8. Needle may be defective

STITCHES

Are uneven lengths

1. You might be pushing or pulling the fabric too much
2. Pressure on the presser foot could be either too light or too heavy for the fabric
3. There could be lint or other clog between the teeth of the feed dog

Have loops between them

1. If the loops are large, the machine is improperly threaded
2. If loops are small tensions are unbalanced
3. Bobbin may be wound unevenly
4. There may not be enough pressure to hold the fabric taut during stitch formation

Skip here and there

1. Needle may be blunt or bent
2. Needle may be inserted backward or it might not be all the way up into the clamp

3. There may be insufficient pressure on the presser foot
4. Throat plate may be wrong for the purpose
5. You may be stitching at an uneven speed
6. While stitching, you may be pulling too hard on the fabric

THREAD

Needle thread breaks

1. Usually this is caused by the needle being inserted backward or threaded backward
2. Thread may be caught in the spool notch or it could be wrapped around the spindle
3. There may be a rough or burred place on a thread guide
4. The needle may be blunt
5. Needle may not be all the way up into the clamp
6. Needle may be too fine for the thread, causing it to fray-often the case with silk buttonhole twist
7. check thread quality

Bobbin thread breaks

1. Bobbin case may not be threaded properly and / or the case not inserted properly
2. Bobbin may be too full
3. Check for dirt or clog in the bobbin case
4. Bobbin tension may be too tight

Bobbin thread cannot be raised through hole in throat plate

1. Bobbin case may be improperly threaded.
2. It may not have been properly inserted