

**VOCATIONAL HIGHER SECONDARY  
FIRST YEAR**

**Clothing and  
Embroidery**

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**Teacher's Source Book**



**Government of Kerala  
Department of Education**

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**State Council of Educational Research & Training (SCERT)**

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Director

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## Preface

Dear Teacher,

The new century witnessed tremendous progress in commercial Clothing & Embroidery designing and preparation. As a vocational course in Clothing and Embroidery intended to develop skills in making latest patterns in clothing and Embroidery also update the knowledge to present before the world. Learning of Clothing and Embroidery should be activity based, process oriented, student-centred, environmental based and life related.

The approach to learning is based on five domains of science. Knowledge domain, process domain, application and connection domain, domain of attitudes and values and creativity domain. But we know that most of the present vocational higher secondary teachers are not familiar with this paradigm. Hence for the first time we are introducing sourcebooks for all the subjects in the vocational higher secondary curriculum.

This sourcebook for Clothing and Embroidery aims to provide guidelines to the teachers of our state to change their pedagogy from the conventional content-based approach to the process oriented approach.

The sourcebook has four sections. Section-I gives you the general approach to the teaching process of Clothing and Embroidery. Section-II of the book details the activities that can be carried out to attain the curriculum objectives. Section-III contains details of Vocational Practical work and Section-IV Sample Questions.

We welcome suggestions for improvement as well as constructive criticism from practising teachers on the content and approach of this sourcebook.

Thiruvananthapuram  
.....

**Dr. E. Valsala Kumar**  
**Director**  
**SCERT, Kerala**

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## Part I

# 1 General Approach

### INTRODUCTION

The ultimate aim of education is human refinement. Education should enable the learner to formulate a positive outlook towards life and to accept a stand which suits the well being of the society and the individual as well.

The attitude and potential to 'to work' has determined the destiny, progress and cultural development of the human race. As we all are aware, the objective of education to form a society and individuals having a positive work culture. The educational process expected in and outside our formal schools should concentrate upon inculcating concepts, abilities, attitudes and values in tune with these 'work culture.' Hence vocationalised education cannot be isolated from the main stream of education. In another sense, every educational process should be vocationalised. However, due to our inability to utilise the resources wisely, scarcity of job

opportunities is a severe issue of the present society. For overcoming this deep crisis, emergent techniques have to be sorted out and appropriate researches have to be seriously carried out. It is in the sense that the content and methodology of vocational Higher Secondary Education have to be approached.

The Vocational Higher Secondary course was envisaged as a part of the National Policy on Education with the noble idea of securing a job along with education. The relevance of Vocational education is very great in this age of unemployment. This education system, which ensures a job along with higher education, stands aloof from other systems of education.

A learning environment which ensures vocational aptitude, vocational training, basic life skills, competencies related to different subjects, appropriate values and attitudes and existential readiness has to be provided here.

The curriculum should be one which recognises the specific personality of the learner and should develop it in a desirable way. It should provide opportunity to imbibe novel ideas to follow a critical approach and for learning through experiences.

The competency to transform ones own resources for the betterment of the society and the individual is to be ensured in each individual. Training in the sense of equality, democratic sense, environmental consciousness and devotion to the constitution is an inseparable factor of the curriculum.

The need of a systematic curriculum is prevailing in vocational subjects. A scientifically structured curriculum incorporating the unique features peculiarity of Kerala ensuring the possibility of higher education and utilising the national and international possibilities of employment is required.

The new curriculum should be capable of assimilating the life skills, scientific temper, attitude of co-existence, leadership qualities and mental health to face the challenges of life. It should be capable of strengthening the competencies imbibed by the learners up to the tenth class.

A curriculum for selecting vocational areas according to the aptitude of the students, learning it in depth, acquire general awareness in the basic areas and to secure jobs has become the social need of the day. A learner centred, process

oriented, need based vocational curriculum is envisaged.

### **WHAT IS LEARNING?**

- Learning is construction of knowledge and so it is a live and continuous mental process.
- Learning is a process of advancement through adding and correcting in the light of comparing the new issue with the previously learned concepts.
- Learning takes place as a part of the effort to solve problems.
- Learning takes place by assimilating bits of knowledge into ones own cognitive structure.
- Learning is not a linear process. It is a spiral process growing deeper and wider.
- Learning is an intellectual process rather than the mere memorisation of facts. Learning is a conglomeration of a variety activities like problem analysis, elucidation, critical thinking, rational thinking, finding out co-relations, prediction, arriving at conclusions, applications, grouping for other possibilities and extracting the crux. When opportunities are provided for intellectual processes learning will become effective and intellectual ability will get strengthened.

### **THEORETICAL FOUNDATIONS OF LEARNING**

Education is the best device that can be

adopted for creation of a new society. It should be democratic in content and process and should acknowledge the rights of the learner. It should also provide opportunity for better citizenship training. The concept of equality at all areas should get recognition in theory and practice.

There should be conscious programme of action to develop nationality, humanness and love and against the encroachment of the sectarianism of caste and religion.

The learner should be able to take firm steps and deferred against the social crisis like privatisation, liberalisation, globalisation etc and against all kinds of dominations.

They should develop a discrimination to use the acquired learning as a **liberative** weapon.

They should be able to view education and life with the perspective of social well being.

They should get opportunity to recognise that co-operation is better than competition and that co-operation is the key to social life and culture.

A basic awareness of all the subjects needed for life essential for all students.

The remnants of perspectives formed in us during the colonial period still influence our educational philosophy. The solution to the present day perplexities of the society which approaches education on the basis of competitions and marketisation is only a

comprehensive view of life.

It is high time that education was recognised on the basis of the philosophy of human education. The human approach to education has to reflect in its content, learning process and outlook. The perspective of 'learning to be' and learning to live together as expressed by the UNESCO and the concepts of existentialist intelligence intrapersonal and interpersonal intelligence.

The basis of new approaches on curriculum, teaching- learning process are derived from the developments place in the east and west of the world.

When we begin to see the learner at the centre of the learning process, the teaching process has to be changed timely. It is the result of the rapid growth and development of Science and Technology and Pedagogy. If we want to undergo the changing process, we have to imbibe the modern hypothesis regarding learner, they have;

- Great curiosity
- Good imagination
- Numerous other qualities and interests
- Independent individuality
- Interest in free thinking and working in a fearless atmosphere.
- Have interest in enquiring and questioning.
- Ability to reach conclusions after logical

- thinking.
- ability for manifest and establish freely the conclusions arrived at.
  - Interest for recognition in the society.
  - Determination to face the interference of society and make components which is a part of social life.
  -

When we consider the learning system, the domains to be stressed in education according to the modern development becomes relevant.

The **knowledge** domain consists of

- Facts
- Ideas
- Laws
- The temporary conclusions and principles used presently by scientists.

The learning is a process. The continuous procedures we undergo to reach a particular goal is process. The skills which are parts of the process to analyse the collected ideas and proofs and come to a conclusion is called *process skills*. Some important **process skills** are,

**the skills;**

- To observe
- To collect data and record
- To classify

- To measure and prepare charts
- To experiment
- To predict
- To recognise and control the variables
  - To raise questions
- To generalise
- To form a hypothesis and check.
- To conclude
- To communicate
- To predict and infer
- To use tools.

• **Observation** is the process of acquiring knowledge through the senses. It is purely objective oriented. Learning experiences which provide the opportunity to use all the senses may be used.

*The process of grouping is known as **classifying**. Starting from simple groupings of data, it can extend to the level of classification into minute sub-groups.*

In addition to this, consider the skills related to **creative domain** also, they are skills:

- To visualize
- To connect facts and ideas in new ways
- To findout new and uncommon uses of objects

- To fantasize
- To dream
- To develop creative isolated thoughts
- **Creativity** is an essential component of process and activities. The element of creativity is involved in finding out problems, formation of hypothesis, finding ‘solutions’ to problems etc. Through activity oriented learning experiences, opportunities to express creativity can be created.
- take the help of scientific process to solve the problems of daily life.
- choose a scientific life style
- connect the ideas acquired with other subjects.
- integrate the subjects with other subjects.

Some basic stands have to be taken on the new scientific knowledge about intelligence learning and teaching. When such basic concepts are accepted changes are required in the following factors.

Again, the following factors consisting in the **Attitudinal domain** are also important as;

- Self confidence
- Love for scientific knowledge
- Attitude to know and value history
- Respect human emotions
- Decide with reasonable present problems
- Take logical decisions regarding personal values
- The vision, approach, structure and content of the curriculum.
- The vision, approach, structure and content of the textbooks.
- Role of the teacher and the learner.
- Learner atmosphere, learning materials and learning techniques.

Some scientific perspectives accepted by modern world in educational psychology are given below.

#### CONSTRUCTIVISM

This approach puts forward the concept that the learner constructs knowledge. New knowledge is constructed when ideas are examined and practiced in new situations relating them with the previously acquired knowledge and experience. That is assimilated into the cognitive

As regards the **application domain** the important factors are the ability to:

- observe in daily life examples of ideas acquired.

structure of one's knowledge. This method which gives priority to critical thinking and problem solving provides opportunity for self-motivated learning.

### **SOCIAL CONSTRUCTIVISM**

Social constructivism is a sub-section of constructivism. Knowledge is formed, spread and imbibed and it becomes relevant in a social environment. Interactive learning, group learning, co-operative participatory learning, all these are concepts put forward by social constructivism.

The main propounders of constructivism are Piaget, Vygotsky and Bruner.

Discovery learning and interactive learning have prime importance. Learning takes place as a part of the attempt for problem solving. The activities of a learner who confronts cognitive disequilibrium in a learning situation when he tries to overcome it lead to the renewal of cognitive structure. It is through this process of construction of new knowledge and the assimilation of them that learning takes place. Observation and enquiry are unavoidable factors. The learner advances towards new areas of acquisition of knowledge where he tries to compare his new findings with the existing conceptions.

Learning is a live mental process. Rather than the ability for memorisation of facts, cognitive process has to be given emphasis. The process of problem analysis, elucidation, critical thinking, rational thinking, finding out co-relation,

prediction, hypothesis formation, application, probing for other possibilities, extracting the crux and other processes are of critical importance in learning.

Constructivism gives greater predominance to co-operative learning. Social and cultural factors influence learning. Sharing of knowledge and experience among learners, collective enquiry, assessment and improvement, group activity and collaborative learning, by sharing responsibilities with the objective of public activity, provide opportunity for effective learning.

In learning, internal motivation is more important than external motivation. The learner should have interest and initiative in learning. Learning situation should be capable of forming a sense of ownership in the learner regarding the learning process.

Learning is not a linear process. It progresses in a spiralled way, advancing deeper and wider.

### **LEARNER-HIS NATURE AND FEATURES**

The learner in standard XI has undergone a learner-centered and process-oriented learning experience up to X standard. He is adequately competent to select vocational subjects according to his aptitude and interest and to acquire higher education and profession as he wishes. The aspirations about future life are framed in this particular age, foreseeing national and

international job opportunities. Some of the peculiarities of the learner at this stage are:

- Physical, intellectual and emotional planes are intensive changes during this age and their reflections can be observed.
- Ability to enquire, discover and establish cause-effect relationship between phenomena.
- Readiness to undertake challenges.
- Capacity to shoulder leadership roles.
- Attempt to interpret oneself.
- Susceptibility to different pressures.
- Doubts, anxieties and eagerness about sex.
- Longing for social recognition.

#### **NEEDS OF THE LEARNER**

- To make acquaintance with a job through vocational education.
- To acquire more knowledge in the concerned area through higher education.
- To recognise and encourage the peculiar personality of the later adolescent period.
- To enable him to defend against the unfavourable circumstances without any help

#### **ROLE OF THE LEARNER**

- Active participant in the learning process.
- Acts as a researcher

- Sharer of information
- Sharer of responsibilities
- Collects information
- Takes leadership
- Involves in group work
- Acts as a co- participant
- Observes his environment
- Experiments and realises
- Makes interpretations and draws inferences.

#### **ROLE OF THE TEACHER**

The teacher should;

- consider the 'Stress and strain' of the teenagers
- understand the socio- economic and cultural background of the students.
- promote and motivate the students to construct knowledge.
- arrange proper situations to interact in and outside of the classroom.
- guide the students by explanations, demonstrations etc.
- promote opportunity for co-operative learning and collaborative learning.
- facilitate interpersonal and intra-personal interactions.
- act as a democratic leader.

- act as a problem solver
- effectively guide the students for the selection and conduct of various continuous evaluation elements.
- continuously evaluate the progress of the learners.
- gives scaffolding/support wherever necessary.
- motivate for learning
- promote divergent thinking.
- act as a democratic group leader.
- act as a co-learner
- gives variety of learning experiences.
- be a constant student
- facilitate for reference/data collection
- have a clear understanding about the age, needs, peculiarities, abilities, nature, aptitude etc. of the learner.
- have the ability to motivate the learner in order to acquire and enrich their knowledge.
- be a guide to the learner in developing insights and creating responses on current affairs.
- be capable to lead the learner into a variety of learning methods and process based on curricular objectives.
- be a link between school and community.
- be a good organiser, guide, friend, philosopher and co-learner.
- have an inter disciplinary approach in learning activities.
- be able to guide the learner in his/her career prospects based on his interest aptitude and ability.
- be impartial and democratic.
- provide ample experiences to attain the basic values and objectives of the curriculum.

## **New Concepts of Learning**

### **1. DISCOVERY LEARNING-**

The teacher has to create a motivating atmosphere for the learner to discover concepts and facts, instead of listening always. Creating occasion to progress towards discovery is preferred. Instead of telling everything before and compelling to initiate the models, situations are to be created to help the children act models as themselves.

### **2. LEARNING BY DISCUSSION**

That discussion leads to learning is Burner's theory. Here discussion is not opposing each other. It is a sharing on the plane of ideas. New ideas are arrived at by seeking explanations, by mutual giving and taking of ideas and by problem solving.

### **3. PROBLEM SOLVING AND LEARNING**

Only when the learner feels that some thing is

a problem to be solved that he takes the responsibility of learning it. It is an inborn tendency to act to solve a problem that causes cognitive disequilibrium in a particular area. It is also needed to have confidence that one is capable of doing it. The problems are to be presented in consideration of the ability and level of attainment of the learner.

#### **4. COLLABORATIVE LEARNING**

This is the learning in which the responsibilities are distributed among the members of the group keeping common learning objectives. The common responsibility of the group will be successful only if each member discharges his duties. All the members will reach a stage of sharing the result of learning, equally through the activity with mutual understanding. The teachers who arrange collaborative learning will have to make clear the responsibilities to be discharged. This is possible through the discussion with the learners. Collaborative learning will help to avoid the situations of one person working for the whole group.

#### **5. CO-OPERATIVE LEARNING**

This is the learning in which the learners help one another. Those who have more knowledge, experience and competency, will help others. By this exchange of resources the learners develop a plane of social system in learning also. As there are no high ups and low ones according to status

among the learners they can ask the fellow students doubts and for helps without any hesitation or in hesitation Care should be taken not to lead this seeking of help to mechanical copying. It should be on the basis of actual needs. So even while encouraging this exchange of ideas among the members of the group cautions acceptance is to be observed as a convention. There should be an understanding that satisfactory responses should come from each member and that the achievement of the group will be assessed on the basis of the achievement of all the members

#### **6 ZONE OF PROXIMAL DEVELOPMENT**

Vygotsky observes that these is a stage of achievement where a learner can reach by himself and another higher zone where he can reach with the help of his teachers and peers and elders. Even though some can fulfil the learning activity by themselves there is the possibility of a higher excellence. If appropriate help is forth covering every learner can better himself.

#### **7 SCAFFOLDING**

It is natural that the learner may not be able to complete his work if he does not get support at the proper time. The learner may require the help of the teacher in several learning activities. Here helping means to make the learner complete the activity taking responsibility by himself. The

teacher has to keep in mind the objective of enabling the learner to take the responsibility and to make it successful.

## **8 LEARNING: A LIVE MENTAL PROCESS**

Learning is a cognitive process, only a teacher who has an awareness as to what the cognitive process is alone can arrange learning situations to the learner to involve in it. Learning can be made effectively and intellectual sharpness can be improved by giving opportunity for the cognitive processes like reminding, recognising, compromising, co-relating, comparing, guessing, summarising and so on. How is cognitive process considered in language learning? Take guessing and prediction for example.

- Guessing the meaning from the context.
- Guessing the content from the heading.
- Predicting the end of the story.
- Guessing the incident, story from the picture.
- Guessing the facts from indications.
- and other such activities can be given the following activities can be given for the cognitive process of summarisation.
- Preparation of blue print.

- Preparation of list.
- Preparation of flow chart.
- Epitomising in one word.
- Giving titles and so on.
- Symbols, performance of characters indications, lines of a poem, tables, pictures, concepts, actions, body language and such things can be given for interpretation. Process based language given for interpretation. Process based language learning has to give prime importance to the cognitive process.

## **9 INTERNAL MOTIVATION**

Internal motivation is given more importance than external motivation. The teacher has to arouse the internal motivation of the learner, A person internally motivated like this alone can immerse in learning and own its responsibility. How motivating is each of the activities is to be assessed.

## **10 MULTIPLE INTELLIGENCE**

The Theory of Multiple Intelligence put forward by Howard Gardener has created a turning point in the field of education. The National curriculum document has recommended that the curriculum is to be designed taking into consideration of this theory.

Main factors of the intellect :

### **1. VERBAL/LINGUISTIC**

**INTELLIGENCE -**

Ability to read and write, making linguistic creations, ability to lecture competence effective a communication, all these come under this. This can be developed by engaging in language games and by teaching others.

**2. LOGICAL /MATHEMATICAL INTELLIGENCE**

Thinking rationally with causes and effect relation and finding out patterns and relations come under this area, finding out relations and explaining things sequential and arithmetical calculations are capable of developing this area of intelligence.

**3. VISUAL /SPATIAL INTELLIGENCE**

In those who are able to visualise models and bringing what is in the imagination into visual form and in philosophers, designers and sculptors this area of intelligence is developed. The activities like modelling using clay and pulp, making of art equipments, sculpture, and giving illustrations to stories can help the development of this ability.

**4 BODILY KINAESTHETIC INTELLIGENCE**

The activities using body language come under this. This area of intelligence is more developed in dancers and actors who are able to express ideas through body movements and in experts in sports, gymnastics etc.

**5 MUSICAL INTELLIGENCE**

This is an area of intelligence which is highly developed in those who are able to recognise the different elements of music in musicians and in those who can hear and enjoy songs. Playing musical instruments, initiating the songs of musicians, listening silently to the rhythms and activities like this are capable of developing this area of intelligence.

**6 INTERPERSONAL INTELLIGENCE**

Those in whom this area of intelligence is developed show qualities of leadership and behave with others in a noble manner. They are capable of understanding the thought of others and carrying on activities like discussion successfully.

**7 INTRAPERSONAL INTELLIGENCE**

This is the ability to understand oneself. These people can recognise their own abilities and disabilities. Writing diaries truthfully and in an analysing way and assessing the ideas and activities of others will help developing this areas of intelligence

**8 NATURALISTIC INTELLIGENCE**

A great interest in the flora and fauna of the nature, love towards fellow beings interest in spiritual and natural factors will be capable of developing this area.

## 9. EXISTENTIAL INTELLIGENCE

The ability to see and distinguish our own existence as a part of the universe, ability to distinguish the meaning and meaninglessness of life, the ability to realise the ultimate nature of mental and physical existences, all these are the peculiarities of this faculty of intelligence.

### EMOTIONAL INTELLIGENCE

The concept of emotional intelligence put forward by **Daniel Golman** was used in framing the new curriculum. The fact that one's **Emotional Quotient (E.Q)** is the greatest factor affecting success in life is now widely accepted. The teacher who aims to focus on improving the emotional intelligence of students need to concentrate on the following.

#### I) ABILITY TO TAKE DECISIONS

Rather than imposing decision on students while planning and executing activities, the students may be allowed to take part in the decision making process. Taking decisions through open discussion in the class, inviting students suggestions on common problems etc. are habits to be cultivated.

#### II) ABILITY TO REACH CONSENSUS

- When different opinions, ideas and positions arise the students may be given the responsibility to reach a consensus.
- Imaging what would be the course of action

in some situations, allowing to intervene in a healthy way in problems between individuals.

#### III) PROBLEM SOLVING

- Developing the idea that there is reason and solution to any problem.
- Training in finding reasons for problems.
- Suggesting solutions through individual or group efforts.
- Discussing social problems.
- Analysing the shortcomings in methods to solve problems.

Whether plastic can be banned within school premises can be given as a problem. Group discussion will provide reasons and solutions. Problems which can influence classroom learning and for which the learner can actively contribute solutions need to be posed.

- Self criticism, evaluation
- Ability to face problem-situation in life
- Thinking what one would do if placed in the situation of others, how one would respond to certain experiences of others - All these foster the growth of emotional intelligence.

#### IV) LIFE SKILLS

Life skills need to be given a prominent place in education. W.H.O. has listed ten skills required for success in life.

- Self awareness
- Empathy
- Inter personal relations
- Communication
- Critical thinking
- Creative thinking
- Decision making
- Problem solving
- Copying with emotion
- Copying with stress

The new curriculum addresses these areas.

Knowing the characteristics of the learner, role of the teacher and how to use the teachers handbook help the teacher to plan and effectively implement learning activities.

#### **OBJECTIVES OF THE VOCATIONAL HIGHER SECONDARY CURRICULUM.**

- To facilitate higher education while giving opportunity to enter in the field of employment.
- To develop environmental awareness, sense of national integration, tolerance and human values so as to ensure social and cultural improvement.
- To enable the learner to find on his own employment.
- To inculcate mental courage in the learner to

face unfavourable situations.

- To make human resource development possible.
- To enable the learner to understand social problems and to react appropriately.
- To develop the learner to identify and develop his own competencies.
- To develop vocational aptitude, work culture and attitude in the learner so as to provide useful products and services to the society.
- To create an awareness about mental and physical health.
- To acquire awareness about different job areas and to provide backgrounds for acquiring higher level training in subjects of interest.
- To develop possibilities of higher education by creating awareness about common entrance examinations.
- To provide situation for the encouragement of creative thinking and organising training programmes in each area, creative abilities and to develop artistic talents.

#### **NATURE OF APPROACH**

The learning device is to be organised in the selected vocational subjects in such a way that adequate practical experience should be given, making use of the modern technology. The development in each area on the basis of

information technology is to be brought to the learner. The work experience in the respective fields(OJT, Field trip, Production/Service ..... training, Survey, Workshop, Exhibition, Youth festival, Physical fitness etc.) are to be adjusted suitable to the learning and evaluation process. The participation and leadership of the students in planning and execution is to be ensured through this kind of activities. Social service is to be made a part of the course.

#### **APPROACH TOWARDS VOCATIONAL HIGHER SECONDARY EDUCATION**

The learning methodology has to be organised so as the learning provide adequate practical thinking on the opted vocational subject utilising the new technology. The development of information technology should be made available in each sector. Work experience, OJT, Field trip production, Service cum training centre, Survey,

Workshops, Exhibitions, Youth festivals, Physical fitness etc should be systematised well appropriate to learning and evaluation. Learner participation should be ensured in the planning and implementation of these activities. Social service should be a part of the course. If a learner has to change his school, he should be provided an opportunity to continue his studies in the new school. While considering criteria for admission to higher courses, grades of vocational subjects should also be given due weightage. In tune with the changes in the Vocational Higher Secondary Education changes should be ensured in the field of higher education.

The teachers have to take special care in arranging learning activities for the development of all the faculties of intelligence.

Learning activities and learning atmosphere.

A proper learning atmosphere is essential for the betterment of learning activities.

They are:

- Proper physical environment
- Healthy mental atmosphere
- Suitable social atmosphere
- Active participation of PTA, Local bodies and SRG
- Reference materials and visual media equipments.
- Academic monitoring
- School Resource Group (SRG)

## 2

# Subject Approach

### INTRODUCTION

As Science is essentially on activity, learning of Home Science should also be through activities. The aims of education has two aspects, the individual and the collection. In Home Science, the basic theory of experience is learning by doing. As a Vocational subject “Clothing & Embroidery”, comes under Home Science.

Clothes not only protect us from the vagaries of nature but they are also an asset to our personality. They are the means by which one can express his relative ability, inherent beauty and charm. It also reflect, self acceptance and self esteem. A proper knowledge of clothing and embroidery help to develop aesthetic, hygenic and economic values. such a knowledge will help the learner to get a clear understanding of

- Appropriate clothing for individual on the basis of individual taste and seasons.

- Preparing the cloths
- Operation of sewing machine, tailoring, needle work, embroidery etc.
- Use and care of fabrics.
- Designing of garments appropriate for different age and occasion.

This sourcebook is designed to provide a comprehensive text for teachers and studens. It has been written with an emphasis on the scientific aspect of the subject to enable students to understand the value of “CLOTHING & EMBROIDERY”.

The learner centred environment facilitates the exploration of meaning and content knowledge through personal and interpersonal discovery. The process implies active involvement by the student and the intergration of academic with the students total development.

Examples of learner centered educational practices include, but are not limited to

- Collaborative group learning both inside and outside the classroom.
- Individual student research and discovery.
- Research and discovery by students and faculty together.
- Problems based enquiry learning
- Service learning activities
- Experimental learning activities
- On site field experiences
- Self employment opportunity.

The major aims of teaching Clothing & Embroidery at Vocational Higher Secondary stage of education can be summarized as follows:-

1. To develop skill in both hand and machine embroidery.
2. To develop skill in computer based designing.
3. To develop skill in apparel making according to the latest trends and techniques.
4. Ensure employment in the field of Apparel Making.
5. Scope for self employment.

### **Domains of Home Science**

The customary perspective that science education is the transfer of knowledge but science

education should give emphasis to five domains.

- Knowledge domain
- Process domain
- Attitudinal domain
- Creativity domain
- Application domain

#### **Knowledge Domain**

Home science student should be familiar with the scientific information available from physical, biological and behavioral sciences. The knowledge domain includes facts, ideas, principles and theories. Acquisition of knowledge is an important aim of teaching science. The student need to be given instruction for doing activities for developing information and concepts about the surrounding world. The knowledge on humanities, psychology, neurology, civics and economics are also related to home science as they help in understanding nature and conduct.

Through the pupils Home Science helps familiar to establish values which are foundation for their health's appliances and well being.

#### **Process Domain**

This focuses on knowing new concepts and evidence and to reach valid inferences through an analysis of the same. Skill needed for solving real life problems are to be developed through Home Science education. Process skills will enable the home science student to improvise thermal cooker fabrication of hay box, janatha refrigerator as well as solar cooker.

Some of the skill relating to the process domain of science are:

**Observing** : Observation is the process of acquiring knowledge through our senses.

**Classifying** : This consists of grouping of information gained through observation. The ability of classification will vary according to the age, maturity and cognitive level of the student.

**Using space time relationships** : An in-depth enquiry relating to shape, distance, movement, speed, accuracy, direction and time comes under this area.

**Communicating and understanding communication** : It is essential that knowledge developed is expressed in different ways – oral and written. The students need opportunities to communicate through tables, charts, pictures, models, short write-ups and lectures and also to take part in debates and discussions.

**Predicting** : Students need to develop the skill of predicting by drawing on the knowledge gained through experiment and observations.

**Inferring** : Inferences based on them are however, crucial. A proper inference can be drawn only if the student has good skills of analysis. The defects in analysis of data will affect the quality of inference.

**Formulating hypothesis** : A hypothesis is a temporary conclusion drawn using insight. A problem can have a number of casual factors and solutions. Based on knowledge and experiences relating to the problem the causes and solutions can be guessed. Each such a guess in a hypothesis and need to be tested out and rejected if disapproved. Hypothesis which are proved right become conclusions.

**Interpreting data:** Interpretation of collected data may led to new ideas and generalization. Opportunities may be

provided for interpreting data and formation of new ideas.

### Controlling

variables : Variables influence activities. Variables are to be controlled while doing experiments. For best results, variables are to be effectively controlled.

Experimenting: An experiment in a planned activity to test the validity to hypothesis drawn. Experimentation contains the process skills in an integrated way.

### Attitudinal domain

Home science education will help the student to develop positive attitude to oneself as well as to explore human emotions. Through their experiences in living together pupils become aware of the importance and ways of establishing and maintaining good relationships in the new approach. Values and attitudes need to be emphasized in science education.

Very often in science learning, scientific facts and processes are given exclusive consideration. But under the current social situation, values and attitudes need to be emphasised in Home Science learning. Teaching that does not give adequate emphasis on this domain cannot help to realize the aims of science learning. Some indicators

relating to this domain are given below.

- Developing a positive approach to scientific knowledge, science education.
- Developing confidence in one's abilities.
- Taking appropriate decisions regarding social and environmental issues.
- Experimenting one's thoughts and emotions in a creative way.
- Taking logical decisions regarding personal values.

### Application domain

Concepts, processes and values that the student has developed are meaningless when they have no practical value. Hence science education provides ample scope for the pupils to apply learned science concepts to every day life.

Using a problem-based approach relating to personal life and contemporary social technological problem, the learners will be able to understand the need to apply knowledge, skills and attitudes.

Eg.: Observing personal hygiene and undergoing immunization procedures.

Along with acquisition of concepts, process skills and attitudes, the learners need to develop the ability to apply these in new situations and to solve problems. This is the proof of comprehension.

Using a problem-based approach relating to science, technical science and personal life the learner will be able to understand the need to apply knowledge, skills and attitudes.

The components of this domain are given below.

- Using scientific process in solving problems that occur in daily life.
- Applying learnt science concepts and skills to everyday technological problems.
- Seeing instances of scientific concepts in everyday life experiences.
- Understanding scientific and technological principles involved in the household and other common technological devices.
- Decision making related to personal health, nutrition and lifestyle based on knowledge of scientific concepts.
- Understanding and evaluating mass media reports on scientific developments
- Integrating Home Science with other subjects.

### **Creativity Domain**

Home science education will help the student to adopt work simplification with slight changes in the alignment of hanging conditions. For eg. Modification in the kitchen arrangements and dovetailing etc.

Creativity is an essential component of processes and activities in science. Through activity oriented learning experiences,

opportunities to express creativity can be created. Some of the abilities that come under this domain are

- a) Visualising – producing mental images.
- b) Divergent thinking
- c) Using open ended questions
- d) Generating usual ideas
- e) Combining objects and ideas in new ways.
- f) Solving problems and puzzles.
- g) Designing devices.
- h) Multiple modes of communication results.

### **Foundation of New Approach of Science Learning**

Since science has been considered as a major vehicle for enhancing the quality of human life, the universalisation of science education needs to be more authentic and effective. So the basis of the new curriculum is derived from developments in philosophy, psychology, anthropology and sociology taking place in India and the European countries. These developments have helped to make teacher centered learning to student centred learning and to give the idea that learning takes place through social interactions.

The new curriculum has given adequate thrust to the following.

- Multiple intelligence
- Co-operative learning

- Constructivism and
- Emotional quotient

## **Multiple intelligence**

Multiple intelligence of the students are strengthened and developed as they go through different learning activities. The different dimensions of multiple intelligences are seen in each student in different levels.

The modern studies on intelligence are especially relevant to science education. The traditional view is that intelligence is hereditary and does not change. Because of this some students are considered to be deficient in logical thinking, mathematical operations and analytical skills and it is believed that such students cannot perform well in science subjects.

Modern theories however consider that by giving suitable environments and through continued efforts such students can improve the intelligence relating to the specific area. According to the theory of Howard Gardner, human intelligence has different components and all these components are present in all individuals in different proportions. Some components may be more prominent in some individuals. All components of intelligence can be developed to a certain extent in each individual.

### **Components of Intelligence**

#### **1 Verbal/ linguistic intelligence**

The ability for reading, writing, verbal production, speak and lecture and communicate effectively belong to this type. This type of

intelligence can be developed through activities such as report writing, presenting of reports etc.

#### **2 Logical/ mathematical intelligence**

Abilities like logical thinking and finding out patterns and relations belong to this component. This type of intelligence is developed through finding correspondences, ordered explanations and mathematical operations.

#### **3 Visual/spatial intelligence**

People with prominently visual/spatial intelligence will be able to design models and execute ideas they have in various forms. Architects, designers and sculptors will be strong in this type of intelligence. Model building, making of art materials, sculpting, painting and drawing will help this component to develop.

#### **4 Bodily-Kinesthetic Intelligence**

This related to the ability to move the body parts. Dancers, actors, sports people and gymnasts who can move the body aesthetically and express emotions through body movement belong to this category. Activities involving dance, aerobics, sports and games help the development of this type of intelligence.

#### **5 Musical Intelligence**

It is believed that this type of intelligence is highly developed in people with the ability to distinguish the different elements in music, performing musicians, people who can hum tunes and those who can appreciate music. Playing musical instruments, singing along with others, keeping rhythm etc. are activities that help the development of this component.

## 6 Interpersonal Intelligence

People who demonstrate leadership qualities and are able to interact in a positive way with others will have a better developed interpersonal intelligence. They can understand the thinking of others and can successfully involve in negotiation activities. Role play and group activities can be used to cultivate this intelligence.

## 7 Intra Personal Intelligence

This is essentially the ability to understand oneself. Such people will have the ability to understand their abilities and shortcomings. Analytical dairy writing, assessment of ideas and activities of others and assignments can help the growth of this factor.

## 8 Naturalistic Intelligence

This is characterised by deep interest in nature and the flora and fauna, love for fellow beings, interest in spiritual and naturalistic phenomena. This component can be strengthened through nature study and enjoying the beauty of nature.

Gardner speaks about another dimension of intelligence - existential intelligence. But this has not been elaborated sufficiently. The teachers may ensure that learning activities that cater to all the components of intelligence are provided to the student.

## Multiple Intelligences in the Science Class Room

The multiple intelligences of the students are strengthened and developed as they go through

different learning activities. The different dimensions of multiple intelligences are seen in each student in different levels.

The teacher must organise learning activities that facilitate the growth of all the types of intelligences in all the students.

## Co-operative learning

This is a mode of learning where the learners help each other to learn. Those who have better knowledge and experience help other students. It must be ensured that the help is not mere copying of other students work. It is a need based interaction providing support for learning at all stages. All the members of the group will be ready to answer the questions on the common task and the groups achievement will be evaluated on the basis of the performances of the group members.

## Constructivism

Constructivism means learning by constructing. Psychologists point out that learning is the combination of knowledge. Learning takes place as part of problem solving. Learning takes place by incorporating new elements of knowledge in to cognitive structure of the learner.

## Features of constructivism

Important ideas put forward by constructivism may be examined now;

### 1 Discovery learning

Teachers must create an atmosphere that enables the learner to discover ideas and facts.

Rather than leaving the student to discover for herself, providing opportunities that prompts the learner to discovery is important. Providing direct explanations and asking the student to imitate models are not what is expected from the teacher. Helping the student to develop a model on her own is more important.

## **2 Learning through debate**

That debates lead to learning is an idea of Bruner. Here debate does not mean an argument. It is a sharing of ideas. New ideas can be developed by asking for explanations, contributing ideas, internalising ideas and analysing ideas in debate. It is an active method where all in the class can participate.

## **3 Learning and Problem solving**

Learning takes place only when the student sees a problem that needs a solution in a particular learning situation. When an imbalance in knowledge is produced the natural tendency is to carry out some activity to correct this. The student needs to be confident that he/she will be able to find a solution. Problems framed need to consider the abilities, cognitive level and practicability.

## **4 Collaborative learning**

This is a form of learning which shares the learning responsibility among members of a group which works towards a common objective.

The common aim can be achieved only when all the group members perform their duties satisfactorily. The outcome of learning can be

shared by all the members of the group. The teacher who facilitates learning need to clarify the responsibilities of each member. This can be done only through discussions with the members of the group. The situation where one person acts on behalf of the group can be avoided in this type of learning.

Collaborative learning method can be followed only by a teacher who is prepared to share knowledge and authority with the students.

## **5. Zone of proximal development (ZPD)**

According to Vygotsky, there is a level of achievement that can be reached by all learners on their own, and another higher level which can be achieved through help from teachers or peers. While any learning activity can be successfully completed by many learners, with the help of competent elders all can reach a higher level. Those who complete the activity only in parts can complete it with the help of the teacher. If appropriate help is received, all learners proceed to better performance. The area between the level achieved by own efforts and that which can be achieved with the help of others is called as zone of proximal development by Vygotsky.

## **6 Scaffolding**

It is only natural that many learners are unable to complete learning activities if help is not received in time. The student needs help from the teacher in many learning activities. Here, help does not mean taking over and completing the work for the student, but making the student herself complete it. Teacher may provide hints,

examples, evidences, or ask questions to direct the thought to specific path. In some situations the student may be asked to examine how others have approached the problem. What is important in providing this scaffolding is to bear in mind that the student must gradually be equipped to take up and complete the task. The concept of scaffolding highlights the important role of the teacher in learner centred education.

### **7 Learning as an active mental process**

Learning being a cognitive process, the teacher needs to know cognitive processes to facilitate the creation of learning opportunities. Learning can be made effective and intellect sharpened by providing learning experiences involving processes like remembering, identifying, correlating, connecting, comparing, classifying, selecting analysing, ordering, logical thinking, summarizing, justifying, guessing, predicting, asking practical questions, explaining, correcting, recreating, imagining, appreciating, creating, concluding, codifying, integrating, thinking critically and calculating.

### **8 Internal motivation**

Constructivism emphasises internal motivation over external motivation. Teachers must make all efforts to see that students have internal motivation. Only a student who is internally motivated can involve completely in learning and own up responsibility for all activities in learning. The teacher may frequently evaluate how far she has been able to motivate the students and develop adequate strategies.

## **Emotional Quotient**

Then emotional quotient to is the greatest factor affecting success in life in now widely accepted. The teacher who aims to focus on improving the emotional intelligence of students need to concentrate on the following.

The concept of emotional intelligence put forward by Daniel Golman was used in framing the new curriculum. The fact that one's Emotional Quotient (E.Q) is the greatest factor affecting success in life is now widely accepted. The teacher who aims to focus on improving the emotional intelligence of students need to concentrate on the following.

#### **i) Ability to take decisions**

Rather than imposing decision on students while planning and executing activities, the students may be allowed to take part in the decision making process. Taking decisions through open discussion in the class, inviting students' suggestions on common problems etc. are habits to be cultivated.

#### **ii) Ability to reach consensus**

- When different opinions, ideas and positions arise, the students may be given the responsibility to reach a consensus.
- Imagining what would be the course of action in some situations, allowing to intervene in a healthy way in problems between individuals.

### iii) Problem solving

- Developing the idea that there is reason and solution to any problem.
- Training in finding reasons for problems.
- Suggesting solutions through individual or group efforts.
- Discussing social problems.
- Analysing the shortcomings in methods to solve problems.

Group discussion will provide reasons and solutions. Problems which can influence classroom learning and for which the learner can actively contribute solutions need to be posed.

- Self criticism, self evaluation
- Ability to face problem-situation in life
- Thinking what one would do if placed in the situation of others, how one would respond to certain experiences of others - All these foster the growth of emotional intelligence.

### iv) Life skills

Life skills need to be given a prominent place in education. W.H.O. has listed ten skills required for success in life.

- Self awareness
- Empathy
- Inter personal relations
- Communication
- Critical thinking

- Creative thinking
- Decision making
- Problem solving
- Coping with emotion
- Coping with stress

### Changed roles in the New Approach of Home Science Curriculum

Knowing the characteristics of the learner, role of the teacher and ways to use the teachers source book help the teacher to plan and effectively implement learning activities in the new approach of Home Science curriculum.

The new approach to science learning was framed and sourcebooks were developed based on modern scientific principles. Knowing the characteristics of the learners role of the teacher and how to use the teacher's handbook help the teacher to plan and effectively implement learning activities.

### I. Role of the Teacher

A real teacher is one who can come down to the level of children very easily. She should be able to link her soul to the soul of the child. She should be able to see through the eyes of the child and hear through her ears. Only such a teacher can motivate the learner and make learning effective.

The role of the teacher is central in transacting a child centred and activity oriented curriculum. What is the role of the teacher?

**Democratic group leader**

The teacher should be a democratic leader who can lead the group of students considering their characteristics. She can intervene in group activities in a suitable way and provide direction.

**Motivator for learning**

Finds out likes and dislikes and produces learning problems and provides help to develop interest in learning. Encourages activities for intellectual development and group work.

**Fellow learner**

A good teacher does not remain cut off from students during various activities. He functions as one among them.

**A constant student**

The teacher must internalize the visions of child psychology and new philosophies in education and endeavour to reform her teaching activities constantly. Carries out discussion and study to solve problems, reads a lot and is prepared to learn from students.

**Problem solver**

The teacher is able to identify problems in the class and solve them. Finds out learning problems in students and initiates measures for solving them.

**Planner**

The teacher plans the activities to take place in and out of school. Takes into consideration

the learning speed, learning styles & multi levels to plan daily activities.

**Researcher**

Conducts research in relevant aspects of education and attempts to incorporate the knowledge gained thus in classroom practice.

**Organiser**

Teacher organises school activities, celebrations, study tours and other social activities.

**Evaluator**

Evaluates the achievements of the students.

**Self - evaluator**

Evaluates her own activities and performance.

Evaluates practical aspects of curriculum transaction.

Evaluates the overall activities of the school.

**Link to the community**

Teacher strengthens the bond between school and the community through bodies like PTA and SSG. Uses local resources and functions as a social activist.

**Creator**

Makes learning aids and equipment. Attempts to develop teaching strategies and present them in an enjoyable way.

## II. Role of the pupil

- active participant in the learning process.
- acts as a researcher
- sharer of information
- sharer of responsibilities
- collects information
- takes leadership
- involves in group work.
- acts as a co-participant
- observes his environment
- experiments and realises ideas
- makes interpretations and draws inferences.

## III. Rights of the pupil

A curriculum which aims at comprehensive development of the student must take into consideration international perspective. Following are the main ideas about rights of children put forward by the UNO.

- Irrespective of sex, are children must be given opportunities to form and express their ideas and due importance should be given for their ideas.
- All children must be given freedom of expression. They should have unlimited freedom to know and search for ideas and to select writing, print or art medium to express their ideas.

- Parents and elders must discharge the duty to develop the abilities of children.
- Education must realize the total development of physical and mental faculties of children according to individual abilities and creative skills.
- The child should have the right to enjoy leisure time, involve in recreational activities and artistic and cultural life.
- The rights of children should not be violated in arbitrary and undemocratic ways. Democratic atmosphere must be ensured in class rooms. Children should be protected from torture, cruelty and inhuman behaviour. Insulting behaviour and punishment must be avoided.

Knowingly or unknowingly activities contrary to the spirit of the above rights take place often in our class rooms, schools and the society. This must change.

## IV. Child friendly classroom atmosphere

Learning can be effective and enjoyable only when the class room atmosphere is according to the new conception of learning and the characteristics of the higher secondary student. The school and the class room should be made attractive for the student. What are the features of a student friendly classroom?

- Class and seating are arranged in an attractive way.

- Democratic nature is upheld.
- Always active
- Students interact with teachers without fear.
- Opportunity for a variety of activities
- Students are allowed to involve in interesting group activities.
- Learning speed, learning style and differing levels of abilities are considered. Help is extended whenever needed.
- Sufficient instructional materials are available.
- Learning aids and other material made from natural objects and low cost materials by teachers and children are available.
- There is freedom of expression, children share their ideas and experiences.
- Walls are decorated with pictures, photographs of scientists etc.
- Children are given acceptance and encouragement
- Healthy atmosphere
- Needs of each child is given consideration. Happy and energetic atmosphere.
- Teachers work considering the rights of the children.
- Problems handled in a patient way.
- Teachers look at all events from the child's viewpoint.

## V. Difference in ability levels

There will be students of various ability levels in any class because learning style, learning speed, varying exposure to learning experiences, physical and psychological problems and varying socio-cultural background.

The learning experiences provided must help to bring the low achievers to an expected level and extend the breadth and depth of the skills of the high achievers.

By repeating learning experiences, introducing variations in a learning experience to suit different levels and if needed, formulating additional experiences, the problem of varying ability levels can be tackled. Peer tutoring, small group study techniques etc can also be adopted.

## VI Teachers' Source book

The teachers sourcebook is aimed at helping the teacher in the transaction of the new approach of curriculum.

- Makes clear the curriculum objectives
- Contains the minimum package of suggested learning activities.  
[Teachers are expected to find more suitable innovative activities rather than the activities suggested in the SB]
- Explains the points mentioned in the textbook.
- Provides guidelines for planning the activities.
- Provides hints for assessing activities.
- Stimulates teacher's thinking.

### 3.

## Strategies for Teaching Home Science (Clothing & Embroidery)

Home Science offers a wide scope for the use of various teaching methods. Availability of appropriate methods and skill in their selection and use is crucial to successful teaching.

In the modern educational context, the concept of 'teaching' has changed. Today the concept of teaching is based on its social and psychological dimensions. The teaching methodology is considered as a social skill rather than a technique practiced by teachers.

Education should go beyond the acquisition of knowledge, to create the ability to analyse, synthesize, evaluate and apply information. This ability can be developed only through the use of creative methods of teaching such as

- a) Problem - Solving.
- b) Discussion.
- c) Role-play
- d) Demonstration.
- e) Laboratory.
- f) Library
- g) Homescience club

- h) Project
- i) Field trip
- j) Seminar
- k) Assignment
- l) Debate
- m) Audio visual aids

### **a) Problem Solving Method**

Application of problem solving method in teaching, the problem selected must be clear, definite, understandable thought provoking, interesting and suited to the age and the knowledge they already possess.

#### **Steps in problem solving**

Problem solving is based on approaching the process of finding out the results by approaching the problem in a number of definite ways. They are:

- i. Recognizing the problem : This step involves sensing the presence of a problem and then identifying the problem.

- ii. Defining the problem : The problem is then defined very precisely and accurately.
- iii. Collecting relevant data: This step involves collection and arrangement of all sorts of relevant data which can be helpful in solving the problem.
- iv. Organising the data: The data is then organised in such a way that it can lead to the solution of the problem.
- v. Formulating a tentative solution : On the basis of the organised data, the student formulates tentative solutions of the problem.
- vi. Arriving at the correct solution: Out of the tentative solutions, a correct solution is found out by a process of reasoning.
- vii. Verifying the results: The students are required to verify the conclusion by reversing the process of reasoning. For example:-

Finding the type of fabrics suitable for different seasons.

Through solving developmental problems, students develop abilities to understand general principles learned in the class through lectures, illustrations, textbooks and homework and they put them to use. Through solving judgement problems students gain ability to judge and make decision weighing values, analysing carefully and evaluation facts and making conclusion with out bias. All these call for clear thinking which is developed in the process of making decisions.

Through planning problems, students acquire managerial ability, students learn to plan their day, lessons, recreation and wages of fulfilling responsibilities.

## b) Discussion

This method is found quite suitable for those topics in Home Science, which cannot be easily explained by demonstration or other techniques. In this method there is sufficient scope for free and natural participation of the pupils.

Discussion takes place whenever a plan or decision is to be made by a group or there is a difference of opinion concerning the situation.

Steps involved in using the discussion methods are:

- to locate and define problems of common interest and significance.
- to work together and to find ways of solving the problems.
- to allocate responsibilities for the solutions suggested and
- to evaluate the effectiveness of the suggested solutions and their implementation.

Advantages of this method are:

- It helps a lot to know about the academic background of the child.
- It allows a better participation of pupils.
- It helps to make classroom teaching more lively, active and interesting.

- It helps to develop qualities of leadership in the pupils.
- It stimulates mental activity.
- It develops fluency in speaking.
- It classifies ideas and helps in the process of thinking.

### **Types of discussion**

Class discussion

2. Group discussion
3. Panel discussion
4. Discussion 66
5. Buzz session
6. Brain storming
7. Symposium
8. Colloquium

### **Class discussion**

Class discussion can be on a general topic such as the need for home science education or it can be on a specific topic such as vocation in home science.

### **Panel discussion**

Panel discussion is also known as round table discussion. It consists of a panel of three to six persons who express their opinion on a given problem. Suppose the topic is 'Is city is becoming overcrowded leading to insanitary living conditions. How can this be improved?'

The members of the panel discussions will include specialists on housing, town planning and sanitation. The purpose of a panel discussion is to get important facts from different angles.

**Procedure :** The chairman starts by introducing the members of the panel to the audience giving their background and experience. She then states the problem to be discussed and explains how she has organised procedures. After opening the session, she proceeds informally, drawing the members into conversation among themselves, but loud enough for the audience to hear. The members present their views on various issues pertaining to the topic, taking not more than two to three minutes at a time. When the discussion among the members of the panel has been carried on for 20-30 minutes, a free discussion follows between them and the audience. At the conclusion of the prescribed time limit, the chairman summarizes the panel discussion and brings out the important points emphasized.

**Discussion 66**

In this type of discussion six persons meet for six minutes to discuss a problem or plan a project. Each member is given a minute to express a point she considers most important. When the teacher feels that she must get the opinion of a majority of students in a minimum time, this method proves highly useful.

**Buzz session**

In this method the class breaks off into pairs to discuss an issue and changes partners at the buzz (ringing) of a bell. At the end of the session each pupil records the number of suggestions she has heard. A buzz session will give a large variety of ideas in minimum time.

**Brain storming**

As the name suggests, the brains of the participants are stimulated to create a storm of ideas and suggestions regarding the topic, without any deliberation to find whether or not they are meaningful and purposeful.

**Symposium**

In this method each member of the group is expected to give his view to the audience through speeches or paper reading about a particular aspect of a problem. At the end a mutual discussion is allowed.

**Colloquium**

This method consists of two groups: On one side experts or resource person and on the other

side students group. The students group raises the questions on interesting subjects and rules announced from the panel.

In a student centred classroom, the following points must be borne in mind while conducting a discussion.

Discussion points may be provided to guide the progress of the discussion.

This will help the students to reach the proper conclusion. Discussion points may be in the form of questions or statements.

- During group discussion the teacher may observe each group and if needed help them to channel the discussion towards the common objective.
- All students may be given opportunity to take part and express their ideas.
- It must be ensured that time limits are observed.
- The conclusion reached may be entered by each student and a group representative must present these during consolidation.
- The teacher may correct or add to the conclusions and ensure that all the relevant ideas have been covered.
- Students may be instructed to enter the consolidated ideas.

### **c) Role playing**

Role playing is spontaneous acting out of a situation by two or more persons to show the emotional reactions of the people in a given situation perceived by them. It is a unrehearsed drama emphasizing the role of a person. Role playing can be used effectively in class.

For example:- Taking of Body Measurements.

### **d) Demonstration**

Demonstration is a simple and effective teaching aid. Demonstration is used to provide information, create interest and develop standards of work by showing how a process is carried out.

Demonstration can be short and informal such as demonstrating how to thread the machine or it can be long and formal as in the case of a demonstration on flower arrangement for a larger audience.

Steps in the process demonstrated will be summarised at the end, preferably by the students themselves. Articles made or the products resulting during the demonstration will be left for inspecting the finished product. Demonstration should be followed by practice under close supervision.

For example :- Fullness to be introduced in a garment.

Repetitions of the practice in the class and through home experience will be needed to develop competence.

### **e) Laboratory**

Since students learn by doing, experience in the laboratory is an important part of their total learning.

Laboratory experiences have three values:

- Productive
- Experimental and
- Observational

Garments making is an example of experience which yield productive values and develop manipulative abilities in managing resources. Experimental type of laboratory experience are needed to determine a principle or illustrate it. For example, removal of ink stain from the dress.

The observational type of experiences such as study of fabrics and comparison of different fibre are used to develop ability to recognise characteristics and draw conclusion.

### **f) Home Science Library**

Home Science books, journals, periodicals, CDs and cassettes may be purchased/subscribed for the Homescience library. Albums, atlas and other collection of students can also be kept as a part of the library. The library will be helpful to the students to develop reference skills and to improve the reading habits as well as to get a deep understanding of the different subjects included under Home Science.

### **g) Home Science Club**

The activities of Home Science club plays an important role in promoting Home Science learning. The activities can be organised under the leadership of a club committee. Home Science teacher may be the science club sponsor, Principal will be the patron and Home Science students its members.

The club mainly aims at building up a positive attitude towards Home Science.

### **h) Project**

This method lays more emphasis on learning by doing. A project as defined by Dr Kilpatric is 'a whole hearted and purposeful activity proceeding in a social environment.' Actually the term 'project' has got very wide connotation and has been taken to include any activity like dramatics, pageants, making models, drawing maps and charts, collecting pictures, preparing soap, books, going on field trips or any other constructive and experimental understanding which enables the children to learn a significant skill or process. A project may be a brief task or it may be an inclusive undertaking.

The project is a kind of experience which is motivated by a strong desire to learn and teach. This method in reality is a method of living. Projects related to home, school and community are very useful in teaching many topics in Home Science. Successful completion of a project depends upon selection, planning, execution and evaluation.

### **Steps in a Project:**

#### **i.) Providing a situation:**

To teach by this method, the teacher must provide a situation where in the pupils are eager to carry out a project according to their needs and interests. Generally various situations are discussed by the teacher so as to find out the interest of the pupils. In such discussion, students are motivated to that situation. Resources are taken into account and various alternatives are considered. After a careful consideration, a plan is selected and it is then written down in the project book by the students under the guidance of the teacher.

#### **ii.) Choosing the project:**

The choice of the project may be left to the students and the role of the teacher be limited to guidance only. Dr Kilpatric observes 'the part of the pupil and the part of the teacher in most of school work depend largely on who does the proposing'. The most important thing is that the pupils do the proposing. However the teacher should tactfully handle the situation and see that a project of greatest educational value is chosen.

#### **iii.) Planning:**

Even during this step the teacher's role is to guide and the actual planning has to be done by the pupils. During the planning maximum participation of students will have to be ensured. During consideration of various proposals the teacher should make clear the difficulties likely to be faced in execution of a proposal. Finally, the best possible plan can be approved.

**iv.) Execution:**

After a particular plan has been approved it is executed and the project is carried out in accordance with the plan. The teacher may assign definite duties to individual students for this purpose. Every child is expected to contribute something in the execution of the plan and successful completion of the project. The teacher should provide only the minimum help.

This is the longest procedure and the students are busy in different works assigned to them. They may be busy in collecting information, visiting various places and peoples, looking up maps, writing letters, reading reference books, calculating prices, enquiring rates etc. Guidance for all these varied activities is to be provided by the teacher and so the task of the teacher is quite difficult.

A single project may provide a number of activities and a variety of knowledge from various sources. The students gain different types of experiences while executing a project and so they learn a good deal incidentally.

**v.) Evaluation:**

After its completion, the project is critically evaluated to assess whether the activities have been carried out in accordance with the plan charted out. Mistakes committed, if any, are noted down, things learnt are reviewed and useful experiences are recounted. The importance of this procedure is that it makes the pupils think about the work they have undertaken and also to evaluate it in the light of the experiences gained.

**vi.) Recording**

It is essential for any effective learning process that a complete record of all the things learnt should be kept. Such a record is generally kept in a project book. The record includes every thing about the project i.e., choice of the project, the discussion held, proposals accepted, duties assigned, books consulted, informations sought for work undertaken, difficulties faced, experiences gained etc. Such a record is found quite useful and so the teacher should see that a complete record of all the project undertaken is kept by the students in their project book.

**i) Field Trip**

This is a method of study which links learning activities with school surroundings with definite aims. If needed the services of local experts and parents may be sought. Proper planning is essential for the success of field trips as in the case of any other learning activity. As part of project activities, field trip or study tour may have to be carried out.

**j) Seminar**

Seminar is a comprehensive organised matter presented either orally or in written form in an interesting manner. It requires the pupils to read the related literature on the given topic from all the possible sources of information, organise it in a purposeful manner with proper logical sequence and then plan for an effective presentation. Seminars are useful in conveying the various messages of Home Science to the

pupils with their own effort. The pupils are made familiar with different sources of information on a topic and also in the course of presenting the work they develop self confidence. Seminars can either be given as oral or written seminar paper, and can be given as individual or a group activity.

For example:- Selection of fabrics for the family.

### **Organisation of seminar**

- Topic presentation
- Finding out sub topics or different areas
- Group formation
- Assigning sub topics to different groups
- Discussion by each group on the assigned area or sub-topic (books, magazines, institutions, place and person)
- Organising ideas
- Paper writing
- Seeking the opinion of the teacher.
- Presentation
- Discussion
- Summarising

The teacher may provide reference materials and give directions at all stages.

- Paper writing
- The paper may include new information gained through data collection, conclusions and findings.

- The information collected by all the members may be included.
- Tables, charts, books and other resource materials may be included.

Teacher may examine the paper at different stages and provide guidelines. The activities and participation of each student in the group may be assessed.

### **Paper presentation**

- Teacher may function as the moderator during the initial stages, but it is better to assign this role to students themselves.
- The paper to be presented must be written out completely.
- All the group members must be present in the class during presentation and must actively participate in the discussion after presentation by the leader.
- Questions from the audience are to be answered by group members taking turns.
- Teacher may interfere when necessary to provide instructions and help.
- When sub topics are presented, after all the presentations are over general discussion may be held. Teacher may summarise the discussion.
- A summarised version of the report may be recorded.

- Seminar papers and reports may be kept in the information corner.

### **k) Assignments**

Assignments are learning activities helping to achieve the curriculum objectives and also lead the pupil from the present level to a higher level of learning.

Assignments may be of the types - writings, drawings, construction of models etc. In assignments involving construction of models, a note on methods used in construction may also be submitted.

The discussion and planning may be carried out in classroom to complete the assignments in time. Clarifications may be given about the sources. Teacher may provide the sources if needed.

### **l) Debate**

Debate is an important method of learning science, social constructivist theories consider debate as an ideal method of learning.

After presenting a controversial topic, arguments in favour and against are put forward and a detailed analysis of facts is done by both sides in a debate.

#### **Relevance of Debate**

- To develop the skill of presenting ones views logically and argue convincingly
- To develop the ability to compare others views with ones own view and to understand

relevant aspects of ideas of others.

- To develop leadership quality, democratic attitude, unity, and communication skills.

#### **Conducting a debate**

The selection of the debate topic must be done very carefully. A controversial topic (one which can be viewed from two different standpoints) is suitable for debate. Both viewpoints must help in cultivating certain positive attitudes in students.

The teacher must not take a stand favouring one group. An objective approach is to be maintained while presenting the topic.

Only then the students will prepare to debate both aspects. The processes in the debate are;

- Topic presentation
- Preliminary discussion - students are grouped into two.
- The two groups discuss the arguments they are going to present.
- Responsibilities assigned for presenting different viewpoints & arguments.
- Either the teacher or a student functions as the moderator.
- Each group presents their arguments.
- Moderator presents an analysis of the ideas and consolidate the points.
- Moderator presents an analysis of the ideas and consolidate the points. Moderator may present the consolidation in tune with the

method of science. The consolidated information is recorded.

### **Responsibilities of the moderator**

- Introductory presentation
- Guiding the discussion
- Ensuring that the discussions are on right track
- Ensuring the time limits
- Consolidation of arguments

### **A model for planning**

#### **Stage 1 - 1 period**

- Introductory presentation of the topic
- Grouping of students
- Group discussion
- Collection of information within groups
- Assigning responsibilities
- Fixing date and time of debate.

#### **Stage 2 - Debate**

- Seating arrangements
- Introductory remarks
- Presentation of arguments from two sides
- Discussion
- Consolidation

The moderator's main responsibility is consolidation. It must be unbiased, analytical and efficient as the role of a judge in weighing the merits of a legal point.

#### **Stage - 3**

- Preparing report on the debate.
- Record the details of the debate.

### **m) Teaching with Audio-Visual Aids**

In any subject, teaching aids will help the teacher to put forth his/her ideas in an interesting and effective manner. Models, cutouts, exhibits, bulletin boards, puppets, film shows, slide shows, film strips, radio, television, video cassettes, pictures, charts, posters, photographs, flannel graph and flash cards can be effectively used by the teachers to promote the learner centred activity. If computer facility is available, CDs on various topics can be effectively used for teaching. The internet can be successfully used to promote learning.

Models are the representations of objects, which can serve as substitutes for the real objects. Models can be either still models or working models.

Cutouts are simplified models designed to show the parts or work pattern of the whole. This is especially useful in the area of cloth making.

Exhibitions help to convey new ideas and findings of research can have immense educational value. Pupils participating in the exhibition prepare the exhibits, organise and arrange them in order and explain the matter to the public coming to see the exhibition, and thus learn new concepts and skills. The teacher can

entrust the job of setting up an exhibition to the pupils by including all the projects, home assignments, collections if any at the end of the year. For example : - Exhibition of prepared apparels.

Bulletin boards set up in the school enable the pupils to have an understanding of current events and programmes in relation to the subjects of study. The pupils can be encouraged to set up paper cuttings as notices regarding programmes to be implemented etc. every week in the bulletin board.

Film shows on various aspects are available at the Field publicity offices which can be screened in the school. They arouse interest and serve an educational purpose also. Slide shows are also effective teaching aids and they are very useful in the teaching sessions.

Radio and television can also be effectively used by the teacher. Group listening and discussion on educational programmes on radio and television can be done as a part of home science club activities.

Charts, posters, photographs can help in arousing interest in the students. Picture albums on different aspects of textile fibers etc can be prepared with the help of the pupils.

CDs can be viewed as a part of curriculum activities, and also relevant matter from the internet can be saved by the teacher and viewed later by the students, whenever possible.

The teacher can choose any of these strategies according to her topics for students. Teacher can also try any other strategy suitable for the topic.

## 4. Planning

In the context of the changing scenario in the field of education, the role of the teacher is not simply to teach the syllabus. The emerging need of education calls for a facilitator's role from teachers. The learning process has been student centered and activity oriented. Learning activities must enable the student to develop process domain and multiple intelligence skill to their maximum extent. No matter whether those skills are attained inside or outside the classroom, but the teacher must bear in mind, the fact that they are to be accomplished within a time frame.

In order to achieve this end, the teacher may make necessary plans in terms of learning activities, the time required at various stages of learning, the time required for each unit and also the desired outcome.

The teacher must prepare at least three planning documents.

1. Year plan
2. Unit plan
- 3 Daily plan

**YEAR PLAN**

<b>Unit</b>	<b>Chapter</b>	<b>Name of the Unit</b>	<b>Periods theory</b>	<b>Practical</b>	<b>Month</b>	<b>Activity / Strategy</b>
I	1	Importance of clothing & Embroidery	10	10	June	Discussion
II	2	Study of fabrics	20	20	July August	Samples, chart Experiment, group discussion, observation, demonstration.
III	3	Sewing Equipment	15	10	August	Discussion, demonstration, Practical.
IV	4	Basic Hand stitches	15	20	September October	Discussion, demonstration, striptease, chart, pictures, samples.
V	5	Sewing machine	25	25	November	Discussion demonstration, Pictures, practical.
VI	6	Seams and seamfinishes	10	15	December	Discussion demonstration, Practical, Chart, Samples.
VII	7	Treatment of fullness	15	20	January	Demonstration, Samples, Pictures.
VIII	8	Garment Finishes	30	20	February March	Discussion, Demonstration, Collection, Practical.

**UNIT PLAN - IMPORTANCE OF CLOTHING AND EMBROIDERY**

<b>Objectives</b>	<b>Concept</b>	<b>Strategies</b>	<b>Material</b>	<b>Skills</b>	<b>Evaluation</b>	<b>Period</b>
1. To acquire knowledge about functions and importance of clothing.	<ul style="list-style-type: none"> <li>&gt; Primary functions of clothing.</li> <li>&gt; Secondary functions of clothing.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Discussion</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Chart, Reference Material</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Understanding</li> <li>&gt; Observation</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Discussion notes</li> </ul>	<b>2</b>
2. To develop an understanding about the socio psychological aspects of clothing.	<ul style="list-style-type: none"> <li>&gt; Clothing helps in perception of people.</li> <li>&gt; Clothing effects behaviours</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Discussion</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Chart, Reference book, Pictures.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Observation</li> <li>&gt; Differentiation</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Picture Collection</li> </ul>	<b>3</b>
3. To develop an understanding about the factors affecting selection of clothing.	<ul style="list-style-type: none"> <li>&gt; Availability of money, climate factor, personality expression and age affects selection of clothing.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Discussion</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Reference book</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Identifying</li> <li>&gt; Classifying</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Discussion diary</li> <li>&gt; Notes</li> </ul>	<b>3</b>
4. To create an awareness about importance of embroidery in clothing.	<ul style="list-style-type: none"> <li>&gt; Embroidery in clothing makes the dress more attractive and beautiful.</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Discussion</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Pictures, Samples</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Understanding</li> <li>&gt; Practical Skill</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Album</li> <li>&gt; Samples</li> </ul>	<b>2</b>

## DAILY PLAN

<b>UNIT-I STUDY OF FABRICS</b>	
<b>Name of the teacher</b> : ..... <b>Name of the school</b> : ..... <b>Subject</b> : <b>Clothing and Embroidery</b>	<b>Class</b> : <b>VHSE I<sup>st</sup> Year</b> <b>Strength</b> : ..... <b>Time</b> : ..... <b>Date</b> : .....

**Topic : Definition, Classification and properties of fiber.**

<p><b>Facts :</b></p> <ol style="list-style-type: none"> <li>1. Fibers are the basic component of textile fabrics.</li> <li>2. Fibers are classified as natural and man made fiber.</li> <li>3. Natural fibers are silk, wool, linen, cotton etc.</li> <li>4. Reyon, Polyster, nylon are man made fibers.</li> </ol> <p><b>Concept and ideas :</b></p> <p>Fibers are basic component of textiles fabrics. It can be classified in to natural like cotton, silk, wool and linen and man made like rayon, polyster, nylon etc.</p> <p><b>Curriculum Objectives :</b></p> <ul style="list-style-type: none"> <li>• To acquire knowledge and understanding about the above mentioned facts and concepts.</li> <li>• To develop process skills like observing discribing, classifying etc.</li> <li>• To develop application of the acquired knowledge in life situation like selection of fabrics.</li> <li>• To develop characteristics that promote desirable attitudinal change.</li> </ul>	<p><b>Previous knowledge :</b></p> <ul style="list-style-type: none"> <li>➤ The pupil have the knowledge about functions of clothing and its importance.</li> </ul> <p><b>Materials required :</b></p> <ul style="list-style-type: none"> <li>➤ Samples</li> <li>➤ Chart</li> </ul>
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Activities /Strategies	Response / Evaluation
<p><b>Introduction</b></p> <p>Primitive man made use of leaves barks skins etc to meet the basic need of adoring and protecting himself. As the civilization advances, the man found ways of using materials from environment for clothing.</p> <ul style="list-style-type: none"> <li>• Teachers ask some questions to check this previous knowledge.</li> <li>• What are the basic necessities of man.</li> <li>• What are the importance of clothing.</li> <li>• What are the factors affecting clothing.</li> </ul>	<p>Student give answers to questions.</p>
<p>Teacher divide the class into different groups with a group leaders. Then give some samples of man made and natural fibre and finally ask them to notice the characteristics of each fiber by its physical appearance.</p> <ul style="list-style-type: none"> <li>• Teacher initiates discussion and give information regarding definition of fiber.</li> <li>• Properties of fiber.</li> </ul> <p><b>Consolidation</b> : Students acquired the concept of fiber, classification and properties</p> <p><b>Evaluation</b> : Sample collection.</p>	<p>Pupil participated in the group activity and are able to answer some questions raised by teacher after discussion.</p>

## 5

# Evaluation

Educational Evaluation is the estimation of growth and progress of students towards the objectives and values set in the curriculum.

The evaluation process also aims at helping teachers to adapt instruction to the differing needs of individual students. Evaluation helps in providing educational guidance which consists of both solving short range immediate, academic problems of students, and long range counselling regarding the selection of field of study according to students scholastic aptitude and abilities. Personal guidance which tries to identify a student's social, emotional, educational and vocational problems also depends upon evaluation.

### **EVALUATION SHOULD BE COMPREHENSIVE**

- Learning is an active mental process.
- Development of all the process skills are to be evaluated.

- Scientific knowledge, facts, concepts, attitudes and interests to be evaluated.

### **EVALUATION SHOULD BE A CONTINUOUS PROCESS**

- Child progresses through different learning experiences. Learning progress should be evaluated from time to time. Learner must develop a convincing understanding of new information developed through learning experience. They are to be given all help for this. The students may make use of the help of the teacher to solve difficulties in learning. Thus opportunities for continuous improvement is provided to the teacher and the student.

As the curriculum is based on a particular vocation, evaluation becomes an inevitable procedure. Evaluation is done along with learning process throughout the course of study. In order to make an evaluation, the teacher should be able to understand the students, their scholastic and co-scholastic knowledge. Capacity building in the selected vocation is the most important part in vocational education and it should be evaluated accordingly. The technical skills, interest and devotion in the particular field, communication skills, analysis, organising and presentation skills etc. have to be evaluated. The personal and social qualities also have to be evaluated. Thus evaluation is an integral part of learning process which assesses the implementation of the curriculum.

#### **NEED AND IMPORTANCE OF EVALUATION**

Evaluation is to assess the scientific knowledge of students and to recognise to what extent they have achieved the specified capabilities. A written examination at the end of an year which is purely based on a textbook is not of much use. "Evaluation is a systematic process of collecting, analysing and interpreting evidence of students' progress and achievement both in cognitive and non-cognitive areas of learning for the purpose of taking a variety of discussions".

The teacher can properly assess the level of the learner and can identify his/her strength and

weakness. This will help each student to evaluate themselves and to improve their level of learning by taking necessary assistance from the teacher (self evaluation) classmates can evaluate themselves through interaction (peer group evaluation) Evaluation even help the teacher to analyse and improve their performance. Evaluation helps to integrate the teacher, learner and even the parents. Thus student who are socially useful and can perform productive work are created. This will improve the quality of our young generation.

Theories of constructivism and multiple intelligence are the basis of modern learning. So evaluation strategies have also to be changed. Evaluation must be;

- Continuous and comprehensive
- Scholastic and co-scholastic
- Depending on grading system.
- Depending on a vocational or trade proficiency.

#### **CONTINUOUS AND COMPREHENSIVE EVALUATION**

Most of our traditional evaluation methods are related only to the area of scientific knowledge or the memory of students. To eliminate the limitations of this method we are forced to evaluate the multi-dimensional competencies of the learner with respect to the practicability and nature of the subject.

### **INDICATORS FOR CONTINUOUS EVALUATION CAN BE**

1. Assignment
2. Seminar
3. Class test
4. Project etc.

\* For continuous evaluation class test (CT) is made compulsory taking any two of the above said indicators. CT can be a written test, oral test (viva), Practical test.

### **GRADING FOR CE**

Each item in CE is evaluated giving its required score and graded as shown. 5 point grading is given

13	→	20	→	A grade
13	→	16	→	B grade
9	→	12	→	C grade
5	→	8	→	D grade
below 4	→			E grade

#### **1. ASSIGNMENT**

Assignment is an activity to achieve the curriculum objectives undertaken by the students, in continuation with activities carried out in the class. It is a self learning cum evaluation activity and it should ensure that the work is completed within a stipulated time according to the teacher's direction by utilising the maximum capabilities

of the students and exploring maximum possibilities. If same topic is given to all the students, the involvement of the students in his/her work should assure using some tools like viva-voce. If different tasks are assigned, the level of task should be uniform and evaluation indicators should be specified in advance. The activity begins in the classroom with proper planning and preliminary discussion and carried out completely outside the class. The document containing the activities should be submitted in time for the completion of evaluation. The document may be shared if it is relevant and there is demand if a student delivers more than one seminar the best is taken for CE reporting. Every student should be given a chance as it reflects his/her CE score.

### **CONTENTS OF ASSIGNMENT**

1. Title, Objective
2. Introduction, Collection of data
3. Analysis of the content
4. Conclusion
5. Report (Documentation)

#### **2. SEMINAR**

Seminar is a very effective selflearning activity which helps to go deeper into the different aspects of a particular topic in the syllabus. The information collected from various sources with the guidance of the teacher is systematically organised and

presented in the class so that the information it is shared among the students. The students from the audience can raise doubts and questions regarding the content and even contribute to the subject.

The topic and subtopics are to be emerged during discussion in the classroom as a need to know more about the topic. If there is sufficient content for the subtopics each of them can be assigned to each student, but they should work in a collaborative manner. A seminar paper or notes is prepared and submitted to the teacher for verification and authentication when the seminar is presented the other students record the points in their notebooks and each student prepare his/her own seminar paper of the same topic. At the same time the student who presents the paper also modifies his/her paper and reflect the points emerged during the discussion. All the papers are compared and evaluated to ensure the uniqueness of the efforts made by each student to acquire the information regarding the topic.

### CONTENTS OF SEMINAR

- Slection of topic
- Collection of relevant information
- Presentation of draft paper
- Programe scheduling

Seminar paper presentation

Discussion- interaction

Finalisation of the document

Document submission

### 3. CLASS TEST

A class test is done to evaluate the performance of students in the theory/practical classes. Those who are absent in a test may be given a chance on his/her request, if it is found genuine.

1. Class test may be oral test(viva) or written test, quiz, debate, practical test or any kind of testing the performance of the learner.
2. Class test is a tool to collect feed back from learners during learning process.
3. Class test can be conducted after the completion of a lesson or a unit.
4. It is a tool to find out and to slove the learning problems faced by the student.
5. Questions must be prepared by the teacher by following the guidelines from the authorities.
6. Self evaluation by the students or peer evaluation may be used apart from the evaluation by the teacher.

### PROJECT

A project can be used in testing the ability for

designing and development. As in the case of any project, designing is a procesoriented activity, in which there are different stages to be evaluated and a product is evolved. It is group activity through which a work is developed using a package or any development tool.

The project begins with identifying the application area and the associated problems. The elements involved in designing are recognised and procedure or steps are derived. The students explore possibilities of co-operative and collaborative learning and apply their problem solving skill using development tool/package.

The students must be in touch with the teachers throughout the stages of project work. A project diary must be maintained. The teacher varify and guide to prepare the report. The project report should be evaluated and can be kept in the library for reference.

Project in first year MOBE from electronics or biomedical instrumentation.

### **CONTENTS OF A PROJECT**

Title, preface  
Introduction, topic, Objectives  
Hypothesis, Collection  
Analysis, Procedure  
Conclusion  
Preparation of report

Reference, Suggestion, Appendix  
Presentation of Project

### **STRUCTURE OF PROJECT REPORT**

1. Cover Page ( Project title, Name of Students, Course and Duration)
2. Certificate
3. Preface/ Abstract
4. Content  
Introduction  
Aims (Objectives)  
Problem study/ Analysis  
Development Tools and Facilities used  
Source Code/ Procedure/Steps  
Outputs  
Conclusion
5. Annexure ( Sample data, data sheet etc.)
3. Bibiliography

### **PROJECT**

Project in fisrt year MOBE can be from electronics. Project can be given to a group of students consisting of 5-10 members each.

### **A SUGGESTED PROJECT**

#### **1. ELIMINATOR (0-12V- VARIABLE)**

#### **MATERIAL REQUIRED**

- Transformer - Multiple tap (0,1.5,3, 4.5, 6, 7.5, 9, 12)
- Diode - IN 4007 (IA) - 4 numbers
- Resistor - 1K  $\frac{1}{2}$  W - 1 number
- Capacitor - 1000  $\mu$ f, 25 v- 1 No.
- PCB - General
- LED - Red- 1 No.

Roatating Switch

Connecting cables, wires.

#### **TERM EVALUATION**

Application level questions

Synthesis level questions

Comparison of facts

Challenging questions

Scope for obtaining innovative ideas

Giving creative thinking by the students

Questions based on the objectives of learning activities

Practial oriented questions

Enviornment related questions

Divergent thinking level questions

#### **PE**

PE is the important part of vocational practicals. The practical skills must be evaluated after completing all practical experiments in each term and at the end of the academic year. PE must cover all required indicators to evaluate the technical skill and practical knowledge of the different topics covered.

Indicators for PE are given below;

<b>Indicators</b>	<b>Score</b>	<b>Total</b>
Identification of tools/items	20	20
Procedures (2experts) (Written)	5 x 2	10
Technique/fabrication	20 x 2	40
Observation, Tabulation Inference	20 x 2	40
Result	5 x 2	10
Record	1 x 10	10
Viva		20
	<b>Total</b>	<b>150</b>

**CE item calculation**

Subject		item: Assignment					Total Score (20)
Sl. No	Name	Evaluation Indicators					
		I (4)	II (4)	III (4)	IV (4)	V (4)	
1	Anand	2	3	4	4	4	17
2	Shibu	4	3	4	4	4	19

**Total CE calculation**

Sl. No	Name	CE Items			Total (60)	Total CE Out of 20
		1 Class Test (20)	2 Assignment (20)	3 Seminar/ Project (20)		
1	Anand	18	17	19	54	18
2	Shibu	20	19	18	57	19

**TERMINAL EVALUATION (TE)**

Terminal Evaluation is in written form. The test should not be aimed to test the memory alone. The terminal evaluation questions give more emphasis on application level, analysis and synthesis. The questions are framed so that the students are able to apply their different mental process. The maximum score is 80 and the minimum score of TE is 24 (30%).

The terminal evaluation questionnaire should be capable of measuring

- Content validity
- Criterion validity
- Constant validity
- Reliability
- Class test, term evaluation and annual examination should be in tune with the new approach.

- Should not be prepared to test the rote memory.
- Questions asked should provoke the thinking abilities of students.
- Questions to test the competency of application analysis, synthesis and evaluation are to be given. In other words the questions should be framed in such a way that the students are able to apply their various mental processes.
- Questions should be based on the learning process and the new approach to each subject.
- Results should be scientifically analysed.
- Evaluation results should be analysed and follow up may be carried out at relevant levels (remedial measures).
- Eighty percent marks are set apart for the common examination as the part of the Term Evaluation

#### **The Question Paper must have**

- Application level questions
- Synthesis level questions
- Comparison of facts
- Challenging questions
- Scope for obtaining innovative ideas
- Giving creative thinking by the students
- Questions based on the objectives of learning activities

- Practical oriented questions
- Environment related questions
- Divergent thinking level questions

#### **Role of the Teacher in the Evaluation Process**

- Preparation for the effective execution of evaluation
- Preparation of daily planning notes (teaching manual) and helping learners in their activities.
- While learners are engaged in doing seminars/collections/assignments/collections, conduct interim evaluation and provide necessary help.
- Consider assignment, seminar, collections etc. as learning activities and approach them as evaluation materials.
- Prepare a format to record continuous evaluation.
- Identify and evaluate the progress at different stage.
- Find out learner's difficulty by conducting feedback.
- Make use of the support mechanism fully, provided by the department of education.
- Make the parents aware of the new approach to curriculum and evaluation system through class P.T.A.

- Make use of the training programme for professional excellence and transparency in work.
- Make use of the Humanities Teachers Council for academic progress.
- Identify and make use of the possibility of action research to resolve classroom learning problems.

### **Grading**

It is not scientific to assess the achievement of a student solely based on the marks in the terminal examinations. Marking system proved unscientific in evaluating the growth and development of students both in cognitive and non-cognitive areas. To overcome these shortcomings, a popular mode of evaluation based on students' performance- grading system- has been evolved. At the Higher Secondary stage, it is desirable to use a point absolute grading to co-ordinate and record the evaluation. After giving the score, they are changed into percentages and appropriate letter grades are awarded corresponding to each percentage.

### **Subject: Cosmetology and Beauty**

#### **Parlour Management**

### **Consolidated statement of CE & TE**

**Class: 1st year**

**SUBJECT CONSOLIDATION**

<b>Sl. No</b>	<b>Name</b>	<b>CE (20)</b>	<b>TE (80)</b>	<b>Total CE+ TE (100)</b>	<b>Grade</b>

## 6. Curriculum Objectives

- To acquire knowledge about function and importance of clothing through discussion.
- To develop an understanding about the socio-psychological aspects of clothing through discussion.
- To develop an understanding about the factors affecting the selection of clothing.
- To create an awareness about importance of embroidery in clothing.
- Develop an understanding about the definition of fibers, their classification and properties through discussion, demonstration and observation.
- To develop an understanding about identification of textile fibers through discussion, experiment and observation.
- To develop an understanding about the two sets of Yarns used in woven fabric through discussion and demonstration.
- To acquire knowledge about the different types of needles and threads used for various fabrics through discussion and demonstration.
- To acquire knowledge about the selection and use of various sewing equipments through discussion and demonstration.
- To acquire knowledge about the various tailoring tools through discussion and demonstration.
- To develop an understanding about the various embroidery tools through discussion and demonstration.

- To acquire knowledge about the basic hand stitches through discussion.
- Understand the various constructive stitches through discussion, demonstration and practical work.
- Understand the various decorative stitches through discussion, demonstration, practical work and internet.
- To create awareness on the different methods of transferring design through discussion, demonstration and practical.
- To develop an understanding about the different parts of sewing machine through discussion and demonstration.
- To acquire knowledge on the additional attachments for special use through demonstration and discussion.
- To acquire knowledge about use, care and maintenance of a sewing machine through demonstration.
- To get an idea about the minor trouble and causes of sewing machine through discussion and demonstration.
- To develop an awareness about the types of seams and their choice through practical discussion and demonstration.
- To create an awareness of different seam finishes through demonstration, practical work, and comparative study.
- To develop an understanding about the different methods of introducing fullness in garment through practical work, comparative study and demonstration.
- Understanding the different types of plackets used in garment construction through demonstration, discussion and practical work.
- To develop an understanding about the different types of fasteners used in garments through demonstration.
- To create knowledge about various neckline finishes used in garment construction through practical work, pictures and demonstration.

## **PRACTICAL**

- To acquire knowledge about different types of embroidery stitches through practical work and demonstration.
- To develop an understanding about parts and working method of machine embroidery.
- To acquire knowledge about parts attachment and working method of fashion makers.
- To Create an awareness on taking body measurements.
- Develop an understanding on how to develop average measurements for children and adult.
- To create an awareness about general instruction for pattern making.
- To develop an idea about pattern alteration.
- To develop an understanding about garments construction.
- To get an idea about the basic stitches used in knitting purpose.
- To create an understanding about the basic stitches used in crochet work.

## 7.

# Syllabus

## Clothing and Embroidery First Year

### Unit - I Importance of clothing and Embroidery

- Functions of clothing.
- Psychological aspects of clothing.
- Factors affecting the selection of clothing.
- Importance of embroidery in clothing.

### Unit - 2 Study of Fabrics

- Classification of fibers- Essential properties of fibers used for making textiles.  
  
Their classification into natural (cotton, silk, wool, linen) Man made nylon, polyester, rayon
- Identification of textile fibers- Importance of identification - Cotton,

silk, wool, linen, nylon, rayon, polyester.

- Identification by physical test, burning test and chemical test.

- Identification of warp and weft yarn selvedge.- grain.

### Unit - 3 Sewing Equipment - Selection and use of

- Tailoring Tools
- Measuring tools
- Measuring tape, meter scale, L - Scale, Hem gauge, small ruler.
- Marking tools  
- Dress maker's carbon, Tailors chalk, Tracing wheel.
- Cutting tools

- Scissors, shears, pinking shears

Button hole scissors

➤ Sticking and finishing tools

- Pins, Pin cushions, seam ripper cutting board, dress form, iron, ironing board, sleeve board.

## B Embroidery Tools

- The appropriate tools and equipments used for hand embroidery work, their application, care and maintenance Tracing paper, carbon paper, embroidery frames, thread, needles, bodkin, embroidery scissors, thimble stilleto and Needle threader.

## Unit - 4 Basic Hand Stiches

➤ **A. Constructive**

➤ **B. Decorative**

### A. Constructive

a. Temporary tacking - even, uneven, Diagonal, slip tacking

b. Permanent Stiches - back stich, top sewing, over casting, loopstitch, Hemming, whipping, blanket stitch.

### B. Methods of Transferring Design

a. Carbon method

b. Direct method

c. Running method

d. Hot iron transfer

e. Pouncing method.

## C. Decorative stiches

1. Stem stitch

2. Chain stitch

3. Satin stitch

4. Long and short

5. Fishbone stitch

6. Herringbone stitch

7. Cross stitch

8. Eyelethole

9. Feather stitch

10. Fly stitch

11. Laizy daizy stitch

12. French knot

13. Bullion stitch

14. Couching

## Unit - 5 Sewing Machine

➤ a. Part of sewing machine

➤ b. Additional attachments for special uses such as

1. Ruffler

- 2. Hemmer foot, - Edge stitched finish
- 3. Tucker foot, -Double stitch finish
- 4. Zipper foot, - Overcast finish
- 5. Binder - Bound seam edge finish
- 6. Gathering foot, - Herringbone finish.
- 7. Feed cover plate.

- c. Use, care and maintenance
- d. Minor troubles and their causes
  - Needle breaking
  - Upper thread breaking
  - lower thread breaking
  - skipped stitches
  - uneven stitches
  - looping tangled thread
  - Machine runs heavily.

### **Unit - 6 Seams and seamfinishes**

- (a) Types of seams and their choice.
  - Plain seam
  - Flat fell seam
  - French seam
  - Lapped seam
- (b) Seam Finishes
  - Pinked finishes

### **Unit - 7 Treatment of Fullness**

- (i) Gathers - hand, machine, elastic thread shirring
- (ii) Pleats - knife, box, inverted box pleat.
- (iii) Tucks - Plain, pin, cross tuck.
- (iv) Darts - Single pointed, double pointed
- (v) Flares
- (vi) Godets.

### **Unit - 8 Garment Finishes**

#### **(A) Opening Finishes**

#### **I Plackets**

- Inconspicuous plackets - Continuous bound plackets (Continuous warp opening).
- Bound and faced placket (two piece placket)
- b. Conspicuous plackets- Tailored placket (Used on full sleeve shirt)
- c. Fly opening

## II Fasteners

Fixing of buttons and buttonholes,  
button loops, snaps or press buttons  
hooks and eye.

### B. Neckline Finishes

- (a) Facings and Bindings
  - Applied facings
  - Bias binding
- (b) Collars
  - Flat collars (peter pan collar)
  - Standing (shirt collar)

## Unit Analysis

### Chapter I : Importance of Clothing and Embroidery

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Materials	Skills	Expected Product	Evaluation	Time
1.	To acquire knowledge about function and importance of clothing through discussion.	Discussion	Charts Reference book	Understanding Observation	Discussion Diary	Notes	2 hrs
2.	To develop an understanding about the socio psychological aspects of clothing through discussion.	Discussion	Charts Reference book, Pictures	Improving personality differentiate.	Picture Collection	Assignment	3 hrs
3.	To develop an understanding about the factors affecting the selection of clothing	Discussion	Reference books	Identifying Classification	Discussion Diary Picture Collection	Seminar	3 hrs
4.	To create an awareness about importance of embroidery in clothing.	Discussion	Pictures Samples	Understanding, Practical skill, Creativity	Sample Collection	Album	2 hrs

## Unit 1

# Importance of Clothing and Embroidery

### INTRODUCTION

The evolution of clothing has been closely interlinked with the social, economical and industrial progress of each period in the history of mankind. It is considered to be one of the essentials of civilized man kind. It reflects a person's age, sex, nationality, occupation and socio-economical status. Cloths are also the outward symbol of a person's attitude, values, interest and tastes.

Clothing and embroidery help an individual to recognise and solve their clothing problems by planning suitable attractive clothing with due consideration for colour and design within their budget. Clothing contributes greatly to personal attractiveness. Selection of clothing based on personal needs and decoration of clothing through stitching artistic designs promote aesthetic value.

The aim of teaching clothing and embroidery is to help the learners to acquire knowledge about changes taking place in Clothing and Embroidery according to the latest trends in fashion world

### CURRICULUM OBJECTIVES

- To acquire knowledge about the function and importance of clothing through discussion.
- To develop an understanding about the socio psychological aspects of clothing through discussion.
- To develop an understanding about the factors affecting the selection of clothing.
- To create an awareness about importance of embroidery in clothing.

**SYLLABUS (10 hrs)**

**Importance of clothing and Embroidery**

**a. Functions of clothing**

- Primary functions
- Secondary Functions

**b. Psychological aspects of clothing**

- Clothing helps in perception of people.
- Clothing affects behaviour.
- Choice of clothing
- Age difference in the psychological aspects of clothing.

**c. Factors affecting selection of clothing**

- Economical factor
- Climatic factor
- Age and clothing
- Figure and personality
- Occasions and occupation

**d. Importance of embroidery in clothing**

**Through the Chapter**

For convenience, this chapter can be split into four heads.

Functions of clothing

Psychological aspects of clothing

Factors affecting selection of clothing

Importance of embroidery in clothing.

**A. FUNCTIONS OF CLOTHING**

**Strategies**

**Discussion**

Students know about primary and secondary functions of clothing through discussion.

**Discussion Point**

- Personal Protection
- Sense of wellbeing
- Self adornment
- identification
- Social status
- Self expression
- Fashion and personality appeal
- Climatic conditions.

Teachers consolidated the discussion by providing additional information.

**B. PSYCHOLOGICAL ASPECTS OF CLOTHING**

**Strategy**

**Discussion**

This chapter aims to learn more about the socio psychological aspects of clothing through discussion.

**Discussion point**

- Clothing helps in perception and people.
- Clothing affects behaviour
- Choice of clothing
- Age difference in the psychological aspects of clothing.
- Customs and tradition.

**Consolidation**

On the basis of discussion, students achieve more about the psychological aspects of clothing.

**C. FACTORS AFFECTING THE SELECTION OF CLOTHING**

**Strategy**

**Discussion**

Teachers initiate the discussion on climate, occupation, occasion, and activity which is related to selection of clothing.

**Discussion point**

**Economic Status**

- Climatic factor
- Fashion and latest trends
- Personality expression
- Selection based on profession/ occasion.

Teaches consolidate the discussion by providing additional; information

**D. IMPORTANCE OF EMBROIDERY IN CLOTHING**

**Strategy**

- discussion
- pictures
- samples

Teachers display pictures and samples of different embroidery. Through discussion, student get an idea about importance of embroidery in clothing.

**Discussion Point**

- Importance of embroidery in every day life.
- Purpose of embroidery

The teachers consolidate the discussion points and familiarizes the students with the importance of embroidery in clothing.

**EXPECTED OUT COME**

Discussion diary

Pictures

Collection and identification of different embroidery

**EVALUATION**

- Discussion Diary
- Pictures
- Samples

## Unit Analysis

### Chapter II : Study of Fabrics

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Activity	Skills	Expected Product	Evaluation	Time
1.	Develop an understanding about the definition of fibers their classification and properties through discussion, demonstration and observation.	<ul style="list-style-type: none"> <li>&gt; Samples</li> <li>Charts</li> <li>Group</li> <li>Discussion</li> </ul>	<ul style="list-style-type: none"> <li>Chart</li> <li>Reference book</li> <li>Flash Card</li> </ul>	<ul style="list-style-type: none"> <li>Identification</li> <li>Observation</li> <li>Practical skill describing</li> <li>Classifying</li> </ul>	<ul style="list-style-type: none"> <li>Discussion</li> <li>Diary</li> <li>Collected material</li> <li>Pictures (picture of cloth)</li> </ul>	<ul style="list-style-type: none"> <li>Collection</li> <li>Project</li> </ul>	10 hrs
2.	To develop an understanding about the identification of textilefibers through discussion, experiment and observation.	<ul style="list-style-type: none"> <li>Experiment</li> <li>Observation</li> <li>Discussion</li> </ul>	<ul style="list-style-type: none"> <li>Samples</li> <li>Reference book</li> </ul>	<ul style="list-style-type: none"> <li>Identification</li> <li>under standing</li> </ul>	<ul style="list-style-type: none"> <li>Sample</li> <li>Collection</li> </ul>	<ul style="list-style-type: none"> <li>Assignment</li> <li>Project</li> </ul>	7 hrs
3.	To develop an understanding about the two sets of Yarns used in woven fabric through discussion and demonstration.		<ul style="list-style-type: none"> <li>Fabric</li> <li>Samples,</li> <li>Charts</li> </ul>	<ul style="list-style-type: none"> <li>Identification</li> </ul>	<ul style="list-style-type: none"> <li>Collection</li> <li>Material</li> </ul>	<ul style="list-style-type: none"> <li>Chart,</li> <li>Project</li> <li>Assignment</li> </ul>	3 hrs

## Unit II

# Study of Fabrics

### INTRODUCTION

Fibres are the basic components of textile fabrics. Each has unique characteristics that it imparts to fabrics made from it. Before this century all fibers used for cloth were from natural sources. In recent years a host of new synthetic fibers has appeared, products of the chemistry laboratory. Whether a fibre is natural or artificial has some bearing on its general characteristics.

Fiber identification is an important as well as interesting subject. Today the consumer is interested in knowing the fiber content, which is ultimately going to affect the durability, appearance, comfort health and suitability for laundering and usage. However a knowledge of the characteristics of each kind of fibre

helps a good deal, because every fiber has certain inherent qualities which can't be wholly reproduced in any imitation fiber.

### SYLLABUS (20 Hrs)

- Classification of fibers- Essential properties of fibers used for making textiles - their classification into natural (cotton, silk, wool and linen) man made (nylon, polyester & rayon)
- Identification of textile fibers importance of identification - cotton silk, wool, nylon polyester and linen, rayon.
- Identification by physical test, burning test and chemical test.
- Identification of warp and weft yarn, selvedge, grainline.

### **CURRICULUM OBJECTIVES:-**

1. Develop an understanding about the definition of fibers their classification and properties through discussion, demonstration and observation.
2. To develop an understanding about identification of textile fibers through discussion, experiment and observation.
3. To develop an understanding about the two sets of Yarns used in woven fabric through discussion and demonstration.

#### **Through the chapter**

For the convenience this chapter can be split into three heads.

1. Classification of fibers
2. Identification of fibers.

### **1. CLASSIFICATION OF FIBERS :-**

#### **Strategy :**

Samples

Preparation of charts

Observation

Demonstration

Teacher display original samples of different fibers. Through discussion students gets

an idea about fibers and its classification. After discussion students must collect samples and different types of fibers.

#### **Points for discussion**

- > Definition of fiber.
- > Properties and use of different fibers used for making textiles
- > Classification in to natural and man made.
- > Teacher consolidates the topic by providing additional information if necessary.

### **2. IDENTIFICATION OF FIBERS:-**

#### **Physical test**

#### **Strategy**

Experiment

Observation

Discussion

Teacher ask the students to bring small pieces of fabrics of cotton, silk, wool, nylon, polyester, rayon and linen and direct them to identify each fabric by visual (Physical test) inspection and note down in the table given below:

Sl. No.	Name of fibre	Colour	Lustre	Texture	Water Absorbency

## II BURNING TEST

Teacher ask the students to bring small pieces of fabrics of cotton, silk, wool, nylon, polyester, rayon, linen, candle and match box. Take the fibre from the fabric and show the fibre slowly into the edge of the flame.

- Observe the behaviour as they approach the flame.

- Observe its characteristics and do the same while removing it away from the flame.
- Notice the odour given off and the ash or residue formed and note down in the table given below.

### Conclusion:

Sl. No.	Name of fibre	Approaching the flame	In flame	Away from Flame	Odour	Residue
1.	Cotton					
2.	Linen					
3.	Silk					
4.	Wool					
5.	Polyester					
6.	Nylon					

### III CHEMICAL TEST (SOLUBILITY TEST)

Ask the student to bring small pieces of fabrics of cotton silk, wool, nylon, polyester, linen, rayon, chart paper and gum. Direct them to draw columns in the chart for pasting the fabric pieces and allow it to dry. Then direct them to pour a drop of Conc Hcl, Conc H<sub>2</sub>SO<sub>4</sub>, NaOH of each solution on each fabrics pieces observe the changes note down the changes in the following table.

Reagents	Cotton	Silk	Wool	Polyester	Nylon	Linen
Conc. Hcl						
Conc. H <sub>2</sub> SO <sub>4</sub>						
NaOH						

**Conclusion:**

An assignment can be given on warp, weft, selvedge and grain line.

#### 4. IDENTIFICATION OF WARP, WEFT, SELVEDGE & GRAIN

Teacher should provides fabrics samples to identify warp, weft, selvedge and grain. As they are familiar with the fabric ask them to identify the same and instruct them to collect samples and stick on chart paper with notes.

#### EXPECTED OUT COME

- Collection diary
- Assignment
- Project (Presentation through chart)

**Conclusion**

The teacher consolidates the discussion points and familiarises the students with different types of fibers, their classification and identification.

#### EVALUATION

- Identification result
- Assignment
- Project (Presentation through chart)

**HAND NEEDLES**

<b>Sl. No.</b>	<b>NAME</b>	<b>DESCRIPTION</b>
1.	Crewel Needles Sizes 1-10	Shapes pointed needles used for embroidery work.
2.	Chenille Needles Sizes 13-26	Sharp pointed needles, but thicker and longer with large eyes used for embroidery with heavier yarns.
3.	Tapestry Needles Sizes 13-26	Smaller than chenille needles with blunt edges used for thread count embroidery.

**MACHINE NEEDLES & THRED**

<b>Sl.No.</b>	<b>FABRIC</b>	<b>THREAD</b>	<b>NEEDLE</b>	
			<b>STYLE</b>	<b>SIZE</b>
1.	Filmy- Cotton, Organza, Voile	Fine Silk, Cotton	2020	9,11
2.	Sheer- Velvet Organdy Flannel Crepe	Fine or Medium Cotton or Synthetic	2020	9,11
3.	Medium -Cambric Poplin	Medium silk	2020 Cotton or Synthetic	11,14
4.	Heavy Brocade Suiting Drapery fabric Canvas.	Heavy silk, Cotton or Synthetic	2020	14, 16
5.	Very Heavy - Denim Duck canvas Upholsory fabrics	Heavy silk Cotton or Synthetic	2020 or 2026	14, 16 18
6.	Knits, Stretch- Jersey, Sweater Vinyl, Leather	Fine medium or heavy sysnthetic	2045	11,14,16

## Unit Analysis

### Chapter III : Sewing Equipments

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Activity	Skills	Expected Product	Evaluation	Time
1.	To acquire knowledge about the selection and use of various sewing equipments through discussion demonstration.	Discussion	Charts Models Audio visual aids	Understanding Observation Practical skill Improving personality	Charts Collected Material Model	Practical Questioning	2 hrs
2.	To acquire knowledge about the various tailoring tools through discussion and demonstration	Practical Display Discussion	Models charts blackboard pictures	Obervation Practical skill	Models	Questioning	7 hrs
3.	To develop an understanding about the various embroidery tools through discussion and demonstration.	Practical Display Discussion	Models charts blackboard pictures	Observation Identification Classification Practical skill	Charts models	Assignment	6 hrs

### Unit III

## Sewing Equipments

Sewing Equipments Selection and use of

#### A. Tailoring tools, B. Embroidery Tools

#### Introduction

Having the right tools for the job can make your sewing more successful and enjoyable. To take up cutting and sewing as a hobby or profession the designer must have a proper knowledge of the tools & equipments required for sewing. This knowledge also helps in communicating things creating minimum errors. This chapter takes you through all the basic equipments from measuring tools to the general tools for hand and embroidery work.

#### Syllabus (15 hrs)

- Sewing equipment-selection and use of

#### A) Tailoring tools

- Measuring Tools

- Measuring tape, meter scale, h - scale, small ruler, hem gauge.

- Marking tools

Dress maker's carbon, tailors chalk, tracing wheel.

- Cutting tools

Scissors, shears, pinking shears Button hole scissors.

- Sticking and finishing tools.

Pins, pin cushion, seam ripper, cutting board, dress form ironing board, iron, sleeve board

#### B) Embroidery Tools

The appropriate tools and equipments used for hand embroidery work, their application, care and maintenance, tracing paper, carbon paper,

embroidery frame needles, bodkin, threds, embroidery scissors, thimble, stilleto and needle threader.

### Curriculum Objectives

- To acquire knowledge about the selection and use of various sewing equipments through discussion and demonstrations.
- To acquire knowledge about the various tailoring tools through and display & discussion of equipments.
- Develop an understanding about the various embroidery tools through display and discussion of equipments.

### Through the chapter

This chapter can be split into two heads.

- a. Tailoring tools
- b. Embroidery tools
- c. Tailoring tools

Strategy

Display

Discussion

Teacher initiates the discussion on various types of tailoring tools. Through the display and discussion of different types of tools the students become familiar with the equipment used. Students may be directed to prepare a chart.

### Discussion Point

- List the various types of tools
- Importance of measuring, marking, cutting and finishing tools
- Functions of tailoring tools
- Construction of Measuring and marking tools
- Handling of tools

The teacher consolidates the topic familiarises the students with different types of tailoring tools.

### b. Embroidery tools

Strategy

Display

Discussion

Teacher initiate the discussion on various types of embroidery tools. Through discussion and display students get an idea about application, care and maintenance of embroidery tools. After discussion students are directed to prepare a sewing kit.

### Discussion Point

- Tools used for hand embroidery
- Application of embroidery tools
- Care and maintenance of embroidery tools
- Handling of tools

The teacher consolidates the discussion and

familiarises the students with different types of embroidery tools and their application.

Expected outcome

- sewing kit
- collection diary.

## Unit Analysis

### Chapter IV : Basic Hand Stitches

S1. No.	Curriculum Objectives	Learning Strategies	Learning Activity	Skills	Expected Product	Evaluation	Time
1.	To acquire knowledge about the basic and stitches through discussion	Discussion	Reference book Chart	Understanding	Discussion Diary	Class Test	1 hr
2.	Understand the various constructive stitches through discussion, demonstration and practical work.	Discussion Pictures Chart Stripease Practical	Stripease Chart Album	Differentiate Practical skill Understanding	Album Discussion Diary	Assignment	5 hrs
3.	To create awareness on the different methods of transferring design through discussion, demonstration	Practical Display Discussion	Reference Book Samples	Group work Practical skill Understanding	Samples Discussion Diary	Assignment	3 hrs
4.	Understand the various decorative stitches through discussion demonstration, practical work and internet.	Practical Sample Picture Collection Discussion Demonstration Internet	Chart > Samples > Pictures > CD's	Practical Skill Creativity Differentiate	Album Discussion Diary	Album	6 hrs

## Unit IV

# Basic Hand Stitches

### INTRODUCTION

A good understanding of basic construction techniques will help to achieve a truly professional finish in sewing. The necessity of joining pieces of fabric led to the evolution of a course method of stitching which in time became the decorative medium which is known as embroidery. Embroidery is essentially meant to strengthen the fabric and decorate it. It is the art of working ornamental designs on cloth, leather etc with the decorative stitch.

### SYLLABUS (15 hrs)

#### Basic Hand Stitches

- Constructive stitches
- Temporary eg:-tacking, running
- Permanent - eg: joining stitch, back stitch, overcasting, loop stitch, hemming, whipping, blanket stitches.

Methods of transferring design.

- Carbon method
- Direct Method
- Running Method
- Hot iron transfer
- Pouncing Method

Decorative stitches : Stem stitch, chain stitch, long and short, fish bone, learning bone, cross, fly, feathers, cyclet hole, french knot, button couching.

### CURRICULUM OBJECTIVES

- To acquire knowledge about the basic hand stitches through discussion.
- Understand the various constructive stitches through discussion, demonstration and practical work.
- To create awareness on the different

methods of transferring the design through discussion, demonstration.

- Understand the various decorative stitches through discussion demonstration practical work and internet.

### Through the chapters

For the convenience this chapter can be split into three heads.

#### 1. Constructive stitches

#### 2. Methods of transferring the design

#### 3. Decorative stitches

### 1. Constructive Stitches:-

Strategy :

Practical

Streptase

Chart

picture (diagrams)

The teacher should discuss the use and purpose of each stitch.

By considering the activities mentioned in this topic necessary learning strategies could be performed. Diagrams and sample should be a part of the practical work. After conducting the practical teachers should provide suitable discussion points to elicit the concept of each activity and it should be consolidated.

### Assignment :-

An album and samples for temporary and permanent stitches should be prepared by the students and submitted to the teachers.

### 2. Methods of transferring the design

Strategy

Discussion

Demonstration

Practical

Direct the students to draw suitable diagrams for transferring design. Teacher should give necessary instructions while preparing and transferring the design. After that teacher should provide suitable discussion points to elicit the concept and it should be consolidated.

### 3. Decorative stitches

Strategy:

Practical

Collection of design

Preparation of stitched samples

By considering the activities mentioned in this topic necessary learning strategies could be performed. Methodology adopted for the above part will be enough for this part also. After conducting the practical, teachers should provide suitable discussion points to elicit the concepts and it should be consolidated.

**Album**

An album of different embroidery design and stitched samples should be submitted by the students.

**Expected product**

Album

Discussion Diary

**Evaluation**

Album

Discussion Diary.

## Unit Analysis

### Chapter V : Sewing Machine

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Activity	Skills	Expected Product	Evaluation	Time
1.	To develop an understanding about the different parts of sewing machine through discussion and demonstration.	<ul style="list-style-type: none"> <li>&gt; Discussion</li> <li>&gt; Demonstration</li> <li>&gt; Pictures</li> </ul>	<ul style="list-style-type: none"> <li>Model</li> <li>Chart</li> </ul>	Creativity Understanding	Diagram Still model	Class Test	5 hrs
2.	To acquire knowledge on the additional attachments for special use through demonstration and discussion.	<ul style="list-style-type: none"> <li>Discussion</li> <li>Demonstration</li> <li>Practical</li> </ul>	Pictures	Practical skill Understanding	Identification	Class test	5 hrs
3.	To create awareness on the different methods of transferring design through discussion, demonstration	<ul style="list-style-type: none"> <li>Discussion</li> <li>Demonstration</li> </ul>	Practical	Practical skill	Understanding	Asking questions Notes	3 hrs
4.	Understand the various decorative stitches through discussion demonstration, practical work and internet.	<ul style="list-style-type: none"> <li>Discussion</li> <li>Demonstration</li> </ul>	<ul style="list-style-type: none"> <li>Practical</li> <li>Reference Book</li> <li>Chart</li> </ul>	Practical Skill Observation Understanding	Discussion diary Understanding	Discussion diary Class test	10 hrs

## Unit V

# Sewing Machine

### INTRODUCTION

Today sewing machine is a very necessary piece of house hold equipment. Sewing machine of various models such as domestic model, tailor model, industrial model, portable and cabinet models are available in the market. These may be operated by hand, treadle or electric motor. It is better to buy from a well known reliable manufacturer. The accessibility of repair service and the availability of spare parts should be taken into consideration. However sewing machine can represent a considerable investment.

### SYLLABUS (25 hrs)

- Parts of sewing machine
- Additional attachments for special uses such as Ruffler, Hemmer foot, tuckerfoot, Zipper foot, binder, gathering foot, feed cover plate.

- Use, care and maintenance
- Minor troubles and their causes

Needle breaking, upper thread breaking lower thread breaking skipped stitches, Uneven stitches, Looping tangled thread, Machine runs heavily.

### CURRICULUM OBJECTIVES

- To develop an understanding about the different types of machines available in market and parts of sewing machine through discussion and demonstration.
- To acquire knowledge on the additional attachment for special uses through demonstration and discussion.
- To acquire knowledge about use care and maintenance of a sewing machine through demonstration.

- To get an idea about minor troubles and causes of sewing machine through discussion and demonstration.

**Through this chapter**

For the convenience this chapter can be split in to four heads.

1. Parts of sewing machine
2. Additional attachments for special uses
3. Use care and maintenance
4. Minor troubles and their causes.

**A. PARTS OF SEWING MACHINE**

**Strategy:**

- Discussion
- Demonstration
- Picture

Discussion can be started by demonstrating the parts and functions of sewing machine. After discussion students may be directed to draw the picture of sewing machine.

The students may be asked to collect catalogue on different types of machines available in the market.

**Discussion Points**

- Functions of presser foot
- functions of feed dog

Importance of tension disc.

Importance of stitch regulator etc.

The teacher consolidates the discussion and make the students familiar with the sewing machine.

**B. ADDITIONAL ATTACHMENTS FOR SPECIAL USES.**

**Strategy:**

- Discussion
- Demonstration
- Practical

Discussion can be started by demonstrating additional attachments for special uses. Teacher initiates the discussion based on the following points:

- Functions of
  - Hemmer foot
  - Ruffler
  - Tucker foot
  - Zipper foot
  - Binder
  - Gathering foot

Teacher consolidates the discussion by providing additional information.

**C. USE, CARE AND MAINTENANCE****Strategy:**

Discussion

Demonstration.

Teacher initiate the discussion on use, care and maintenance of sewing machine. Through discussion and demonstration students get an idea about use, care and maintenance of sewing machine.

**Discussion point**

Daily maintenance of a sewing machine on the basis of discussion, students achieve knowledge on daily care and maintenance of a sewing machine.

**D. MINOR TROUBLES AND THEIR CAUSES****Strategy:-**

Discussion

Demonstration.

Teacher initiate the discussion on minor troubles and their causes through discussion and demonstration students get an idea about minor troubles and its corrections.

**Discussion Points**

- Causes of upper thread breaking
- Causes of lower thread breaking
- Testing and adjusting tension and stitch length.
- Removing an old needle and fixing a new one.
- Teacher consolidates the discussion by providing additional information.

**EXPECTED OUT COME**

Understanding use and care of sewing machine.

Discussion diary

**EVALUATION**

Discussion diary

Class test

## Unit Analysis

### Chapter VI : Seam and Seam finishes

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Activity	Skills	Expected Product	Evaluation	Time
1.	To develop an understanding about the different methods of introducing fullness in garment through practical work comparative study demonstration.	Discussion Demonstration Practicals Charts Samples	Reference books Chart Samples	Differentiate Practical skills Observation Application	Sample Collection	Assignment	5 hrs
1.	To create an awareness on different seam finishes through demonstration practical work and comparative study.	Discussion Demonstration Practical work	Reference book Samples	Comparison Understanding	Diary Sample	Notes Seminars	5 hrs

## Unit VI

# Seam and Seam Finishes

### INTRODUCTION

The seam is the basic structural element of any garment where two pieces of fabrics are stitched together. Seams not only form the structure of a garment, they are also necessary to create the garment. At the same time they are used as decorative features. Care in stitching, dressing and finishing of seams gives a professional appearance to the garment.

Seam finishes is a technique used to make a seam edge look neater and to keep it from ravelling. It also adds life to the garment.

### SYLLABUS (10 HRS)

- Seam and Seam Finishes
  - a. Types of seams and their choice
    - Plain seam

- Flat fell seam
- French seam
- Lapped seam
- b. Seam finishes
  - Pinked finish
  - edge stitched finish
  - double stitch finish
  - over cast finish
  - bound seam edge finish.
  - herring bone finish.

### CURRICULUM OBJECTIVES

- To develop an awareness about the types of seams and their choice through discussion demonstration practical.

- To create an awareness on different seam finishes through demonstration practical work and comparative study.

**THROUGH THE CHAPTER:-**

This chapter can be split into two heads.

- a. Types of seams and their choice.
- b. Seam finishes
  - a. Types of seams and their choice.

- Strategy
- Discussion
- Demonstration
- Practical
- Album of samples.

By considering the activities mentioned in this topic necessary learning strategies could be performed. Charts and samples should be a part of the practical work. After conducting the practical teacher should provide suitable discussion points to elicit the concept and it should be consolidated.

**Assignment**

Students should prepare an album of different seams with foot notes.

- b. Seam finishes.
  - Strategy
  - Discussion

Demonstration

Seminar

By considering the activities mentioned in this topic necessary learning strategies could be performed. To give the learners an idea about the choice and application of different seam finishes a seminar is proposed along with discussion and demonstration.

Subtopics for seminar

- Pinked finish
- Edge stitched finish
- double stitch finish
- over cast finish
- Bound seam edge finish
- Herring bone finish.

**Expected product**

- Diary
- Album with samples

**Evaluation**

- Notes
- Seminar.

## Unit Analysis

### Chapter VII : Treatment of Fullness

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Activity	Skills	Expected Product	Evaluation	Time
1.	To develop an understanding about the different methods of introducing fullness in garment through practical work comparative study demonstration.	Samples Demonstration Pictures	Samples Pictures	Practical skill Understanding	Album Project report	Prepared samples Project	15 hrs

## Unit VII

# Treatment of Fullness

### INTRODUCTION

Fullness is produced into garments for various reasons such as

1. To give good shape and proper fit to the garment
2. To allow freedom of movement and comfort to the wearer.
3. To make the garment look attractive

Darts, tucks, pleats, godets, flares and gathers are some of the devices for introducing fullness.

### SYLLABUS (15 hrs)

- Treatment of fullness
1. Gathers - hand, machine, elastic, thread, shirring
  2. Pleats - knife, box, inverted box pleat

3. Tuckes - plain, pin and cross tuck, corded tuck.
4. Darts - single pointed, double pointed
5. Flares
6. Godets.

### CURRICULUM OBJECTIVES

- To develop an understanding about the different methods of introducing fullness in garments through practical work, comparative study, demonstration.

### FULLNESS

#### Strategy

- Demonstration
- Samples
- Pictures

By considering the activities mentioned in this topic necessary learning strategies could be performed. Pictures and samples should be a part of the practical work. After conducting the practical teacher should provide suitable discussion points to elicit the concept and it should be consolidated.

### **Project**

Make fabric samples to show application of darts, tucks, gathers, pleats and other important methods of introducing fullness.

Draw sketches of children's garments to show where darts, tucks, pleats, flares etc can be used effectively.

### **Expected product**

Album

Project report

### **Evaluation**

- Prepared samples
- Project report

## Unit Analysis

### Chapter VIII : Garment Finishes

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Activity	Skills	Expected Product	Evaluation	Time
1.	Understanding the different types of plackets used in garment construction through demonstration, discussion and practical work.	Discussion Demonstration Practical	Samples Charts	Practical skill Understanding Identification	Discussion diary	Sample preparation questioning	10 hrs
2.	To develop an understanding about the different types of fasteners used in garments through demonstration.	Discussion Demonstration Collection	Original Samples	Collection Classifying Identifying	Collection	Assignment	10 hrs
3.	To create knowledge about various neckline finishes used in garment construction through practical work pictures and demonstration.	Discussion Demonstration Practical work	Charts, Models	Practical skill Application identification	Sample presentation	Notes, Classtest	10 hrs

## Unit VIII

# Garment Finishes

### INTRODUCTION

Garments finish is of vital importance for the final appearance of the garment. Neckline finishes, plackets, fasteners etc are part of garment finishes. These can highlight our best features and draw attention away from the worst. To achieve this care must be taken in every step of construction. This chapter guides you through every stage of sewing the different finishes.

### SYLLABUS (30 hrs)

- Garment finishes
- Openings

#### A Plackets

- a. Inconspicuous plackets - continuous bound plackets (continuous warp opening)  
Bound and faced placket (two piece placket)

- b. Conspicuous plackets - Tailored placket (used on full sleeve shirt)
- c. Fly opening

#### B Fasteners

Fixing of buttons and buttonholes button loops, snaps or pressbutton's hooks and eye.

#### C Neckline finishes

- a. Facings and Bindings
  - Applied facings
  - Bias binding
- b. Collars
  - Flat collars (peter pan collar)
  - standing (shirt collar)

### CURRICULUM OBJECTIVES

- Understanding the different types of plackets used in garment construction through demonstration, discussion and practical work.

- To develop an understanding about the different types of fasteners used in garments through demonstration.
- To create knowledge about various neckline finishes used in garment construction through practical work, pictures, demonstration.

### **Through this chapter**

For convenience this chapter can be split into two heads.

- A. Opening finishes
- B. Neckline finishes

### **1. A. Plackets**

Strategy

Discussion

Demonstration

Practical

The lesson may be introduced to get an idea about the importance of plackets in garment construction. From the discussion and demonstration presented by the teacher the learner understands the working method of different plackets. After the section students may be asked to prepare the samples.

### **2. B. Fasteners**

Strategy

Discussion

Demonstration

Collection

Teacher initiates the discussion on the need of fasteners, types of fasteners and their application.

### **Discussion points**

Functions of fasteners

Types of fasteners

Working of fasteners

After the discussion through demonstration teacher consolidates the working of different fasteners.

II Neck line finishes

To the chapter

For convenience this chapter is divided into two headings.

1. Facings and Bindings

2. Collars.

1. Facings and Bindings

Strategy

Demonstration

Discussion

Practical work

Teacher initiates the discussion by asking questions.

What do you mean by neckline finishes

Is there any difference in finishing a curved edge and a straight edge?

What is true bias.

The teacher leads the discussion based on the following points

Use of true bias

Cuttings and joining of bias strips

Types of applied facings-

Shaped and decorative facing.

Types of bindings.

Single & double bindings.

Teacher familiarises the learners with the different methods of finishing neck lines.

**Expected out come**

Album of samples with foot notes

Practical work.

**Evaluation**

Prepared samples

Notes

Class tests.

<b>LIST OF REFERENCE BOOKS</b>		
<b>Sl. No.</b>	<b>NAME OF THE BOOK</b>	<b>AUTHOR / PUBLISHER</b>
1.	Handbook of Textiles	P. Vidyasagar Mittal Publications NewDelhi.
2.	Garment Construction	Management Sodhia Kalyani Publishers, Ludhiyana.
3.	The Art of Sewing	Anna Jacob Thomas UBS Publishers, Distributors Ltd. NewDelhi.
4.	Sewing Knitting	Readers Digest (Australia) Ltd.
5.	Textbook of Home Science	Premalatha Mullick Kalyani Publishers, NewDelhi.
6.	Handbook for Fashion Designing	Ritu Jindal Mittal Publications, Newdelhi.
7.	Basic Process and Clothing Construction	Sherie Deongaji & Raushni Deshpande, Raaj Prakashan Newdelhi.
8.	Practical Clothing Construction Vol I & II	Mary Mathews
9.	Household Textiles and Laundry work	Durga Deulkar Atma Ram & Sons New Delhi.
10.	A Textbook of household Arts	Stella Soundararaj Orient Longman Pvt Ltd, Newdelhi.
11.	105 Embroidery Stitches	Distributors: Textbook Agency, Mumbai.
12.	Cutting & Tailoring	Gayatri Verma, Kapil Dev, Asian Publishes, Newdelhi.
13.	Home Science (for UGC NET/ SLET)	Navaneeta Kaur Sokhi Cosmos Bookhive (p) Ltd Udyog Vihar, Gurgaon
14.	Textbook of HomeScience	Ashadas, Puja Gupta, Ava Banerjee Arya book Depot, Newdelhi.

# **PRACTICAL**

## **INTRODUCTION**

Practical work is an integral part of learning activity in the modern curriculum, which develops manipulative managerial skills. Laboratory experiences develops creative thinking and observation. It may be individual or group work.

Laboratory lesson has three parts.

1. Planning
2. Doing period (Actual work)
3. Summarization and evaluation.

In the planning period learner and teachers develops the whole plans, then set educational objective and its procedures for discussion period.

During work period, experimentation, production and observation are carried out.

After this, summarization and evaluation are carried out ie, methods of work and its products are evaluated by learner and teachers together.

## **IMPORTANCE OF PRACTICALS IN THE LABORATORY**

1. Practicals help the student to work independently and co-operatively
2. If helps to develop creative thinking.
3. It helps to develop good communication skill.
4. Helps to avoid lazyness.
5. Students work without wasting time.

**LIST OF LAB EQUIPMENTS**

<b>SI No.</b>	<b>Equipments</b>	<b>SI No.</b>	<b>Equipments</b>
1.	Candle and Matchbox	23.	Ironing Board
2.	Conc. Hydrochloric Acid	24.	Iron
3.	Con. Sulphuric Acid	25.	Sleeve Board.
4.	Sodium Hydroxide	26.	Tracing paper
5.	Measuring Tape	27.	Carbon paper
6.	Meter Scale	28.	Pounce (powder)
7.	'L' scale	29.	Pattern Books
8.	Hem guage	30.	Embroidery thread
9.	Small ruler	31.	Embroidery Frame
10.	Dress maker's carbon	32.	Bobbin Thread for Machine Embroidery
11.	Tailors chalk	33.	Machine Thread
12.	Tracing wheel	34.	Crochet Thread
13.	Scissors	35.	Wool Thread
14.	Shears	36.	Bodkin
15.	Pinking shears	37.	Stillito
16.	Buttonhole scissors	38.	Thumble
17.	Drawing Pins	39.	Needle Threader
18.	Ordinary pins	40.	Loop Turner
19.	Pin cushions	41.	Seam Ripper
20.	Seam Ripper	42.	Hand Needle (Assorted)
21.	Cutting Board	43.	Machine Needles
22.	Dress Form		

	<ul style="list-style-type: none"> <li>- Ordinary</li> <li>- Double (embroidery)</li> <li>- Fashion Maker</li> </ul>		<ul style="list-style-type: none"> <li>d. Zipper foot</li> <li>e. Binder foot</li> <li>f. Gathering foot</li> <li>g. Feed Cover plate</li> </ul>
44.	Matty cloth		
45.	Cloth for embroidery work	51.	Press button
46.	Cloth for sewing garments	52.	Elastic
47.	Buttons	53.	Collar stiff
48.	Hooks & Eyes	54.	Twine
49.	Zip	55.	Knitting Needle
50.	Sewing Machine Attachments	56.	Crochet Needle
	a. Ruffler foot	57.	Mirror (full length)
	b. Hemmer Foot	58.	Embroidery Machine
	c. Tucker foot	59.	Fashion maker.

**Unit Analysis**  
**Chapter :Embroidery Stitches**

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Materials	Skills	Expected Product	Evaluation	Time
1.	To acquire knowledge about different types of embroidery stitches through practical work and demonstration.	Demonstration Practicals	Needle thread Cloth Design	Practical Skill Creativity	Album	Practical Sample	.... hrs

## PRACTICAL NO. I

### EMBROIDERY STITCHES

#### Aim:

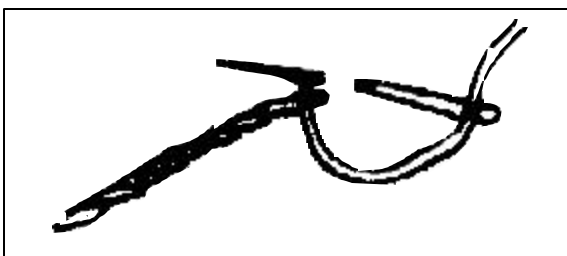
To develop a knowledge about the working of various embroidery stitches.

#### Procedure

1. Ask the students to bring the materials for doing embroidery, like fabric, needle, thread design tracing paper, carbon paper, pencil etc.
2. Ask the students to trace the desired design on the fabric using carbon paper and pencil.
3. Demonstrate the working of each embroidery stitch to the students. The procedure for each embroidery is given below:

#### Stem Stitch:

Work from left to right taking regular, slightly slanting stitches along the line of the design. The thread always emerges on the left side of the previous stitch. This stitch is used for flowers, stem, outlines etc. and as filling stitch.



#### Satin Stitch:-

Proceed with the straight stitches worked closely together across the shape. Care must be taken to keep a good edge. Do not make the stitch too long, or they would be liable to be pulled out of position. This stitch may be worked from right to left or left to right.



#### Long and Short stitch:-

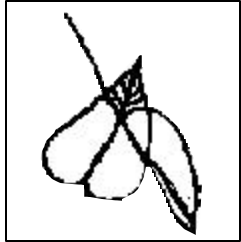
This form of satin stitch is used fill a shape which is too large or too irregular to be covered by satin stitch. It also used to achieved a shaded effect.



#### Fish Bone Stitch:-

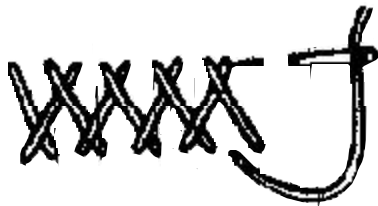
Bring the thread through A and make a small straight stitch along the center line of the shape. Bring the thread through again at B and make a sloping stitch across the central line at

the base of the first stitch. Bring the thread through at C and make a similar sloping stitch to overlap the previous stitch.



**Herring bone Stitch:-**

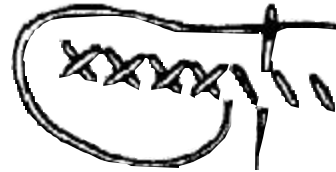
Bring the needle out on the lower line at the left side and insert on the upper line a little to the right, taking a small stitch to the left with the thread below the needle. Next insert the needle on the lower line a little to the right and take a small stitch to the left with the thread above the needle. These two movements are worked throughout.



**Cross Stitch:-**

Bring the needle out the lower right hand side, insert the needle four threads up and four threads to the left and bring out four threads down, thus forming a half cross stitch. Continue in this way to the end of the row. Complete the other half of the cross, as shown. Cross stitch may be worked from left to right or from right

to left. It is important that upper half of all the stitches lie in one direction.



**Eyelethole**

Eyelet holes can be used either as a means of fastening or for decorative purpose. Eyelets can be either worked with button hole or overcasting stitches. Make an eyelet using a stilleto and stitch either buttonhole stitch or overcasting around the hole.

**Feather stitch:-**

This stitch is made up of a series of loops, placed to the right and to the left each holding the previous loop in place. Bring the needle out at the arrow, hold the thread down with the left thumb and insert the needle a little to the right, taking a small slanting stitch towards the centre and keeping the thread under the needle point. Repeat these two stitches alternately.



**Fly Stitch:-**

Bring the thread through at the top left, hold it down with the left thumb, insert the needle to the right on the same level, a little distance from where the thread first emerged and take a small stitch downwards to the center with the thread below the needle. Pull through and insert the needle again below the stitch at the center (A) and bring it through in position for the next stitch. The stitch may be worked singly or in horizontal rows (A) or vertical (B).



**Chain:-**

Bring the thread out at top of line and hold down with left thumb, Insert the needle where it last emerged and bring the point out at a short distance away. Pull the thread through, keeping the working thread under the needle point.



**Laisy Daisy Stitch (detached chain stitch):-**

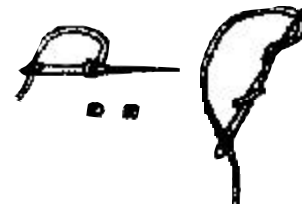
Work in the same way as in chain stitch but fasten each loop at the foot at the foot with a

small stitch. This stitch may be worked singly or in-group form flower petals.



**French Knots:-**

Bring the thread out at the required position, hold the thread down with the left thumb and encircle the thread twice with the needles as at A. Pull the thread through to the back and secure for a single French knot.



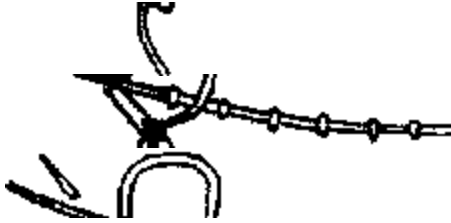
**Bullion Knots:-**

This is worked quite like French knot except that the twists around the needle are around 14-20. These twisted strands are worked in a floral form.



**Couching:-**

Lay a thread along the line of the design and with another thread, tie it down at even intervals with a small stitch into the fabric. The tying stitch can be of contrasting colour.



## Unit Analysis

### Chapter :Machine Embroidery

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Activity	Skills	Expected Product	Evaluation	Time
1.	To develop an understanding about parts and working method of machine embroidery.	Demonstration	Diagrams Instructional Manual	Identifying Understanding	Samples	Prepared samples	.... hrs
2.	To acquire knowledge about parts attachment and working methods of fashion makers.	Demonstration	Diagrams Instructional Manual	Identifying Understanding	Samples	Prepared samples	.... hrs

## 1.2 MACHINE EMBROIDERY:

### INTRODUCTION :

Embroidery is the art of decorating textile fabrics by means of needles and threads. Embroidery machine area dream-come - true for today's embroiderers. Some machine enables us to create, seam, edit and digitize embroidery designs. There are two types of embroidery machines. Some can only be used for embroidery while others can be used for sewing also.

#### Aim:-

To develop an understanding about the facts and working methods of machine embroidery.

#### Procedure:-

How to thread the upper and lower threads.

How to mount the fabric in the embroidery frame and place in the machine.

How to put the power on and do embroidery in desired shapes.

### FASHION MAKER :-

#### Introduction :-

A fashion maker not only does the plain sewing, but it can also do piping binding, ruffles, pleats, darning, button holeing embroidery and

even attaching buttons and zipper. All these accessories are available along with the machine.

#### Aim:-

To acquire knowledge about the parts attachments and working methods of fashion maker.

#### Procedure for plain sewing:-

Use basic zig-zag disc-1 and general purpose foot and general purpose needle plate.

set the needle position , adjust stitch width and stitch length by turning the dial.

Raise the presser foot and pull thread back under presser foot.

Place the fabric below the presser foot and start stitching

#### Zig-Zag Stitching

Adjust the stitch width and Length. Set the needle position.

Use basic Zig-Zag disc - 1 and general purpose foot and needle plate.

## Unit Analysis

### Chapter :Body Measurement

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Activity	Skills	Expected Product	Evaluation	Time
1.	To create an awareness on taking body measurements.	Practical	Tape Picture	Understanding Measuring	Understanding	Assignment	... hrs
2.	Develop an understanding on how to develop average measurements for children and adult.	Practical	Chart	Practical skills	Chart	Questioning	.... hrs

**PRACTICAL NO. 2**

**BODY MEASUREMENTS**

**Aim:-**

1. To create are awareness on taking the body measurements and average measurements for children and adults.
2. For making the drafting of a particular person, body measurements have to be taken. The procedure for taking body measurements is as follows:
3. Points to remember while taking body measurements are:

Correct standing position in erect posture

Person should be wearing well fitted garments.

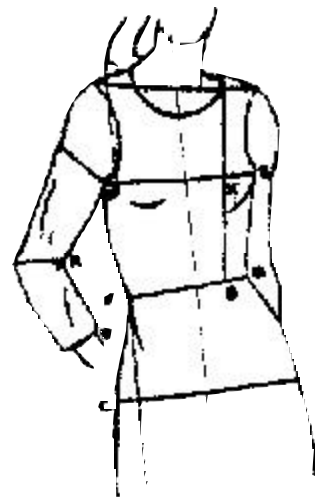
Tell the person to take a deep breath to aow some ease.

While taking round measurements make sure that the tape is parallel to the floor and is not sagging down.

**1. Procedure for taking body measurements**

1. **Waist length** : AB from highest point of shoulder over the bust point to the waist.
2. **Round Bust** : Round measurement taken over the fullest part of bust in front and over the lower part of shoulder blocks in back.

3. **Round waist** : Round measurement taken closely but not tightly around the waist.
4. **Across shoulders** : KL from armscye to armscye at the top of the shoulder across the neck.
5. **Pivet point** : AX from highest point of shoulder to the bust point.
6. **Round Hips** : CD Measure around the widest part of hips with two fingers inside the tape.



7. **Overarm Length** : KM Bend the arm keeping the hand at the waist and measure from K to M passing through Q.
8. **Underarm Length** : NO from armpit to wrist measured on straight arm and not on bent arm.

9. **Upper round arm:** PN Taken around the arm at the armpit level keeping the arm bent.
10. **Round Wrist :** MO Taken round the elbow with arm bent.
11. **Round Wrist :** MO Taken round the wrist.

## **2. THE CONCEPT OF WEARING EASE.**

Fitted garments are not made on exact body measurements some amount of wearing ease is essential. It is an allowance that makes a garment comfortable to the wearer. Ease varies according to the looseness desired at different parts of the body.

Measurements of Children

Age	Chest	Waist	Hip	Widst of Shoulder	Neck	Sleeve	From Shoulder	Frock Length	Short Length	Slacks Length
1 yr.	18" 46cm	18" 46cm	18" 46cm	8" 20cm	9" 23cm	10" 25cm	7" 18cm	15"-16" 38-41cm	8" 20cm	16"-18" 41-46cm
1-2 yrs	20"	20"	20"	8.5"	9.5"	11"	7.5"	16"-18"	9"	18"-20"
	51cm	51cm	51cm	22cm	25cm	28cm	19cm	41-46cm	23cm	46-51 cm
3-4 yrs	22"	22"	22"	9"	10"	12"	8"	20"-22"	10"	20"-22"
	56cm	56cm	23cm	25cm	31cm	21cm	51-56cm	25cm	51-56cm	
5-6 yrs	24"	22"	24"	10"	11"	14"	9"	24"	12"	22"-24"
	61cm	56cm	61cm	25cm	28cm	36cm	23cm	60cm	31cm	56-61cm
7-8yrs	26"	23"	28"	11"	11.5"	17"	10"	26"	13"	26"-28"
	66cm	58cm	71cm	28cm	29cm	43cm	25cm	66cm	33cm	66-71cm
9-10yrs	27"	24"	30"	12"	12.5"	19"	11.5"	28"	14"	28"-30"
	68cm	61cm	79cm	31cm	32cm	48cm	29cm	71cm	37cm	71-76cm
11-12 yrs	28"	24"-25"	81cm	33cm	33cm	54cm	33cm	77cm	38cm	76-81cm

Measurements of Adolescents (Girls) and Ladies

Age	Chest	Waist	Hip	Widst of Shoulder	Neck	Sleeve	From Shoulder	Frock Length	Blouse Length
13-14 yrs	30"	25"	33"	13"	13"	21"	13"	32"-34"	13.5"
	76cm	64cm	84cm	33cm	33cm	54cm	33cm	81-86cm	35cm
15-16 yrs	32"	26"	35"	13.5"	13.5"	22"	13.5"	35"	13.5"
	81cm	66cm	89cm	35cm	35cm	56cm	35cm	89cm	35cm
17-18 yrs	33"	26.5"	36"	13.5"	13.5"	22"	13.5"	36"	14"
	84cm	67cm	91cm	35cm	35cm	56cm	35cm	91cm	36cm
19-20 yrs	34"	27"	37"	14"	14"	22"	14"	37"	14"
	86cm	69cm	94cm	36cm	36cm	56cm	36cm	94cm	36cm
21-22 yrs	35"	27.5"	38"	14"	14"	22.5"	14.5"	38"	14.5"
	88cm	70cm	97cm	36cm	36cm	58cm	37cm	97cm	37cm
23-24yrs	36"	28"	40"	14"	14"	23"	15"	40"	15"
	91cm	71cm	102cm	36cm	36cm	58cm	38cm	102cm	38cm

## Unit Analysis

### Chapter : Pattern Making

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Activity	Skills	Expected Product	Evaluation	Time
1.	To create an awareness about general instruction for pattern making	Diagram	Reference book	Drawing skill	Paper Pattern	Evaluation through papers pattern	... hrs
2.	To develop an idea about pattern alteration	Chart Diagrams	Reference book Chart	Practical Skill	Chart	Evaluation through prepared Chart	... hrs
3.	To develop an understanding about garment construction.	Drafting lay out demonstration.	Cloth and Thread	Practical Skill	Prepared Garment	Practical Examination.	... hrs

### PRACTICAL NUMBER - 3

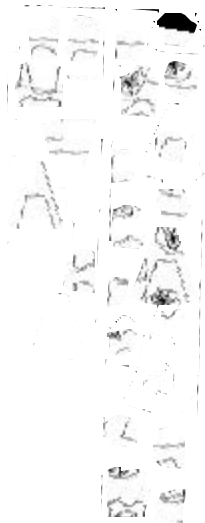
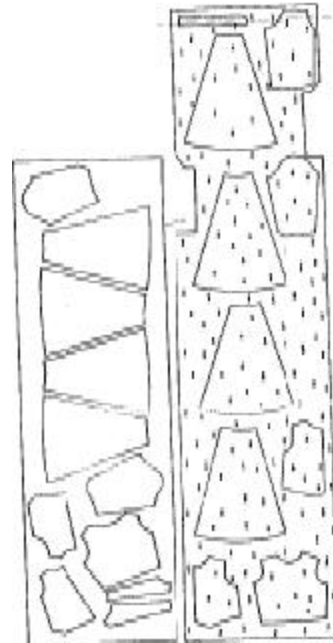
#### Pattern Making :-

##### Aim :-

To create an awareness about the general instructions for pattern making.

##### Procedure :-

1. The teacher can ask the students to bring the following materials, Brown paper, scale, pencil, eraser, measuring tape.
2. The teacher can give necessary instructions on preparation of paper for drafting
3. Students can be directed to draw the pattern according to the given measurements.
4. According to the drafting the pattern can be cut in the paper.



### 2. PATTERN ALTERATION:-

#### Introduction:

Pattern can be altered so that they fit you. Adjust the pattern to the correct body measurements before cutting on cloth. Make changes, where they will least disturb the outline of the pattern pattern alteration can be best done by a slash and spread method for enlarging a pattern and Fold a Pleat for reducing one. While altering a pattern it is necessary that all grain lines be kept straight.

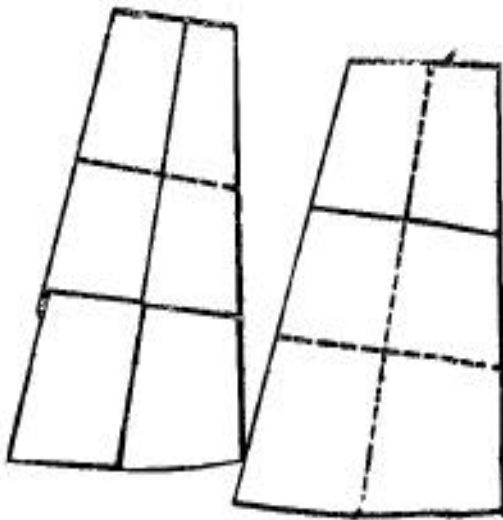
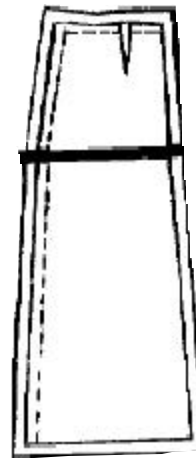
#### Aim:-

To make the students aware of pattern alteration.

**Procedure:-**

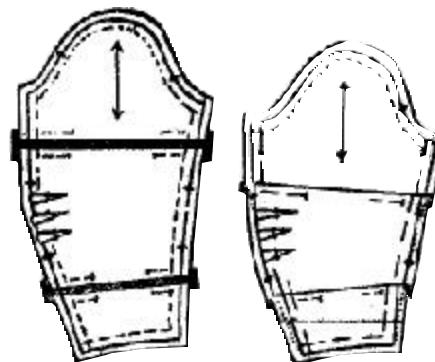
1. The students may be asked to place pattern on table and smooth the creases and wrinkles.
2. Ask the students to compare it with the required measurement.
3. Decide where exactly the alteration have to be made.
4. Students may be instructed to do slash and spread method for enlarging a pattern and fold a pleat for reducing a pattern.

3. Skirt can also be lengthened or shortened or shortened a few inches, 1" to 2" below the hip line as in Fig. A



**Sleeve pattern:**

These may be shortened by making tucks or pleats above and below the elbow for long sleeve and reshaping arm-lines wherever necessary if sleeve is too wide, a tuck may be folded down the middle. Armhole line on the sleeve will require some reshaping. Enlarging is done at the same places. Fig. B&C.



**Back and front**

1. To reduce the width fold a tuck from half waist down to half hem or length line.
2. To shorten the skirt, take a tuck between hip line and the hem or the length line.

B. Construction, drafting, patternmaking lay out and cutting of stitching of following garments based on the standard measurements.

1. Chest cover for babies.
2. Jetty for children
3. Petticoat with body and skirt for girls
4. A line dress
5. Romper
6. Sari petticoat (four piece and six piece )
7. Baby's frock with peter pan collar.

## Unit Analysis

### Chapter :Knitting and Crochet

Sl. No.	Curriculum Objectives	Learning Strategies	Learning Activity	Skills	Expected Product	Evaluation	Time
1	To get an idea about the basic stitches used in knitting purpose.	Demonstration	Wool needle (Knitting) samples	Practical skill	Prepared Samples	Evaluation through samples, Practical Examination	... hrs
2.	To create an understanding about the basic stitches used in crochet worke.	Demonstration	Coloured thread crochet needle	Practical skill	Prepared Samples	Practical Examination	... hrs

## PRACTICAL NO. 4

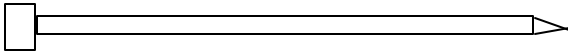
### KNITTING

#### Introduction

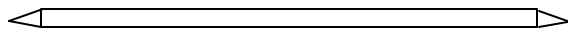
Hand knitting is used for garment construction from yarns through the formation of loops with the help of two needles. There are mainly two types of knitting needles- single pointed and double pointed.

#### KNITTING NEEDLES

##### Single Pointed



##### Double Pointed



There are two fundamental stitches in knitting - knit and purl. The knit stitch is one of two fundamental movements in knitting it forms a flat vertical loop on the fabric face. A purl stitch is the reverse side of a knit stitch.

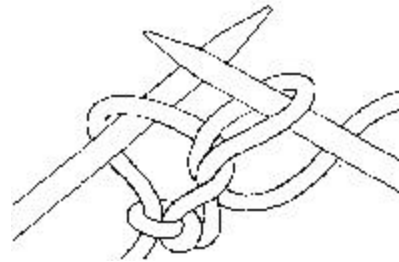
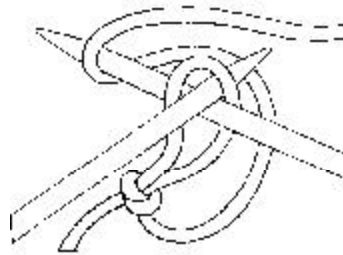
#### Aim:-

To make the student understand the basics of knitting.

### Procedure

#### Casting on

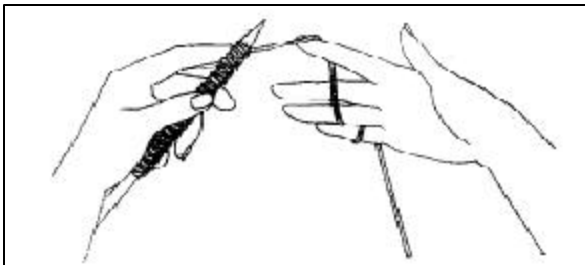
Casting on is the first step in knitting. It forms the first row of stitches and one selvedge of the finished article, usually the bottom, or hem edge.



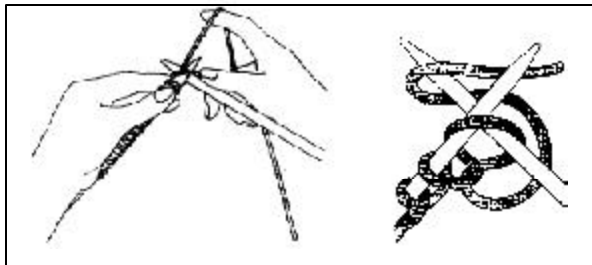
The **Knit stitch** is one of two fundamental movements in knitting; it forms a flat vertical loop on the fabric face.

Knitting methods vary from one place to another, two widely used ones are shown below and opposite. In both, the stitches are worked off the left needle onto the right, but in one, yarn is controlled with the right hand, in the other, with the left. Whatever your natural hand preference, you should be able to master either method, because the nature of knitting is basically ambidextrous.

In use right-handed technique, yarn is drawn around the right needle with the right index finger. Tension (control of yarn released with each stitch.) is maintained between the two end fingers by wrapping yarn around the last. There are other correct ways to wrap yarn. The main thing is to feel comfortable with the method and to achieve even tension and speed.



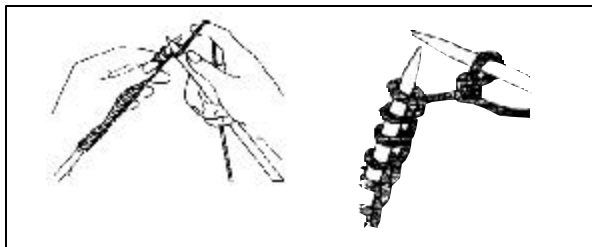
1. Grasp the needle with cast-on stitches in the lefthand. The first stitch should be about 2cm from the tip. Take yarn around little finger of right hand, under the next two fingers, and over the top of the index finger, extending it about 5 cm from the first stitch on the needle.



2. Holding yarn behind the work, insert right needle into front of first stitch from left to right (needle tip points towards the back). With the right index finger, take yarn forward under the right needle, then backward over the top (see detail above right).



3. Draw the loop on the right needle forward through the stitch, at the same time pushing the stitch on the left needle toward the tip. (With the defines that comes with practice, these two movements will become smoothly coordinated. When they do your speed will increase.)



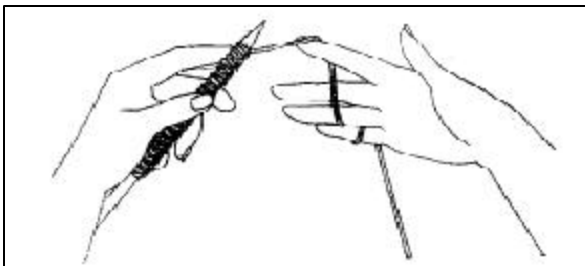
4. Allow first stitch to slide off left needle. New stitch (the loop just made) remains on right needle. Repeat between asterisks, pushing stitches forward on left needle with thumb index and middle fingers, moving stitches back on right needle with the thumb.

### Forming the purl Stitch : English (right-handed) method

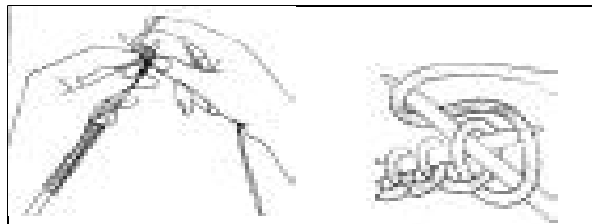
A purl stitch is the reverse side of a knit stitch. Its loop structure is a horizontal semicircle, whereas the knit loop is vertical and flat (seep. 434).

In forming a purl stitch, the movements are the reverse of those used for knitting. The needle enters the front of the stitch from right to left, and the yarn, held in front of the work, is cast over the needle back to front.

When yarn is controlled with the right hand (as shown below), purl stitches tend to be looser than the knit ones. This is because the yarn must be cast farther to form a purl stitch than is required for the knit movements. With experience, a natural compensation is usually developed, especially if the index fingers is kept close to the work. Should the difficulty persist, a good exercise is to keep working a 1x1 rib (seep. 436 for directions) until an even tension has been established.



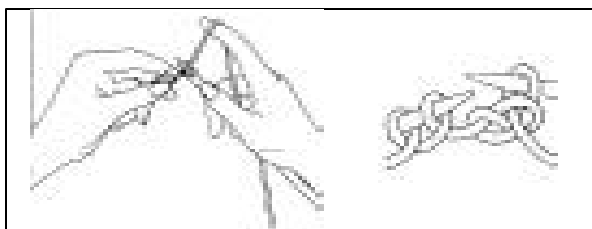
1. Grasp the needle with cast-on stitches in the lefthand. The first stitch should be about 2cm from the tip. Take yarn around little finger of right hand, under the next two fingers, and over the top of the index finger, extending it about 5 cm from the first stitch on the needle.



2. Holding yarn behind the work, insert right needle into front of first stitch from left to right (needle tip points towards the back). With the right index finger, take yarn forward under the right needle, then backward over the top (see detail above right).



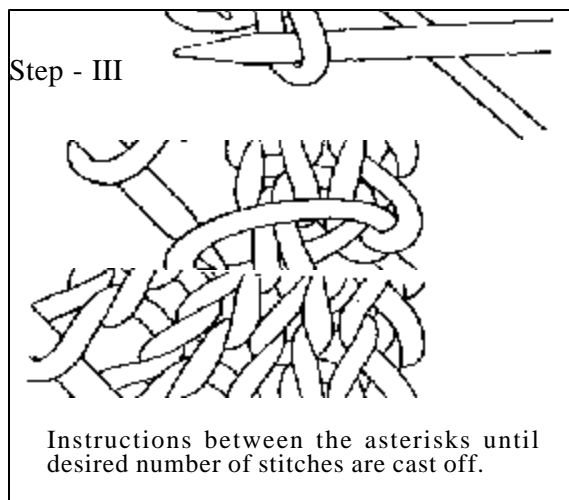
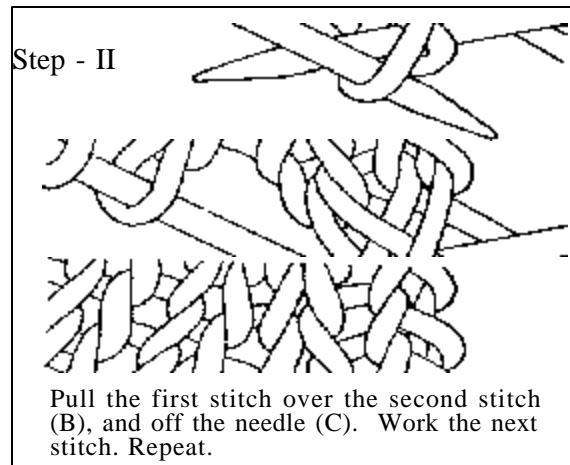
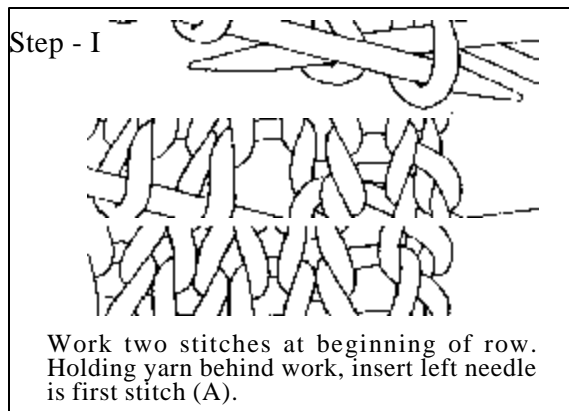
3. Draw the loop on the right needle forward through the stitch, at the same time pushing the stitch on the left needle toward the tip. (With the defines that comes with practice, these two movements will become smoothly coordinated. When they do your speed will increase.)



4. Allow first stitch to slide off left needle. New stitch (the loop just made) remains on right needle. Repeat between asterisks, pushing stitches forward on left needle with thumb index and middle fingers, moving stitches back on right needle with the thumb.

**Casting off (also called binding off)**

Is the removal of stitches from a needle in such a way that they will not unravel. It forms the last row of finished work and sometimes is used to begin the shaping of an armhole, or to produce one side of a horizontal buttonhole. A cast-off edges should be suitable for the type of knit and the purpose it will serve.



## PRACTICAL NO.

### CROCHET WORK

All crochet stitches are the formation of interlocking loops, the simplest of which is the chain stitch. Chain stitch is the foundation of crochet work.

#### Aim:-

To make the students understand the working method of crochet.

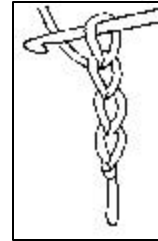
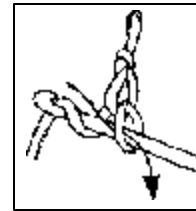
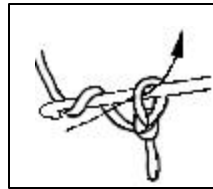
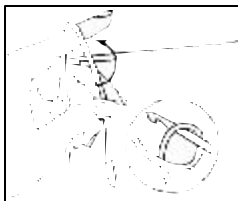
#### Materials Needed: -

Crochet needle and yarn.

#### Procedure :-

The procedure for doing chain stitch.

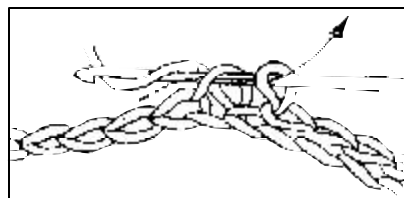
1. The students may be asked to place hook on the other side of thread and turn and pull the thread through the loop and tighten end of thread.
2. Repeat the above procedure. The thread over hook and pull through
3. One chain is made
4. Similarly required number of chains are made.



#### PROCEDURE FOR SLIP STITCH

##### Single Crochet

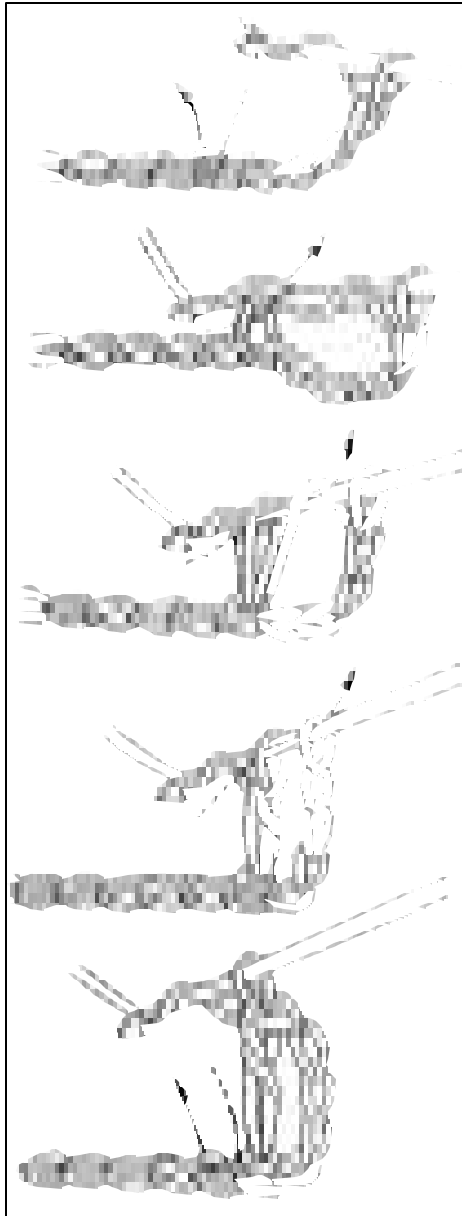
1. Insert hook into the stitch.
2. Thread over hook pull through.
3. One stitch is made. This stitch is used to join rounds or to move to another position to begin a row or round.



#### PROCEDURE FOR DOUBLE CROCHET

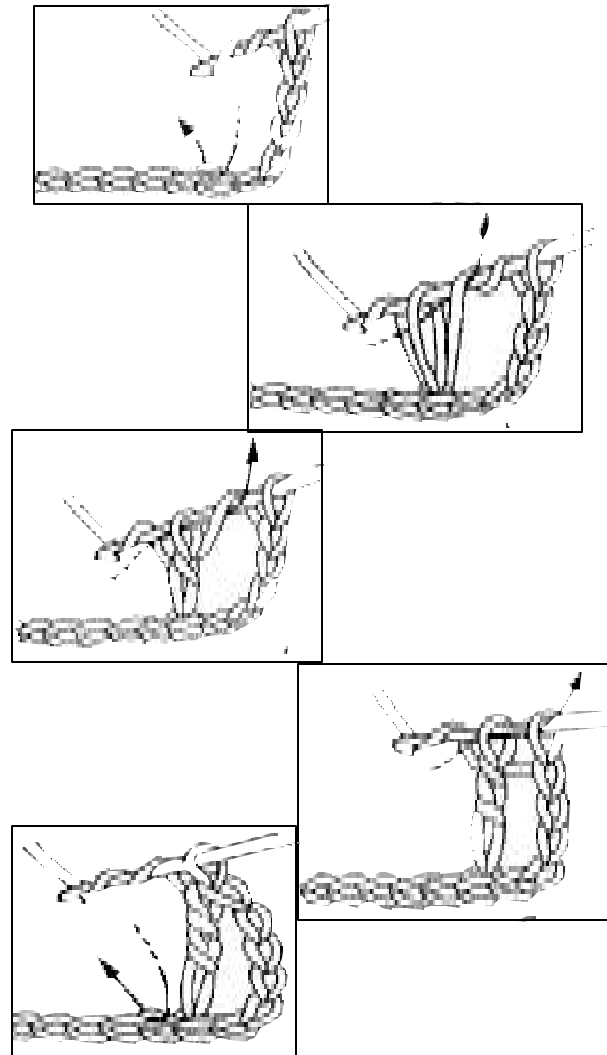
1. Thread over hook and insert hook as illustrated.
2. Thread over hook and pull through.
3. Thread over hook and pull through two loops.

4. Thread over hook again and pull through two loops. Now one stitch is made.



**PROCEDURE FOR TRIPLE CROCHET**

1. Thread over hook twice and insert hooks.
2. Thread over hook and pull through stitch, thread over hook and through two loops.
3. Thread over hook and pull through two loops twice.
4. Now one stitch is made.



## I YEAR PRACTICAL

### UNIT -1

#### Embroidery Stitches

##### A.

- |                     |                  |
|---------------------|------------------|
| 1. Stem stitch      | 2. Chain Stitch  |
| 3. Satin Stitch     | 4. Long & Short  |
| 5. Fish bone stitch | 6. Herring bone  |
| 7. Cross Stitch     | 8. Eyelet hole   |
| 9. Feather Stitch   | 10. Fly stitch   |
| 11. Laisy Daisy     | 12. French Knots |
| 13. Bullion knots   | 14. Couching     |

##### B. Embroidery Machine, Fashion Maker

### UNIT - II

#### A. Body Measurements

1. how to take body measurements.
2. Average measurements for children and adults.

### UNIT- III

#### A. Pattern Making

1. General instruction for pattern making - Drafting and layout.
2. Pattern alteration.

#### B. Drafting, Pattern making, layout and cutting and stitching.

### Stitching of the following Garments

1. Chest covers for babies
2. Jersey for Children
3. Petticoat with body and skirt for girls
4. A line dress
5. Romper
6. Saree Petticoat (Four piece and six piece)
7. Baby's frock with peter pan collar.

### UNIT - IV

#### A. Knitting :-

Hand knitting tools such as single pointed and double pointed needle, basic stitches for hand knitting, knit and pearl, casting on and casting off.

#### B. Crochet :-

Stitches for crochet work such as single, double and triple.

### Unit - V

Computer aided pattern design.

### Unit - VI

Implementation of a Tailoring unit.  
(Project Work)

**UNIT WISE HOUR DISTRIBUTION****THEORY**

<b>Unit No.</b>	<b>Name of Unit</b>	<b>No. of Hours</b>
1.	Importance of clothing and Embroidery	10
2.	Study of Fabrics	20
3.	Sewing Equipment	15
4.	Basic Hand Stitches	15
5.	Sewing Machine	25
6.	Seams and seam finishes	10
7.	Treatment of fullness	15
8.	Garment Finishes	30
	<b>Total</b>	<b>140</b>

**PRACTICAL**

<b>Unit No.</b>	<b>Name of Unit</b>	<b>No. of Hours</b>
<b>Part-I</b>		
1.	Importance of clothing and Embroidery	10
2.	Study of Fabrics	20
3.	Sewing Equipment	10
4.	Basic Hand Stitches, Methods of Transferring design.	20
5.	Sewing Machine	25
6.	Seams and seam finishes	15
7.	Treatment of fullness	20
8.	Garment Finishes	20
<b>Part-II</b>		
1.	Embroidery Stitches	50
2.	Body Measurements	15
3.	Pattern Making Dress Making	168
4.	Knitting and Crochet	20
5.	Computer aided pattern design	17
6.	Project work Implementation of a Tailoring unit	10
	<b>Total</b>	<b>420</b>

**TERM WISE DISTRIBUTION**

**Theory**

<b>Terms</b>	<b>Hours</b>	<b>Total (hrs)</b>
<b>First term</b>		
Unit -1	10	
Unit - 2	20	
Unit - 3	15	45
<b>Second Term</b>		
Unit - 4	15	
Unit- 5	25	
Unit - 6	10	50
<b>Third term</b>		
Unit- 7	15	
Unit- 8	30	45
<b>Total</b>		<b>140</b>