MINISTRY OF EDUCATION



Republic of Ghana

TEACHING SYLLABUS FOR TEXTILES (SHS 1 - 3)

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TEACHING SYLLABUS FOR TEXTILES

RATIONALE FOR TEACHING TEXTILES

Textiles, a component of visual art, embraces activities that result in two-dimensional and three-dimensional forms. A society achieves its significance through its production in the visual arts. We as a people are identified through our art works. To develop pride and patriotism in our young people, it is important that our young people acquire love for the cultural and aesthetic values in textiles. The competitive nature of the textiles industry globally has resulted in the suppression and near collapse of our textiles industry. There is the need to promote and diversify our indigenous textiles industry. The textiles syllabus therefore is structured and geared towards the diversification of the industry in order to generate more jobs and alleviate poverty.

Presently, the impact of Textiles is felt on education, health, communication, and on the total life style of societies. The advancement in technology has greatly influenced the production of textiles, consequently, textiles invariably makes an impact on the socio-economic development of nations and naturally tends to improve the quality of life in all parts of the world. In Ghana, the combined energy of Textiles, science and technology reinforce our survival and development. To this end, it is important to help our young people to develop the creative skills and capability in Textiles in order to contribute to the development and significance of science and technology. These will also enhance industry, the economy, social well being, culture and indeed, our proud history as a nation.

GENERAL AIMS

The syllabus is designed to help students to:

- 1. appreciate Textiles as an integral part of constructive living.
- 2. develop self-esteem, pride, confidence and patriotism through appreciation of his/her own artistic creations.
- 3. develop the capacity for creativity and problem-solving activities that use traditional and/or contemporary tools, materials and ICT
- 4. develop effective manipulative skills using tools, materials and ICT.
- 5. acquire perceptual and analytical skills through direct artistic experience and through the processes of self-expression.
- 6. develop critical thinking that assists in harmonizing opposing ideas, contradictions and inconsistencies in human life and in human relations.
- 7. be aware of the variety of vocations available in the field of textiles and opt for a viable, fulfilling career in Textiles.
- 8. develop appropriate attitudes and skills for sustainable development
- 9. appreciate products of locally produced textile items and patronize them
- 10. develop positive attitudes for exploring the indigenous textile industry
- 11. be aware of the hazards of using some tools, materials and chemicals and the precautions to take when using them.

SCOPE OF CONTENT This course covers the history, principles and practice of Textiles as a vocation. The scope of textiles has been designed in such a way as to provide adequate foundation for students who will pursue further education in art. The course also offers enough knowledge and skills to students terminating their education at the end of Senior High School who would practise the vocation.

PRE-REQUISITE SKILLS AND ALLIED SUBJECTS

The Textiles Subject is based on the Basic Design and Technology course at the Basic Education level. Students offering a course in Visual Art should have acquired satisfactory literacy and numeracy skills including basic skills in drawing and designing, as well as knowledge in integrated science and social studies at the Junior High School level.

SELECTION OF OPTIONS

The General Visual Arts programmes comprise nine major subjects with their individual teaching syllabi. The subjects are General knowledge in Art (compulsory) and the following electives which are put into two groups as follows:

Group A Graphic Design Painting Textiles Group B Basketry Ceramics Leatherwork Jewellery Sculpture

A school may offer as many Visual Arts subjects as possible for which teachers and resources are available. This will provide the student with greater variety of art subjects to choose from. Each student of Visual Arts is expected to choose THREE Arts subjects: General Knowledge in Art (compulsory) and TWO other art subjects, ONE from **Group A** and the other ONE from **Group B** listed above.

ORGANISATION OF THE SYLLABUS

Textiles has been structured to cover three years of Senior High School. Each year's work consists of a number of sections and units as follows:

STUCTURE AND ORGANISATION OF THE SYLLABUS	- TEXTILES
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YEAR ONE	YEAR TWO	YEAR THREE
SECTION ONE: INTRODUCTION TO TEXTILES (pg. 1 – 12)	SECTION ONE: FIBRES: PROTEIN AND MANMADE (Pg. 28-31)	SECTION ONE: FABRIC CONSTRUCTION (Pg.57- 61)
 Unit 1: Rationale for studying textiles Unit 2: Textile developments and careers Unit 3: Renowned Ghanaian Textile Artists Unit 4: Textiles and cultural values Unit 5: Competences attitude and behaviour of the student/learner for employment and customers 	 Unit 1: Protein fibers (wool and silk) Unit 2: Man made fibers (regenerated, synthetic) Unit 3: Contemporary yarn spinning 	 Unit 1: Traditional weaving (kente weaving) Unit 2: Crocheting/knitting Unit 3: Tapestry Unit 4: Non-woven fabrics
SECTION TWO: FIBRES (CELLULOSIC) (Pg. 13 -14) Unit 1: General properties of fibres Unit 2: Cellulosic fibers (cotton, linen) Unit 3: Exploring the Environment for textile fibres	SECTION TWO:SUSTAINABLE DEVELOPMENT AND ENTREPRENEURIAL PRACTICE (Pg. 32- 39) Unit 1: Managing Resources Unit 2: Healthy Studio Practices Unit 3: Building a portfolio and Exhibition Unit 4: Developing a Business Plan, Brochure and Card Unit 5: Costing and pricing Unit 6: Packaging in Textiles	SECTION TWO: FABRIC DECORATION TECHNIQUES (Pg.62-65) Unit 1: Dyeing /batik making Unit 2: Printing Unit 3: Appliqué/embroidery Unit 4: Finishing and care of fabrics
SECTION THREE : YARN PREPARATION (CELLULOSIC) (Pg. 15 – 16) Unit 1: Traditional Yarn preparation (Cellulosic) Unit 2: Contemporary yarn preparation. (Cellulosic)	SECTION THREE: FABRIC CONSTRUCTION – TWILL WEAVES AND OTHER WEAVES(Pg.40–47) Unit 1: Designing and Weaving Twill structures Unit 2: Satin/ Sateen Weaves Unit 3: Crocheting and Knitting Unit 4: Tapestry Unit 5: Types of power looms (shuttle/shuttleless) Unit 6: Finishing and care of woven fabrics Unit 7: Effects of weave structures on the body	SECTION THREE:INDIGENOUS TEXTILE EXPLORATION.(Pg. 66- 68) Unit 1: Exploration of indigenous tools and Materials Unit 2: Exploration of indigenous fabric construction and decoration processes.

YEAR ONE	YEAR TWO	YEAR THREE
SECTION FOUR : LOOMS AND ACCESSORIES (Pg. 17)	SECTION FOUR: FABRIC DECORATION PROCESSES (Pg. 48 – 54)	
Unit 1: Types of Man-power looms and FunctionsUnit 2: Weaving accessories and usesUnit 3: Fabric construction techniques	 Unit 1: Tools and Materials for Fabric Decoration Unit 2: Dyeing Techniques Unit 3: Screen Printing Techniques Unit 4: Traditional (Adinkra) Printing Unit 5: Finishing and Care of Decorated Fabrics Unit 6: Effects of chemicals on the body (internal/external) 	
SECTION FIVE: FABRIC CONSTRUCTION PROCESSES (Pg. 18 – 20) Unit 1: Designing (Plain Weaves) Unit 2: Preparatory Processes for fabric Construction (Weaving) Unit 3: Broadloom Weaving Unit 4: Traditional Weaving	SECTION FIVE: APPLIQUE AND EMBROIDERY TECHNIQUES (Pg. 55 – 56) Unit 1: Stitches Unit 2: Appliqué and Embroidery Techniques	
SECTION SIX: FABRIC DECORATION TECHNIQUES (Pg. 21– 27) Unit 1: Basic Drawing (Designing) Unit 2: Designing for Fabric Decoration (Manual or Computer Aided) Unit 3: Printing from Surfaces (Direct Printing) Unit 4: Plant Dyes (vegetable Dyes) Unit 5: Fabric Preparation/Dyeing Processes Unit 6: Appreciating and critizing specific Textile product		

TIME ALLOCATION

A school may offer as many Visual Art subjects as possible for which teachers and resources are available. This will provide the student with greater variety of art subjects to choose from. Each student of Visual Art is expected to choose THREE art subjects: General Knowledge (compulsory) and TWO other art subjects. Each of the three is allocated six periods per week. For the (compulsory) General Knowledge, it is suggested that two periods per week be allocated to Art History, Appreciation and General Concepts in Art, while five periods per week be allocated to the practical component. Each year's work should be planned according to the three terms, but retaining the logical sequence of topics.

SUGGESTIONS FOR TEACHING THE SYLLABUS

Some new concepts have been introduced in the new and revised set of syllabuses to help improve instructional delivery and learning. Read this suggestion very carefully and relate the information to your repertoire of teaching methods and skills. While teaching one art subject, reference may be made to relevant ideas in the other subject areas. The assistance of local experts, artists, artisans, and elders may be sought where necessary. Knowledge acquired in the 'General Knowledge' syllabus should be applied to activities in the other subjects. Consideration should be given each practical activity as a problem-solving venture i.e. identifying a problem, researching, analysing, suggesting solutions, choosing appropriate solutions and producing an art work. 'The Principles of Product Design' as outlined in the General Knowledge Section should be applied when designing art works. The syllabus has been planned in five columns consisting of Units, Specific Objectives, Content, Teaching and Learning Activities and Evaluation.

<u>General Objectives:</u> General objectives have been listed at the beginning of each section's work. The general objectives specify the skills and behaviours students should acquire as a result of instruction in the units of a section. Read the general objectives very carefully before you start teaching the units. After teaching all the units go back and read the general objectives again to be sure you have covered the general objectives adequately in your teaching.

<u>Sections:</u> Each of the sections represents a broad area. A year's work is divided into sections, where a section consists of a body of knowledge and skills that form a logical aspect of the subject.

<u>Column 1 - Units</u>: The Units in Column 1 provide the major topics. You are expected to follow the unit topics according to the linear order in which they have been presented. However, if you find at some point that teaching and learning of a unit will be more effective if you branched to that unit before coming back to the unit in the sequence, you are encouraged to do so.

<u>Column 2 - Specific Objectives:</u> Column 2 shows the Specific Objectives for each unit. The specific objectives begin with numbers such as 1.3.5 or 2.2.1. These numbers are referred to as "Syllabus Reference Numbers". The first digit in the syllabus reference number refers to section; the second digit refers to the unit, while the third digit refers to the rank order of the specific objective. For instance, 1.3.5 means: Section1, Unit 3 and Specific Objective 5. In other words, 1.3.5 refers to Specific Objective 5 of Unit 3 of Section 1. Similarly, the syllabus reference number 2.2.1 simply means Specific Objective number 1 of Unit 2 of Section 2. Using syllabus reference numbers provides an easy way for communication among teachers and other educators. It further provides an easy way for selecting objectives for test construction. Let us say for instance, that Unit 2 of Section 2 has five specific objectives: 2.2.1 - 2.2.5. A teacher may want to base his/her test items/questions on objectives 2.2.3 and 2.2.4 and not use the other three objectives. In this way, a teacher would sample the objectives within the units to be able to develop a test that accurately reflects the importance of the various objectives taught in class.

You will note also that specific objectives have been stated in terms of the student i.e., what the student will be able to do after instruction and learning in the unit. Each specific objective hence starts with the following, "The student will be able to." This in effect, means that you have to address the learning problems of each individual student. It means individualizing your instruction as much as possible such that the majority of students will be able to master the objectives of each unit of the syllabus.

As has been said already, the order in which the unit topics appear should not necessarily be the teaching order. There should however, be a linkage in the order in which the units and specific objectives are treated. The teacher will have to study the syllabus carefully and plan ahead the activities the students will carry out during a particular lesson. Knowing the requirements of a lesson, the teacher should assemble the materials required for the activities well in advance. The collection of materials must be done by both the teacher and students. Other regular materials may be continually collected and stored to be used when needed. When materials are not available in the immediate environment, the teacher should try to contact persons in higher institutions and in the community for help.

As students begin work on the activities of each lesson, the teacher should serve as a facilitator and motivate the students in various ways to sustain their interest. As much as possible, professional people working in each of the vocations should be invited as resource persons to make presentations and demonstrations to the class. Visits to the workshops of practitioners of the various vocations contained in the syllabus are also encouraged.

<u>Column 3 - Content</u>: The "content" in the third column of the syllabus presents a selected body of information that you will need to use in teaching the particular unit. In some cases, the content presented is quite exhaustive. In some other cases, you could add more information to the content presented. In any case, try to find more information through reading and personal investigations, to add to the content provided.

The use of resource persons who are practitioners of the vocations of this syllabus will in many cases, help to provide your class with more information on each of the vocations than can be obtained from books and journals.

<u>Column 4 -Teaching and Learning Activities (T/LA)</u>: T/LA that will ensure maximum student participation in the lessons are presented in Column 4. Try to avoid rote learning and drill-oriented methods and rather emphasize participatory teaching and learning, and also emphasize the cognitive, affective and psychomotor domains of knowledge in your instructional system wherever appropriate.

You are encouraged to re-order the suggested teaching and learning activities and also add to them where necessary in order to achieve optimum student learning. As we have implied already, the major purpose for teaching and learning is to make students able to apply their knowledge in dealing with issues both in and out of school. Students must be taught to be problem solvers. In this particular subject, students are expected to acquire valuable basic skills in the selected vocation to serve as a foundation for further skill development.

The last unit on Management may pose some difficulties for the teacher. It is nonetheless a very important unit. Many young persons start their businesses or trading enterprises without any knowledge on how to manage the enterprise. Many enterprises fail because of lack of knowledge in basic business principles. We suggest you get a manager or an accountant to help with that section of the syllabus.

<u>Column 5 - Evaluation</u>: Suggestions and exercises for evaluating the lessons of each unit are indicated in Column 5. Evaluation exercises can be in the form of oral questions, quizzes, class assignments (e.g., designing and drawing), essays, structured questions, project work etc. Try to ask questions and set tasks and assignments that will challenge your students to apply their knowledge to issues and problems, and that will engage them in creating new and original items, and developing positive attitudes as a result of having undergone instruction in this subject.

Evaluation should also include observation of processes students go through in performing various activities, and the products students make. Processes and products are both equally important and need observation and correction. The suggested evaluation tasks are not exhaustive. You are encouraged to develop other creative evaluation tasks to ensure that students have mastered the instruction and behaviours implied in the specific objectives of each unit.

PROFILE DIMENSIONS

Learning may be divided into a number of classes. A student may acquire some knowledge through learning. The student may also learn to apply the knowledge acquired in some new context. For instance, the principles for identifying design elements in the natural and man-made environment may be taught to the student. If this is done well, the student will acquire the knowledge and understanding of design principles. Beyond this, the student may be required to apply the elements and principles of design in producing an item such a ceramics, picture making or a textile product. You will note from the

sequence described, that the student has gone through acquisition of basic knowledge, has acquired practical skills, and has had the opportunity to apply the knowledge acquired in a particular problem solving situation. The four learning behaviours, "knowledge", "understanding", "application" and "practical skills" are referred to as "dimensions of knowledge". "Knowledge" is a dimension; "application of knowledge" is also a dimension. More than one dimension form a profile of dimensions. A specific objective may be stated with an action verb as follows: *The student will be able to describe.....*Being able to "describe" something after the instruction has been completed means that the student has acquired "knowledge". Being able to explain, summarise, give examples etc. means that the student has understood the lesson.

Similarly, being able to develop, plan, construct, design, etc. means that the student has learnt to create, innovate or synthesize knowledge. You will note that each of the specific objectives in this syllabus contains an "action verb" that describes the behaviour the student will be able to demonstrate after the instruction. "Knowledge", "application" etc. are dimensions that should be the prime focus of teaching and learning in schools. Each action verb indicates the underlying profile dimension of each particular specific objective. Read each objective carefully to know the profile dimension you have to teach.

In Visual Art, the three profile dimensions that have been specified for teaching, learning and testing are:

Knowledge and Understanding	15%
Application of Knowledge	25%
Practical Skills	60%

Each of the dimensions has been given a percentage weight that should be reflected in teaching, learning and testing. The weights indicated on the right of the dimensions show the relative emphasis that the teacher should give in the teaching, learning and testing processes at the Senior High School level. Combining the three dimensions in the teaching and learning process will ensure that Textiles is taught and studied not only at the cognitive level, but will also ensure practical skill development on the part of students. Note that "practical skills" has been given 60% of the teaching and learning time to emphasize the point that the orientation in Visual Art is more toward the acquisition of practical vocational skills at the SHS level.

The explanation and key words involved in each of the dimensions are as follows:

Knowledge and Understanding (KU)

KnowledgeThe ability to:
remember, recall, identify, define, describe, list, name, match, state principles, facts and concepts. Knowledge is simply the ability to
remember or recall material already learned and constitutes the lowest level of learning.UnderstandingThe ability to:
explain, summarise, translate, rewrite, paraphrase, give examples, generalise, estimate or predict consequences based upon a
trend. Understanding is generally the ability to grasp the meaning of some material that may be verbal, pictorial, or symbolic.

Application of Knowledge (AK)

The ability to use knowledge or apply knowledge, as implied in this syllabus, has a number of learning/behaviour levels. These levels include application, analysis, creativity, innovation or synthesis, and evaluation. These may be considered and taught separately, paying attention to reflect each of them equally in your teaching. The dimension "Use of Knowledge" is a summary dimension for all four learning levels.

Details of each of the four sub-levels are as follows:

Application The ability to: apply rules, methods, principles, theories, etc. to concrete situations that are new and unfamiliar. It also involves the ability to produce, solve, operate, demonstrate, discover etc. Analysis The ability to: break down material into its component parts; to differentiate, compare, distinguish, outline, separate, identify significant points etc., recognise unstated assumptions and logical fallacies, recognise inferences from facts etc. Innovation/Creativity The ability to put parts together to form a new whole. It involves the ability to synthesize, combine, compile, compose, devise, suggest a new idea or possible ways, plan, revise, design, organize, create, and generate new solutions. The ability to create or innovate is the highest form of learning. The world becomes more comfortable because some people, based on their learning, generate new ideas, design and create new things. Evaluation The ability to: appraise, compare features of different things and make comments or judgments, contrast, criticize, justify, support, discuss, conclude, make recommendations etc. Evaluation refers to the ability to judge the worth or value of some materials, ideas etc., based on some criteria. Evaluation is a constant decision making activity. We generally compare, appraise and select throughout the day. Every decision we make involves evaluation. Evaluation is a high level ability just as application, analysis and innovation or creativity since it goes beyond simple knowledge acquisition and understanding.

Practical Skills (PS)

In every Unit, there is a related theory, which should be treated alongside the practical skills. Practical skills refer to the psychomotor domain. This involves the demonstration of manipulative skills using tools/equipment and materials to carry out practical operations, to solve practical problems and to create and produce items. The teaching and assessment of practical skills should involve projects, case studies and creative practical tasks. Skills required for effective practical work are the following:

- 1. Tools/Equipment/Materials/ ICT Handling
- 2. Observation
- 3. Craftsmanship/Artisanship
- 4. Perception
- 5. Creativity
- 6. Communication

<u>Tools/Equipment/Material/ICT Handling</u>: Students should be able to handle and use tools/equipment/materials/ICT properly for practical vocational work. The teacher should ensure that students acquire a high level of proficiency in the use of tools, equipment/ICT and materials in their selected vocation(s).

<u>Observation</u>: The student should be able to use his/her senses to make accurate observation of skills and techniques during demonstrations. The student in this case should be able to accurately imitate the techniques he/she has observed for performing other tasks.

Craftsmanship/Artisanship: This involves the skilful and efficient handling of materials, ICT and tools for accomplishing specific tasks.

<u>Perception:</u> The pupil should be able to respond to his/her environment using all the senses i.e. seeing, hearing, smelling, touching, tasting and kinaesthetics. The student should be encouraged to apply these senses to every project she/he undertakes.

<u>Originality/Creativity</u> Students should be encouraged to be creative or original and be able to use new methods in carrying out projects. Encourage them to be original in making new items and not copy existing items/artefacts. You can help them to be creative and original by encouraging any little creative efforts, techniques and products they may develop.

<u>Communication:</u> Students should be guided to develop effective oral and written communication skills necessary for group work, reporting and appreciation.

The action verbs provided under the various profile dimensions should help you to structure your teaching such as to achieve the set objectives. Select from the action verbs provided for your teaching, in evaluating learning before, during and after the instruction. Use the action verbs also in writing your test questions. This will ensure that you give your student the chance to develop good thinking skills, and the capacity for excellent productive work. Check the weights of the profile dimensions to ensure that you have given the required emphasis to each of the dimensions in your teaching and assessment.

FORM OF ASSESSMENT

The table below shows the recommended examination structure for SHS1-3. The structure consists of two examination papers: Paper 1, Paper 2 and the SBA.

Paper 1: (3hours). Will consist of two sections; A and B and candidates will be required to answer all of them at one sitting.

Section A: There will be 30 multiple-choice items and candidates will be expected to answer all the questions for 30 marks.

Section B: Will consist of six (6) essay-type questions based on theory and practice from all areas of the subject. Candidates will be expected to choose and answer four (4) of them at one sitting for total marks of 50. One of the 4 questions chosen should be the compulsory question which will test knowledge and skills in perception, appreciation, criticism and judgement based on a photograph of an original art work in colour, a facsimile or real work (if possible). The compulsory question will be marked out of 20 and the remaining three marked out of 10 each.

Paper 2: Practical Test:

Paper 2 to be marked out of 130, will be the "practical" test paper and will require a student to <u>choose one question</u> from a number of practical questions. The practical questions will be sent to students/candidates **two weeks** before the practical examinations. The Preliminary Design and relevant notes will be tested on the first day of the Practical Examination. The preliminary design and notes, which should be attached to the finished work, will be marked out of 30, and the main practical test marked out of 100. Details of the form of examination are provided in the chart on the next page.

	PAP	PAPER 1				
Dimensions	Section A (Objective	Section B (Essay)	Practical Test	SBA	Total Marks	% Weight of Dimensions
	Test)					
Knowledge and Understanding	20	5		20	45	15
Application of Knowledge	10	45	-	25	80	25
Practical Skills	-	-	130	45	175	60
Total Marks	30	50	130	90	300	
% Contribution of Papers	10	15	45	30		100

DISTRIBUTION OF EXAMINATION PAPER WEIGHTS AND MARKS

The total marks for the examination including 90 for the SBA will be 300 marks. You will note in the last row that Paper 1 A has a contribution of 10% to the total marks; Paper 1B has a contribution of 15% to the total marks; Paper 2 has a contribution of 45%, and School Based Assessment has a contribution of 30% to the total marks. The three test papers are weighted differently to reflect their individual importance in the total examination. The numbers in the cells indicate the marks to be allocated to the items/questions that test each of the dimensions within the respective test papers. The practical test paper is the most important paper at the SHS level and therefore has more weight and more marks.

Note that the numbers in the columns are additions of the numbers in the cells and they agree approximately with the profile dimension weights indicated in the last column and with the percentage contribution of each of the papers in the last row.

Of the total marks of 300, 45 total marks, equals the 15% weight of "Knowledge and Understanding"; 80 marks out of the total 300 is approximately equal to the 25% weight of "Application of Knowledge"; and the total marks of 175 is approximately equal to the profile dimension weight of 60 for "Practical Skills. The weight of each of the three dimensions is indicated in the last column. The ratio of theory to practice in Visual Art is 40:60

Assessing Practical Work

The practical test is very important since Visual Art is practically oriented, and an actual practical test should therefore be conducted in addition to SBA and the test of theory. Assessment of the products/artefacts of leatherwork will follow these guidelines:

Originality	30%
Design	20%
Suitability	10%
Craftsmanship	40%

The above shows the qualities the teacher should look for in a product and the percentage marks to be awarded each quality. (See Guidelines for SBA below for details)

What to look for in an Art work Evaluation:

The following may be used as a checklist of what to look for in an artwork evaluation:

- a) creativity, originality, innovation;
- b) Use of media, tools and materials
- c) Design: composition of elements and principles
- d) Technical competence: draughtsmanship and craftsmanship
- e) Uses, relevance and suitability of artefact to society/community

GUIDELINES FOR SCHOOL-BASED ASSESSMENT (SBA)

A new School Based Assessment system (SBA) will be introduced into the school system in 2011. The new SBA system is designed to provide schools with an internal assessment system that will help schools to achieve the following purposes:

- Standardize the practice of internal school-based assessment in all Senior High Schools in the country
- Provide reduced assessment tasks for subjects studied at SHS
- Provide teachers with guidelines for constructing assessment items/questions and other assessment tasks
- Introduce standards of achievement in each subject and in each SHS class
- Provide guidance in marking and grading of test items/questions and other assessment tasks
- Introduce a system of moderation that will ensure accuracy and reliability of teachers' marks
- Provide teachers with advice on how to conduct remedial instruction on difficult areas of the syllabus to improve class performance.

The arrangement for SBA may be grouped in categories as follows. Folio Preparation, Project designed to include folio preparation, Mid-Term test, Group Exercise and End of Term Examination.

- 1. <u>Folio Preparation:</u> Folio preparation may include the following:
 - i. Specific Design
 - ii. Investigative study and field visit reports.
- 2. <u>Project</u>: This will consist of a selected topic to be carried out by groups of students for a year. Segments of the project will be carried out each term toward the final project completion at the end of the year,

Knowledge and Competence in Core Skills and Options: In marking project work, note that for a student to earn Grade A, the project output must show a combination of knowledge and skill in the student's selected option and in at least one of the other two options. Grade A should therefore be reserved for only outstanding work that combines knowledge and skill in at least two of the optional areas.

Practical activities should be used in both School-Based Assessment (SBA) and in the end-of-term examination. The practical assessment should cover:

- (a) Processes
- (b) Products.
- (c) Response

<u>Assessment of processes:</u> Look for creative and critical thinking, originality of ideas in the work; the design, correct handling and use of equipment, tools and materials. The degree of involvement, attitude to the work (including group work), understanding of the process, procedure, techniques and problem solving ability of the students must also be assessed.

<u>Assessment of end product</u>: The following preliminary question will be helpful when assessing an end product as a requirement for a lesson, task, activity/exercise: Is the student able to compose, develop, perform, stitch, draw and paint as required by the objectives? Assessment of finished products or performance also includes the students' verbal response or discussion/comments about the work/performance.

<u>Theory and Practicals</u>: Assessment of the theory and practical aspects of each option should be weighted 40:60 to reflect the importance of the practical nature of the options.

- 3. <u>Mid-Term Test</u>: The mid-term test following a prescribed format will form part of the SBA
- 4. <u>Group Exercise</u>: This will consist of written assignments or practical work on a topic(s) considered important or complicated in the term's syllabus
- 5. <u>End-of-Tem Examination</u>: The end-of-term test is a summative assessment system and should consist of the knowledge and skills students have acquired in the term. The end-of-term test for Term 3 for example, should be composed of items/questions based on the specific objectives studied over the three terms, using a different weighting system such as to reflect the importance of the work done in each term in appropriate proportions. For example, a teacher may build an End-of-Term 3 test in such a way that it would consist of the 20% of the objectives studied in Term 1, 20% of objectives studied in Term 2 and 60% of the objectives studied in Term 3.

Suggested Procedures for Art Appreciation, Criticism and Judgement:

For each work produced by the student, appreciation should be conducted as follows:

<u>Appreciation</u>: It can be explained as the full awareness of all the good qualities in an artwork as well as in what we see, read and hear. Appreciation which can also be explained as an intelligent talk about a basketry work of art requires the application of knowledge and skills in perception, thinking, aesthetics and art in general.

<u>Art Appreciation Criticism And Judgement</u>: The concept can be explained simply as an organized system for studying and talking about a work of art or (artwork).

Purpose And Importance: An art appreciation, criticism and judgement enables the artist or viewer to:

- build his/her perceptional skills
- form an opinion to judge the merits of an artwork
- determine whether an artwork is successful or effective
- think carefully, critically and organise his/her thoughts
- describe, analyse, interpret, criticize/judge or evaluate a work of art with confidence
- make sound aesthetic judgements
- develop better understanding and appreciation of all types and styles of artwork
- make ones aesthetic and personal interaction or response to an artwork meaningful and memorable
- apply critical thinking, expressive and aesthetic criteria to improve own art works

Steps/Procedure In Art Appreciation and Criticism

<u>Step 1: Identification and Description</u>: This procedure involves listing and determining the physical characteristics and basic facts about the artwork eg. name, title, size of work, date, medium, etc.

<u>Step 2: Analysis:</u> It is concerned with dissecting the artwork into constituent parts. It involves collecting facts, the technical qualities of the work as well as paying attention to aspects of the work that are obvious or easily recognized and classified. It covers three components namely:

- (a) analysis of the elements and principles of design, composition and how they are organized to make the artwork eg. balance, unity, rhythm, etc.
- (b) analysis of relationship among parts and determining the major connections amongst aspects of the artwork.
- (c) analysis of parts of the whole is done by explicating how the various parts and their relationship fuse to form the expressive content of the artwork.

<u>Step 3 Interpretation:</u> It seeks to find out what the artist is saying or communicating or the meaning of the artwork. It is concerned with the cultural, social a economic or religious significance of the work. It also involves the determination of aspects of the work which are essential or irrelevant to the meaning of the subject matter in the context of the work. Interpretation is based on the perception and experience of the viewer as well as the facts and clues from description and analysis.

<u>Step 4 Judgement:</u> This is concerned with passing judgement; whether the work is successful or effective or the artistic merit of the work. It also involves giving honest opinion of what one likes or dislikes, the reasons and judgement about the work. Judgement attempts to answer the question of whether the work is successful/effective or not by applying understanding of theories of aesthetics.

Aesthetic Theories: Aesthetics is the philosophy and study of the nature of beauty and arts. Three types of aesthetic theories are:

- (a) <u>Imitation and Liberal Qualities</u>: It focuses on realist presentation of the subject matter or an imitation of life or what one sees in real world.
- (b) <u>Formalism and Design Qualities:</u> It emphasizes the design qualities; focusing on the arrangement of the elements using principles of design or composition.
- (c) <u>Emotionalism And Expressive Experience</u>: It is concerned with the content of the work of art and the nature of artwork to convey a message to the viewer.

Emotionalism requires a strong communication, feeling; mood or ideas from the work to the viewer.

NOTE: One or more of the aesthetic theories can be used to judge on artwork depending on the type and purpose. If one limits oneself to only one theories to appreciate and criticize an artwork, some unique or interesting aspects may not be discovered. Using the three is the best approach.

<u>Art Evaluation</u>: Evaluation in art can also be explained as the making a judgement about the aesthetic quality and values of the work of art. This judgement is based on ones:

- perception
- analysis
- application of reliable aesthetic criteria for making critical judgement.

A systematic evaluation criteria which is considered adequate for judgement in art covers the:

- degree of internal relatedness and cohesion within the work of art
- the fusion and vividness of one's experience within the work of art
- the degree to which the work of art represents a norm; reflects the expression of a culture and is true to the use of elements and principles of design; media and techniques.

Judging Functional Objects: Judging a functional artwork such as a woven basket or hat requires the application of the procedure in appreciation and criticism eg. eg. identification, description, analysis, interpretation. One must also use what is considered as empirical evaluation criteria. It takes into consideration how the object functions or serves the purpose for which it was made. Empirical evaluation criteria which is also described as "extra aesthetic," considers both the functional and aesthetic features of the work. For example, a shopping basket may be beautiful but not comfortable or useful because it has no handle for lifting or carrying it when filled with goods.

When students produce art works, attention should be paid to the following:

- a) identification, discussion, care and testing of tools and materials;
- b) preliminary designing and sketch-models;
- c) translation of designs and sketch-models into art works;
- d) construction of the articles;
- e) decoration and finishing;
- f) discussion of uses/relevance of the article(s).

GRADING PROCEDURE

To improve assessment and grading and also introduce uniformity in schools, it is recommended that schools adopt the following WASSCE grade structure for assigning grades on students' test results. The WASSCE structure is as follows:

Grade A1:	80 - 100%	-	Excellent
Grade B2:	70 - 79%	-	Very Good
Grade B3:	60 - 69%	-	Good
Grade C4:	55 - 59%	-	Credit
Grade C5:	50 - 54%	-	Credit
Grade C6:	45 - 49%	-	Credit
Grade D7:	40 - 44%	-	Pass
Grade D8:	35 - 39%	-	Pass
Grade F9:	34% and below	-	Fail

In assigning grades to students' test results, you are encouraged to apply the above grade boundaries and the descriptors which indicate the meaning of each grade. The grade boundaries i.e., 60-69%, 50-54% etc., are the grade cut-off scores. For instance, the grade cut-off score for B2 grade is 70-79% in the example. When you adopt a fixed cut-off score grading system as in this example, you are using the criterion-referenced grading system. By this system a student must make a specified score to be awarded the requisite grade. This system of grading challenges students to study harder to earn better grades. It is hence a very useful system for grading achievement tests.

Always remember to develop and use a marking scheme for marking your class examination scripts. A marking scheme consists of the points for the best answer you expect for each question, and the marks allocated for each point raised by the student as well as the total marks for the question. For instance, if a question carries 20 marks and you expect 6 points in the best answer, you could allocate 3 marks or part of it (depending upon the quality of the points raised by the student) to each point , hence totalling 18 marks, and then give the remaining 2 marks or part of it for organization of answer. For objective test papers you may develop an answer key to speed up the marking.

SECTION 1

INTRODUCTION TO TEXTILES

General objectives: The student will:

1. understand the importance of textiles in various aspects of life

2. develop the interest, values and attitudes in textiles as a vocation and its career opportunities

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 RATIONALE FOR STUDYING TEXTILES	The students will be able to: 1.1.1 explain the term textiles	Meaning of textiles : Textiles is simply defined as the process of producing fabrics. It involves twisting of fibres into yarns, interlacing or otherwise of yarns to form fabrics, decoration and finishing of the fabrics	Using examples of textile products e.g. (fibres, yarns, and fabrics) Guide students to discuss the term "textiles"	Oral questioning, quizzes, assignments and tests on the topic. Students to consult the internet and other books for other information on the meaning of textiles.
	1.1.2 explain the rationale for studying textiles in Ghana.	 Rationale for studying textile: e.g. The study of textiles provides complete knowledge of The behaviour/characteristic of fibres, yarns and fabrics when in use. Fabric designing, construction, decoration and finishing processes Why certain fabrics are more durable and therefore more serviceable for specific purposes Reasons why certain fabrics are cool or warm to wear as well as give an impression of coolness or warmness when used in decoration 	Lead a class discussion on the rational for studying textiles giving appropriate examples. Students to interact with school administrators, other students of higher learning textiles practitioners and the general public to find out about their views on the study of textiles.	Explain the rationale for studying textiles. Students to write report on their interactions with textile practitioners.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (CONT'D RATIONALE FOR STUDYING TEXTILES	The students will be able to	 The use of textiles to promote culture Facilitating an intelligent appraisal of standards and brands of textile merchandise and make appropriate choice Proper use of different fabrics to suit specific purposes and occasions. How to care for and maintain fabrics to increase their life span/serviceability. The mechanism and operation of textile tools/equipment. The use of textiles as a vocation to earn a living/foreign exchange The use of textiles to foster community, national and international relationships, etc 		

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (CONT'D) RETIONALE FOR STUDYING TEXTILES	The students will be able to 1.1.3 describe various Components/ Occupations in textiles. 1.1.4 state the benefits for studying textiles.	Components/Occupations in textiles . fibre production . designing . weaving . dyeing . printing . crocheting . knitting . braiding . spinning . tapestry . appliqué . embroidery . finishing Benefits for studying Textiles: Addressing contemporary national issues through the rationale for textiles. e.g. • Unemployment • Poverty alleviation • Income generation • Rural urban migration. • Child trafficking • Drug trafficking • Clothing, etc.	Guide students through questions and answers to identify and discuss the components/occupations in textiles with reference to contemporary and indigenous forms. Teacher to assemble various textiles items for students' observation, identification and analysis. Students to discuss and describe the various components/occupations in textiles. Students to brainstorm on the benefits of studying textiles. Discuss students' responses. Students to explain how skills in textiles could be used to reduce rural urban migration, child trafficking and drug trafficking etc. Students to select one of the following and discuss in class; 1. cultural values of textiles 2. economic values of textiles 3. spiritual values of textiles	Home work: Students to collect samples of fabrics for identification. Students to prepare scrapbook using the samples Students to prepare a chart describing the various components/occupations in textiles Students in groups to interview practising textile artists about their work and contributions to the nation (employment, social and economic contributions made). In Each group to present the results of its visit for assessment.
	1.1.5 explain the uses of textiles.	Uses of textiles: - Economic - Cultural - Social - Agricultural - Medical - Moral	Students to discuss the uses of textile items with specific examples	Explain the importance of textile items

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2	The student will be able to			
TEXTILES DEVELOPMENTS AND CAREERS	1.2.1 outline the history of the development of textiles in Ghana and in some other countries.	Development of textiles in Ghana. e.g. leaves, bark cloth (kyenkyen), hides, kuntunkuni, kobene, birisi, kente, fugu, adinkra, asasaawa	Lead students to discuss the legends and stories about how textiles started in Ghana. E.g. The spider and Otaa Kraban. Guide students to outline the development of textiles from leaves and animal hides to the establishment of textile industries in Ghana	Students to describe early forms of clothing and how they were produced
	1.2.2 describe the factors for establishment development of textiles in Ghana.	Factors leading to the establishment of textile industries in Ghana: Traditional fabrics were not fast enough: - production was slow - limited range of designs - difficult to reproduce - mostly not suitable for modern office type work	Students to discuss the factors that led to the establishment of contemporary textiles industries in Ghana (Tema) in the 1960s. Note The first textile industries included Tema Textiles Limited (TTL), Ghana Textile Manufacturing Company (GTMC), Juapong Textiles Limited (JTL)	<u>Visit:-</u> Students to visit some textile enterprise in the country and write a report on factors and purpose for their establishment.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 (CONT'D). TEXTILES DEVELOPMENTS AND CAREERS	 The student will be able to 1.2.3 describe the development of textiles in a few other countries in e.g West Africa Africa Europe Asia 	Development of contemporary textiles in Ghana. e.g. Fancy prints, java, wax prints (real/imitation), sika prints etc. Development of textiles in Nigeria, Cote d'voire, Egypt, Holland, Manchester, China, etc. How textile production in other countries have influenced textile production in Ghana	Guide students to discuss the types and characteristics of contemporary textiles made in Ghana Lead students to discuss textiles in West Africa, Egypt, Europe, Asia. Outline their influences on Ghanaian textiles.	Class Exercise Students to compare the factors influencing the development of textiles in Ghana with those of other countries. Student to compare made in Ghana fabrics with those of other countries and write on their simulates and differences, durability etc.
	1.2.4 identify and describe the different careers in textiles.	Careers in textiles. e.g. • Textile designing • Yarn spinning • Weaving • Printing • Dyeing • Textile Technician • Textile engineering • Textile teaching • Raw material production • Textile trading	Ask students to browse the internet for information on how textiles developed in other countries. Students to identify and describe the different careers in textiles. Students to discuss the opportunities and benefits in each career. Take students to visit market places, shops, workshops and factories to find out the different careers and products in textiles.	Home work: Students to find from other sources careers in textiles and repot in class. Assignment: Students to interview people engaged in textile vocations and write a report for presentation in class.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AI	ND LEARNING ACTIVI	TIES	EVALUATION
UNIT UNIT 2 (CONT'D). TEXTILES DEVELOPMENTS AND CAREERS	SPECIFIC OBJECTIVES The student will be able to 1.2.5 identify and describe some textile industries in Ghana, their locations and products.	CONTENT Identifying textile industries in Ghana, products and locations. e.g. vertically integrated and specialized industries; public and private industries, etc.	TEACHING AI Guide students to name textile e at large and state their locations e.g. Establishment 1. Printex 2. Tex Styles Limited (Ghana Textile Printing, GTP) 3.Ghana Textile Manufacturing Company (GTMC)	stablishments within the	-	EVALUATION Students to identify other textile companies and state their locations and products. Assignment: Students to visit the textile establishments within the locality and the nation and write report and discuss in class.
			 4. Akosombo Textiles Limited (ATL) 5. Volta Star 7. Seraphim Surgicals 9. Mama Ree 10. Traditional weaving 11. Adinkra printing and embroidery 13. Fugu weaving 	Wax print, fancy print, yarn, grey baft Yarn, grey baft Surgical products, dyed fabrics, eg. Batik, Tie dye Kente Adinkra fabrics (Ntiamu/Nwuwom) Fugu	Akosombo Juapong Accra Tema Bonwire, Agotime Ntonso, Asokwa Daboya, Wa.	Uldos.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 (CONT'D).	The student will be able to			
TEXTILES DEVELOPMENTS AND CAREERS	1.2.6 analyze the challenges associated with different careers in textiles.	 Challenges in textiles vocations. e.g. Lack of raw materials Lack of capital Lack of patronage or value for Ghanaian textile products Competitions from foreign countries- China, Holland, Manchester, Proliferation of used clothes on the market etc. 	Put students into groups to discuss the challenges facing the different careers and how the challenges could be overcome. Students discuss the need to protect and promote the textile industry in Ghana.	Students to interview people about their challenges and how they hope to overcome them
	1.2.7 classify textile products according to their uses.	 Classification of textile products and uses. e.g. Agricultural products: jute sacks Protective garments: aprons, overalls, hand gloves, parachutes, etc. Medical products: lints, plasters, bandages, etc. Clothing/accessories: dumas, kente, shirts etc. Furnishing: carpets, curtains, chairbacks, table covers, etc. Industrial products: gloves conveyer belts, tarpaulins, upholsteries. Social uses: kente, fugu, adinkra, Sports and recreation Transportation Building materials 	Discuss the uses according to classification and provide examples of products other than those given in the content Agricultural: jute bags, tarpaulin) Students to prepare a chart indicating uses of textile products.	Home work Visit shops and market places to observe textile products, classify them according to the types indicated in the content and present in class. Students to interview the public to find out the uses of textile products. Students to list examples of textile products for sports and recreation, transportation and building materials.

UNIT 3 The students will be able to Assignment: RENOWNED GHANAIAN TEXTILE ARTISTS 1.3.1 identify some Ghanaian their contributions to nation Some renowned Ghanaian textile presonalities e.g. textile presonalities to textile presonalities to tak about themselves, their occupation and chrititor the textile presonalities to tak about themselves, their occupation and their future plans. Assignment: Students to visit the social and economic life of the country. Interviewing Textile Practitioners about their work: - Job tittRhisme of enterprise/business wa started - Materials, tools and equipment - Mayor skills involved or requied or look for designing an making items - How location was identified - Initial capital and source Dicuss how to interview or look for information
- Task performed - Steps in the performance of tasks

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 4 TEXTILES AND CULTURAL VALUES.	The student will be able to: 1.4.1 identify and discuss traditional and contemporary values relating to the use of textile items.	 Traditional and contemporary textile values: Culture of maintenance of tools and materials Care and maintenance of work clothing and effect on health, e.g. fitters dress, market women's clothing, dyers/printers clothing. Traditional taboos militating against the development of textiles, e.g. females are not supposed to weave, certain trees are not to be exploited. Use/misuse of textile items, e.g. covering corpses and coffins with kente fabrics. Dressing values for different occasions e.g. black clothing for funerals Use of red cloth to signify danger and grey baft/calico for fetish activities Use/misuse of right soaps for washing and right heat for ironing fabrics Copying fashion blindly, e.g. cutting parts of dresses e.g. Trousers, T-shirts etc. 	Guide students to identify and discuss traditional and contemporary textile values as listed in the contents. Students to interview people in the community about their personal clothing values and those related to the ones listed in the contents. Students to debate on the textile values to appreciate the need to discourage people from those values that are outmoded and encourage those that are useful.	Students to identify and interview the public on types of clothing used for various occasions and reasons for wearing such fabrics. Present a report for evaluation. Students to interview the public for more information on traditional /contemporary values relating to textiles. Present a report for evaluation.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 4 (CONT'D.) TEXTILES AND CULTURAL VALUES.	The student will be able to: 1.4.2 identify and explain the uses and significance of fabrics	 Examples of <u>Traditional</u> fabrics; i. Adinkra (Ntiamu); block printed fabric for funerals ii. Nwuwomu (Embroidery): adindkra printed or plain fabrics that are embroidered with different bands of coloured threads iii. Kente: attractive hand-woven fabric. It is used for social functions like festivals, weddings special occasions iv. Kobene: red (russet) clay –dyed fabric for funerals of close relations and the identification of royals among some ethnic groups e.g. Fantis. i. Bobri (brisi); Indigo blue died fabrics for funerals v. Kuntunkuni: the darkest dyed fabrics for funerals. (regenerated treatment to give a new look to the fabric) It is also used by chiefs when sitting on serious and sad issues. It is used to show the extent of grief at funerals. The final treatment given to local fabrics 	Guide students to identify and discuss traditional fabrics. Students to interview people in the community about how and when they use traditional fabrics. Students to debate on the need to use traditional fabrics"	Students to identify and interview the public on types of clothing used for various occasions and reasons for wearing such fabrics. Present a report for discussion. Students to interview the public for more information on traditional values relating to textiles. Present a report for discussion.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 4 (CONT'D	The students will be able to:			
TEXTILES AND CULTURAL VALUES.		 Examples of <u>Printed</u> fabrics; i. Dumas e.g. nsubura' akyekyere akyi, efieabosea, ii. Printex fabrics: e.g. yennya wo nseso, amansan bekae wo, owuo akyi awereho 	Display samples of printed fabrics for students to identify and discuss. Students to interview people in the community about how and when they use printed fabrics.	Students to identify and interview the public on types of clothing used for various occasions and reasons for wearing such fabrics. Present a report for discussion. Students to make scrap books in groups.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 5 COMPETENCIES ATTITUDE AND	The student will be able to: 1.5.1 analyse the competencies, attitude	Competencies attitude and type of behaviour required of a student/learner	 Guide students to: identify, discuss and analyse the skills, attitude, competencies and other requirements of a 	The student to: - find out, analyse and write an essay on the requirement,
ATTITUDE AND BEHAVIOUR OF THE STUDENT/ LEARNER FOR EMPLOYMENT AND CUSTOMERS	competencies, attitude and behaviourial skills required of a student/learner for education, training, self or paid employment and customers.	 for education and employment, examples: ability to observe, use memory and imagination to derive and develop ideas, pre-image/ visualize and make designs of items. ability to translate ideas and paper designs into three-dimensional items to solve a problems or satisfy an identified need using the Design and Technology process. dexterity and creative use of a tools, equipment and a variety of materials. application of knowledge and understanding to constant practice for proficiency and perfection. creativity, originality in thinking and end products ability to respond to an art work by using knowledge and skills in perception, appreciation criticism, judgement, evaluation and aesthetics critical thinking and problem-solving skills, healthy competition, good human relations, etc. demonstration of human and moral 	 competencies and other requirements of a student/learner for (a) learning, training/education. (b) self or paid employment and (c) clients/customers NOTE: Guide, support, observe and encourage students to acquire the skills and competencies as well as inculcate the human and moral values; and demonstrate them in the performing various tasks in class, school or life. Guide students to lay down rules, regulations and sections for class activities and moral behaviour. Include observation of their behaviour in assessment. 	 an essay on the requirement, competencies and behaviour expected of a student or learner in any of the areas. self employment in basketry. further education in basketry. senior high school.
		 behaviour in thinking, feeling and acting e.g. honesty, commitment, self-discipline/respect, diligence, patience, tolerance, teamwork, etc. communication skills, portfolio of works ability to perform tasks with little or no supervision, etc. self-learning/evaluation for improvement, perseverance time-management, work ethics, self-confidence, communication skills, etc. 		

SECTION 2:

FIBRES (CELLULOSIC)

General objectives: The student will:

- recognize fibres as a basic material for yarn making
 appreciate the appropriate treatment of fibres for making yarns
 be aware of reasons why certain fibres can be spun into yarn

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1	The student will be able to:			
GENERAL PROPERTIES OF FIBRES	2.1.1 define fibre.	Meaning of fibre. e.g. A fibre may be defined as a hair- like strand with relatively small diameter as compared to its length from which yarns are made. E.g. Cotton, wool, rayon, nylon, etc.	Students to for the meaning of fibre, list different fibres and state some of their uses. define fibre	Students to write down various definitions of textile fibres from books and the internet for class discussions.
	2.1.2 describe the properties of fibres.	General properties of fibres: Primary properties: High length to breadth ratio Tenacity/tensile strength Flexibility or pliability Cohesiveness Uniformity Secondary properties: Physical shape Density Lusture/colour Moisture regain (absorbency) Elastic recovery and elongation Resiliency	 Discuss the properties and characteristics of the fibre in relation to the fabric in use. e.g. Why some fabrics are cool or warm to wear, why some fabrics are more absorbent, why some fabrics deteriorate with certain soaps, sunlight and ironing Classify the fibres into Natural, (Cellulosic, Protein, Mineral) and manmade fibres. 	Students to collect pieces of fabric and classify them as: i. Absorbent ii. Water repellent iii. Warm to wear iv. Cool to wear Students to prepare a chart.

			TEACHING AND LEARNING	
UNIT	SPECIFIC OBJECTIVES	CONTENT	ACTIVITIES	EVALUATION
UNIT 1 (CONT'D)	The student will be able to:			
GENERAL PROPERTIES OF FIBRES		 Chemical properties: effect of chemicals (e.g. Acids, alkali) effect of sunlight effect of micro organisms (fungi/bacteria) effect of insects (e.g. moths, beetles) 	Guide students to perform tests to identify fibre. e.g. Burning test, Microscopic test , Chemical test.	Experiment Students perform tests and report on their findings.
	2.1.3 explain how the properties of fibres affect the use of fabrics produced. (e.g. cotton, silk).	Effects of properties of Fabric on use of Fabric properties and uses of cotton, properties and uses of silk, etc	Discuss why cotton is used for some specific purposes, e.g. tropical clothes, dish cloth. Discuss why silk is used for warm clothes and cannot be used for dish cloth	
UNIT 2				
CELLULOSIC FIBRES (Cotton, Linen)	2.2.1 describe cotton and flax (linen) fibres.	Cotton/Flax (Linen) fibre Cotton is a Cellulosic, Staple, seed fibre etc. Flax/Linen is a Cellulosic, staple, bast fibre etc. Conditions/areas of growth, harvesting, constituents/impurities, cross-section of fibre, etc.	Discuss cotton/Linen fibres according to characteristic, condition/areas of growth, harvesting, impurities, cross-section, etc. Collect samples of cotton/Linen and examine them to find out physical characteristics using the hand lens.	Class Exercise Student to draw the cross- section of cotton/Linen and label.

SECTION 3:

YARN PREPARATION (CELLULOSIC)

General objectives: The student will:

acquire skills in spinning yarns using the traditional method
 understand contemporary spinning techniques

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1	The student will be able to:			
TRADITIONAL YARN PREPARATION (CELLULOSIC)	3.1.1 explain the concept yarn.	Meaning of yarn. e.g. A yarn is a product of twisting staple or filament fibres together. A cellulosic yarn is produced from plant sources, e.g. Cotton yarn, flax yarn.	Students to brainstorm the meaning of yarn. Guide students to discuss the uses of yarn, e.g. Weaving, knitting, for decorating fabrics, etc	
	3.1.2 apply the processes in traditional yarn spinning.	Processes in traditional yarn spinning: spinning on the thighs: spinning with whorl and spindle. Tools needed: calabash, whorl and spindle and nose mask.	Discuss how to spin traditional yarns on the thighs and how to use the whorl and the spindle. Demonstrate the traditional methods of spinning yarns for students to practise. Note : use nose mask to prevent the inhalation of particles of fibres	Students to spin yarn using the traditional methods. Assess students' work
	3.1.3 analyze the characteristics of traditional yarns.	Characteristics of traditional yarns: • Coarse, • has impurities, • relatively weak, • rough, • dull, etc.	Students in groups to analyse examine the characteristics of traditionally spun yarns and report on them for class discussion. Reports should in clued texture, strength, fineness, / coarseness, density, etc.	Write a report on the characteristics of traditionally spun yarns and present for assessment.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 CONTEMPORARY YARN PREPARATION (Cellulosic)	The student will be able to: 3.2.1 analyze the processes of converting cellulosic fibres into yarns using the contemporary methods.	Contemporary methods of yarn spinning. e.g. Ginning, opening and mixing, carding, combing, roving, spinning.	Lead a class discussion on the contemporary methods of yarn preparation. Ask students to examine critically and describe the product at each stage of spinning e.g. Opening and mixing – lap, Carding –sliver.	Students to visit textile industries to experience spinning processes and write a report. Students to make an album of different types of yarn (traditional/contemporary).
	3.2.2. analyze the characteristics of contemporary yarns, and types of spinning process.	Characteristics of contemporary yarns. e.g. Staple/filament, S/Z twist yarns, Count/tex, Smoothness, Fineness, Luster, Strength, etc. Basic yarn terminologies. Types of contemporary spinning. e.g. Mule, flyer, ring spinning, open-end spinning, air/ water jet spinning, etc.	Guide students to identify different types of spinning machines. e.g. Mule, Flyer, Cap Spinner, Ring Spinning, Frame, Open-end spinning, Air-jet/Water-jet spinner, etc. Discuss the characteristics of contemporary yarns. Students to discuss the importance and uses of contemporary yarns. Students to compare and analyse the characteristics of contemporary and traditional yarns.	Students to state the characteristics and uses of contemporary yarns. Project: Compare and analyse the characteristics of contemporary yarns with traditionally spun yarns and their differences and report for assessment.

SECTION 4

LOOMS AND ACCESSORIES

General objectives: The student will:

understand the operations of the man-power loom and accessories and manipulate them.
 acquire skills in designing manpower looms.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 TYPES OF HAND LOOMS (MAN- POWER) AND FUNCTIONS	The student will be able to: 4.1.1 identify and describe different types of manpower loom and compare their uses.	Types of manpower loom Meaning of loom, e.g. It is a device used for weaving fabrics. Categorization of manpower loom: card loom, table loom, traditional loom, broadloom, etc. Limitations of Looms in terms of: • width of fabric • designs <u>Uses</u>	Students brainstorm to come out with the meaning of loom. Display pictures of different types of manpower loom and for students to identify. Discuss their structure and uses. Students to draw and label parts of each loom. Guide students to develop ideas and design their own looms.	Compare looms in terms of structure, parts and functions. Students to explore the community for types of loom used.
WEAVING ACCESSORIES AND USES	4.2.1 describe the different types of weaving accessories and their uses.	Description of accessory: It is an essential device that is not necessarily a component part of the loom structure but used as supplement in the weaving operations. Types of weaving accessories: shuttle, spool rack, raddle, warping mill/board, skeiner, bobbin winder, heddling/threading hook, reed hook, warp sticks, shed sticks, reed, etc.	Lead a class discussion on weaving/loom accessory. e.g. Display different types of weaning accessories for students to identify and discuss their uses. Guide students to examine weaving/loom accessories and draw them. Guide students to develop their own ideas for constructing weaving/loom accessories.	Discuss the reasons why loom accessories are necessary during weaving Students to construct weaving accessories and apply them in weaving operations Assess student accessories.

SECTION 5

FABRIC CONSTRUCTION PROCESSES

General objectives: The student will:

- acquire skills in the preparatory processes for weaving
 develop skills in fabric construction

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1	The student will be able to:			
DESIGNING (PLAIN WEAVES)	5.1.1 design simple basic weave (1/1) on graph/point paper for weaving.	Designing simple basic plain weave structure on the point/graph paper, i.e. 1/1plain structure. e.g. Gingham, calico, handkerchiefs, etc.	Guide students to unravel plain woven fabric (e.g. Grey baft) to identify the pattern of interlacing of the two sets of yarn. Students to construct the graph/point paper. Guide students to plot the 1/1 design on the graph/point paper.	Students to make scrape book of samples of plain woven fabrics.
			Students to cut paper into strips (for warp and weft) and transfer the design into weaving. Compare the pattern of interlacing of paper weave with those of the plain fabric.	Students to do paper weaving
	5.1.2 demonstrate skills in designing plain weave variations on graph/point paper.	 Constructing plain weave variations on graph/point paper. e.g. Basket weave, (2/2) Ribbed/corded weave e.g. bedford cord (1/2, 2/1, 2/3,) etc. 	Ask students to collect samples of basket or ribbed fabrics and unravel them to identify the pattern of interlacing of warp and weft yarns. Guide students to construct plain variations on graph/point paper.	Students to collect samples of plain weave variations and paste them in an album and label them.

UNIT		CONTENT	TEACHING AND LEARNING	
UNIT 1 (CONT'D) DESIGNING (PLAIN WEAVES)	SPECIFIC OBJECTIVES	CONTENT	ACTIVITIES Guide students to weave the plain variation on card. Students to compare the simple plain design with the plain variations. Guide students to use their own ideas to	EVALUATION Students to produce the plain weave variations on card and compare them.
UNIT 2			develop plain variations and weave them on card.	
PREPARATORY PROCESSES FOR FABRIC CONSTRUCTION (WEAVING)	5.2.1 explain the concept of fabric construction techniques and weaving.	 Fabric construction techniques: Weaving Crocheting Knotting Knitting Lacing Plaiting Braiding etc. Meaning of weaving, e.g. It is the interlacing of warp and weft yarns at right angles to produce a fabric. 	Guide students to identify and discuss various techniques of interlacing yarns to produce fabrics. Guide students to compare and differentiate between the characteristics of the different fabrics. Students to discuss and explain the concept of weaving. Students to unravel plain woven structures and describe the pattern of interlacing	Students to write down the various methods of fabric construction and explain each one. Compare the differences in the pattern of interlacing between the various techniques of fabric construction.
	5.2.2 demonstrate skills in warp planning and preparatory processes prior to weaving.	Warp planning: estimate number of ends, colour pattern of warp/weft, warp laying, beaming, heddling, reeding, tying-up, bobbin winding, weaving.	Guide students to discuss and identify the methods of calculating number of ends in the warp based on density of reed and width of cloth to be woven/produced. Note: Total ends = Reed density × width of cloth to be produced.	Students to do more exercises in textile calculation.
			Demonstrate processes involved in warping, beaming, heddling, reeding, tying-up, and weaving and. Students to go through the process. Guide students to analyze the significance of sizing warp before using them to weave.	Students to do practical warping, beaming, heddling, reeding, tying-up, and weaving on the broadloom.

			TEACHING AND LEARNING	
UNIT	SPECIFIC OBJECTIVES	CONTENT	ACTIVITIES	EVALUATION
UNIT 3 BROADLOOM	The student will be able to: 5.3.1 distinguish between the	Loom motions:	Lead a class discuss on the types of the	Students to draw the loom and
WEAVING	loom motions and apply them to broadloom weaving.	 Shedding motion: it is the process of creating an opening in the warp for the shuttle to pass through. Picking motion: it is the process of passing the shuttle containing the weft package through the shed to lay a pick. Beating-up motion: it is the process of using the sley carrying the reed to push the newly inserted pick to the fell of the cloth. 	motions.	accessories and label the parts. Students to draw diagrams to illustrate the loom motions.
UNIT 4	5.3.2 demonstrate basic skills in weaving on the broadloom.	Basic skills in broadloom weaving: Bobbing winding , shedding, picking, beating –up.	Demonstrate the process of shedding, picking and beating-up on the broadloom. Students to practise the loom motions on the table loom or broadloom.	Students to compare the quality of their woven samples
TRADITIONAL WEAVING	5.4.1 differentiate between the different traditional weaving techniques.	Traditional weaving processes: warping, heddling, reeding, tying- up, weaving. Types of traditional weaving: Ashanti kente weaving Volta kente weaving Northern kente weaving	Recap lessons on parts of the traditional loom. Demonstrate the processes involved in traditional weaving. Students practise weaving on the traditional loom. Organise a visits to workshops of traditional weavers to interact with them on their activities. Discuss the techniques and characteristics of traditional weaving in Ashanti, Volta and Northern Regions.	Students to collect samples of traditional fabrics and compare them. Project: Design and weave a ¹ / ₁ plain fabric in stripes or check on the traditional loom or broadloom

SECTION 6

FABRIC DECORATION TECHNIQUES

- 1.
- acquire basic skills in drawing as a prelude to textile designing. be able to use ideas from the environment to design motifs/patterns for decorating a fabric. 2.
- acquire skills in fabric decoration techniques. . 3.
- 4. acquire skills in appreciation and criticism of textiles works.

UNIT	SPE		CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1	The stuc	dent will be able to:			
BASIC DRAWING (DESIGNING)	6.1.1	explain the concept drawing.	Meaning of drawing, e.g. Drawing is the act of running an implement such as pencil, pen, brush, charcoal, etc. to leave a mark over a surface as a means of creating a visual imagery.	Guide students to brainstorm to come out with the meaning of drawing. Ask students to find the meaning of drawing from books, internet, etc. Students to discuss the various detritions.	
	6.1.2	express ideas and feelings in drawing.	Drawing to express ideas and feelings e.g. Thin Line – weakness, frailty. Thick/Vertical line – stability Zig –zag line – movement Horizontal line – calm, rest. Oblique line – falling, etc.	Guide students to draw various types of line to express ideas and feelings e.g. rest, confusion, running, bouncing, weakness, explosion, stability, struggle, peace, boldness, fear, happiness, anger, melancholy, etc. Guide students in the proper handling of drawing tools and use of materials.	Students to draw lines correlating with emotions to express ideas.
	6.1.3	draw from shapes, natural and man-made objects in the environment.	Drawing from shapes, natural and man-made objects e.g. squares, triangles, ovals, cones, cylinders, pyramids, cuboids, leaves, bones, shells, pens, books, etc.	Guide students to develop observational skills in drawing shapes, natural and man- made objects objectively. Students to develop ideas/new designs from the objects picked from the environment.	Project: Pick an object and draw from various observational angles (individual activity)

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (CONT'D)	The student will be able to:			Students to:
BASIC DRAWING (DESIGNING)	6.1.4 apply the senses to draw directly and objectively from still life, animals and human figures.	Drawing still life, animal and human figures using the sense of seeing, hearing, touching, tasting, smelling, weighing, etc. Developing observational skills in drawing objectively and	Students to display the objects or figures and use the sense to observe and understand the characteristics of the objects or figures. Guide students to draw objectively to	- makes series of drawing and composition in their sketch books.
		proportionately.	resemble the objects or figures.	
			Students to discuss the role of the senses in developing perception and in drawing objectively.	Assignment: Students to develop motifs /
, UNIT 2 DESIGNING FOR	6.2.1 explain what designing is	Meaning of design: design in this	Students to display their works for appreciation and criticism to cover flora and fauna of their locality. e.g. plants, animals, human beings in action.	patterns using the elements/principles of design
FABRICDECORATION (MANUAL OR COMPUTER AIDED WORK)	as applied to textiles.	section refers to the process of organizing elements of design to create motifs/patterns for fabric decoration.	Guide students to brainstorm the concept of design.	
			Students to collect samples of printed fabrics and examine the designs in them.	Students to develop manually or with the aid of computer patterns based on a
	6.2.2 apply elements and principles of design to create simple motifs or	Revision of elements and principles of design. Idea development from natural and	Revise elements and principles of design.	combination of their own patterns and ideas from the environment and computer.
	patterns for fabric decoration.	man-made sources, e.g. Leaves, bones, shells, seeds, fish, feathers, bulbs, buttons toys, geometric shapes, traditional symbols.	Discuss and demonstrate how to develop motifs/patterns from natural and man-made objects. e.g. Identifying, perceiving, sketching, abstracting, combining, texturing/colouring.	environment and computer.
			Students to develop motifs and patterns from the ideas / objects collected from the environment on paper manually with the aid of the computer.	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 (CONT'D)	The student will be able to:			
DESIGNING FOR FABRIC DECORATION (MANUAL OR COMPUTER WORK)	6.2.3 demonstrate skills in motif/pattern arrangement to create designs for fabric decoration.	Motif arrangement: e.g. Full drop, half drop, counter-change, ogee, drop reverse, texturing/colouring.	Students to make one and two colour designs on paper/computer based on the principles of motif arrangement. Revise six and twelve point colour wheels and Guide students to apply them into the designs.	Students to identify and analyze patterns in some wax, java and fancy prints
		Making computer aided designs.	Discuss how and why textures are used in design. e.g. To break monotony, to serve as bond between motif and background, to create tonal effects, serve as additional designs, etc. Students to produce computer aided designs. (CAD)	Students to manually or electronically produce designs / patterns in one or two colours on paper or computer.
UNIT 3				
PRINTING FROM SURFACES (DIRECT PRINTING)	6.3.1 demonstrate skills in direct and block printing.	 Meaning of printing: Printing is the process of transferring images or marks from one surface to another surface by means of ink or paste. Direct printing Block printing 	Brainstorm the concept of printing. Collect objects from the environment and use them for direct and block printing. eg. Leaves, tree bark, twigs, seeds, bottle tops, tubers, lino, etc. cut tubers, make designs on the surfaces, apply colours and use them to print on papers or fabrics.	Students to print with different colour media e.g. Poster, acrylic, powder colour, printing paste/ink, etc. and observe the effects.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 4	The student will be able to:			
PLANT DYES	6.4.1 demonstrate skills in extracting dyes from plant sources.	Meaning of dye. e.g. It is a colouring substance that changes the colour of a fibre, fabric or other materials to a relatively permanent state.	Students to identify and list the media of colour used in colouring fabrics. Students to brainstorm and define dye	
		Methods of extracting dyes from plant sources, e.g. Cutting, pounding/crushing, soaking, straining, boiling, etc.	Guide students to demonstrate skills in extracting dyes from plant sources. NOTE: Plant sources: mahogany, teak, guava, "badie", cola, onion, nim tree, pawpaw, henna (lele), etc. Ask students to explore the environment for sources of dye from other plants: extract, prepare and test.	Interview horticulturist/forestry personnel and other adults for more sources of plant dyes.
			Students to prepare a table showing the source of dye, colour it produces and specimen of dyed fabrics. Lead a class discussion on the effects of the juices from plants and mordant used on the body, e.g. the use of iron filings, copper sulphate, salt-petre, etc.	Students to prepare an album of fabrics dyed with vegetable dyes.

	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 5	The student will be able to:			
FABRIC PREPARATION/DYEING PROCESSES	6.5.1 demonstrate skills in preparing fabrics for dyeing.	Singeing, desizing, scouring, washing, bleaching, etc. Reasons for preparing fabrics. e.g. To make fabrics more absorbent, improve appearance, etc.	Discuss and explain the cleaning processes before dyeing fabrics. Demonstrate scouring using greybaft and caustic soda, washing with soaps and bleaching with parazone, bleaching powder/hypochlorite. to prepare fabrics by scouring, washing, bleaching, etc.	
	6.5.2 apply plant dyes to fabrics.	 Dyeing processes, e.g. Dye recipes Preparation of dye Preparation of fabric Dyeing by immersion, turning fabric, fixation treatments, washing, drying and ironing 	Discuss recipe preparation and application of plant dyes. discuss and explain fixation treatments (e.g. Using saltpeter, iron fillings, ironing, etc.) and state why they are necessary during and after dyeing.	Students to conduct more experiments on the use of plant dyes. Project: Design and print or dye samples of fabric using dyes extracted from plant sources.
	6.5.3 design and make an item to solve an identified problem by using techniques in dyeing /printing	Designing and making items through dyeing, printing after exploration and experimentation. Applying knowledge and skills in the Design and Technology Process (DTP) for critical thinking and creating items to solve problems. Identifying, preparing and using suitable materials and tools.	Discuss the need to identify problems in Textiles and solve them through the DT process using appropriate tools, materials and techniques. Students to identify a need, design and make an item to satisfy it using the DT process through exploration and experimentation. NOTE: Demonstrate the techniques in dyeing and printing for students to observe and practice.	Design and make them to satisfy an identified need by dyeing, printing and exploration techniques.
		Design9ing and making items with appropriate techniques by dyeing and printing.	Students to display items, appreciate and appraise them according to criteria. Discuss the effects of chemicals on the body and encourage students to use protective clothing.	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1	The student will be able to:			
PROCEDURE AND APPLICATION	6.1.1 identify and apply the procedure for appreciation .	 Appreciation: talking intelligently about a work of art. Procedure: Identify the work (title, artist, date, size, medium used, and location) Give inventory of items in the work (physical characteristics) Analysis of technical qualities (kind of materials used, how the work was made, its design and composition) Interpretation of the work (its meaning, cultural and socio-economic significance) Judgment (good /bad, suitable/unsuitable, appropriate/inappropriate) 	Students to brainstorm and discuss the meaning of appreciation and procedures of appreciation Students to apply the procedure of appreciation in appreciating a given textile product.	Students should do a written appreciation of i. A work they have produced ii. Other people's work

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 6 (CONT'D) PROCEDURE AND APPLICATION	The student will be able to: 6.1.2 appreciate and judge/criticize a work of textiles	Appreciation and Criticism of a Textiles art work Art criticism is a way of looking at, talking and thinking about the work to understand the aesthetic qualities. It also involves how we perceive and feel about the work. Using knowledge and skill in: - Perception - Aesthetics - Elements and principles of art - Appreciation - Evaluation - Criteria/check list - Textile design and production.etc	Lead student to discuss relevant terms, principles and concepts in perception, appreciation, aesthetics, design, textiles, evaluation criteria.etc Ask student to critically look at a textile product and write down their observations. Students to discuss their feelings and total sense of approval, delight or pleasure or otherwise about the work.	Students to -exchange their works and write down a page each to determine whether it is a successful piece of work or not. - find out and document the criteria/check list and reasons for appreciating and evaluating/criticising. a) kente fabric from Volta, Ashanti or Northern region. b) batik textile products c) tie-dye products d) printed fabrics.

SECTION: 1

FIBRES: PROTEIN AND MANMADE

General objectives: The student will:

understand the nature of protein and man -made fibres.
 develop skills in working with protein and man-made fibres.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 PROTEIN FIBRES (WOOL AND SILK)	The student will be able to: 1.1.1 classify protein fibres according to their characteristics.	Meaning of protein fibres: e.g. They are fibres obtained from animal sources. Types of protein fibres: Staple: wool, mohair, etc. Filament: silk Characteristics of protein fibres: colour, luster, softness/fineness, springiness/waviness, pliability, absorbency, etc. Places and process of silk production (sericulture) in Ghana. Western Region: Daboase Prestea Bogoso Greater Accra Region: Kwashiekumaman (Amasaman) Ashanti Region: Fumesua UEW (Mampong Campus) Eastern Region: Odumase Krobo Akropong Akuapim Silk processing – reeling, throwing, degumming.	Guide students to discuss and identify protein fibres and classify them into staple and filament fibres with examples. e.g. staple – wool, mohair filament – silk, Students to collect specimen of protein fibres and use the hand lens or microscope to examine the general characteristics and state their functions. Students to discuss places and processes of silk production	Student to access for more information about protein and man-made fibres from books and the internet. Students to visit places in Ghana where silk is produced to study the processes and write a report on them.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (CONT'D)	The student will be able to:			
PROTEIN FIBRES (WOOL AND SILK)	1.1.2 analyze the properties of wool and silk fibres and discuss how these affect the fabrics in use.	 Properties of wool and silk fibres. e.g. High length –to-width ratio Tensile strength Moisture regain Elasticity/elongation Effect of acids and alkalis/heat/sunlight 	Lead class discussion on the properties of wool and silk as listed in the contents. Guide students to analyze how the properties affect wool or silk fibre/fabric in use. e.g. why wool or silk fabrics are cool or warm to wear, rate of absorbency affecting dyeing, printing, washing, etc; acceptance or deteriorating with acids and alkalis/soaps/heat/sunlight; why they are heavy or light etc.	Describe the effects of soaps, sunlight and ironing on wool and silk fabrics. Explain why wool and silk fabrics impart warmness or coolness in hot or warm climates.
	1.1.3 perform tests to identify wool and silk fibres.	Identification tests: • Burning tests • Microscopic tests • Chemical test.	Students to examine the cross-sectional appearance of wool and silk fibres using hand lens or microscope and report on them Students to perform the various tests to identify wool and silk fibres and tabulate their observations. Discuss their observations after the identification tests. Collect samples of other fibres from the environment, examine their characteristics, conduct the tests and compare their observations with those of wool and silk. Discuss the effects of the reagents used for testing fibres (Heat, chemicals). Discuss precautions to be taken when testing fibres (wear protective clothing).	Students to draw and label the cross-sectional area of wool and silk and discuss the functions of the parts Conduct fibre identification tests for wool and silk and compare the observations. Students to record and report their findings of the tests conducted on other fibres.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 MAN-MADE FIBRES (REGENERATED/ SYNTHETIC	 The student will be able to: 1.2.1 discuss and explain what man-made fibres are, and describe their characteristics. 1.2.2 perform tests to identify manmade fibres. 	Man-made fibres. Regenerated: rayon Synthetic: nylon, polyester, glass fibre. Properties of manmade fibres; High length –to-width ratio Tensile strength Moisture regain Elasticity/elongation Effect of acids and alkalis/heat/sunlight Fibre identification tests Burning test Microscopic test Chemical test.	 Students to brainstorm and discuss the concept of manmade fibres e.g. They are fibres obtained from a combination of either natural and chemical sources (regenerated fibres) or petroleum and chemical sources (synthetic fibres). Discuss the properties of regenerated fibres e.g. Rayon and synthetic fibres e.g. Nylon, polyester, fibre glass. Students to examine and discuss the characteristics of rayon, nylon, polyester, and glass fibres using hand lens or microscope and compare their characteristics. Discuss with students the effects of soaps/ detergents, heat and sunlight on manmade fibres. Organize students to market places to identify fabrics produced from manmade fibres and some of the common names applied to them, e.g. Polyester, Dacron, terylene, crimplene. Students to discuss their observations after the fibre identification tests. Discuss the hazards involved in inhaling fumes from chemicals and gas and also safety measures to apply. 	Students to tabulate their observations, discuss and report on them. Students to test for the effects of using cake and powdered soaps and record findings collect and paste samples of manmade fibres in an album and label them. Project: Perform tests to identify rayon and nylon fibres. Record and compare the observations/results.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3 CONTEMPORARY YARN SPINNING	The student will be able to: 1.3.1 describe the basic processes in the preparation of protein yarns e.g. Wool and silk.	Preparation of wool; e.g. Shearing, pulling, grading, packing, spinning. Preparation of silk; e.g. laying, hatching, molting, spewing, unreeling, spinning.	Guide students to discuss the preparatory processes for wool and silk as listed in the contents. Organize visits to silk producing centers within the locality or elsewhere in Ghana to observe and discuss the processes. e.g. Western Region: Daboase Prestea Bogoso Greater Accra Region: Kwashiekumaman (Amasaman) Ashanti Region: Fumesua UEW (Mampong Campus) Eastern Region: Odumase Krobo Akropong Akuapim	Students to write reports on visit to silk producing centers and discuss them.
	1.3.2 classify yarns according to types and their uses.	 Classification of types of yarns and uses: Plied yarns Corded yarns Textured yarns Stretched yarns Thermoplastic yarns Blends and mixtures Uses of yarn, eg. Weaving, decoration to create surface textures, give different effects and characteristics to fabrics, etc. 	Ask students to collect different types of yarn as listed in the contents, and observe and classify them accordingly. Students to compare and analyze the characteristics of the types of yarn and discuss their uses or functions. Students to apply their own ideas to come out with other types of yarn to serve useful purposes.	Collect samples of different types of yarn and paste them in an album and label them. Students to present reports on types of yarn produced.

SECTION 2

SUSTAINABLE DEVELOPMENT AND ENTREPRENEURIAL PRACTICES

- 1. become aware of to the importance of sustainable development.
- 2. appreciate the need for sustaining the textile industry..
 - 3. develop the skills, attitude, and interest to build a personal portfolio and exhibition.
 - 4. apply knowledge and skills in entrepreneurial practices to develop a business plan, brochure and card

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 MANAGING RESOURCES	The student will be able to: 2.1.1 analyse the challenges of the textiles industry and suggest solutions for its sustainability.	 Problems, challenges and solutions in practising textiles and its sustainability in Ghana. Tools and equipment. overdependence on imported tools and equipment Lack of appropriate tools and equipment Procuring, using and maintaining tools and equipment to last longer. Materials: Over and under exploitation and usage of materials from plant sources without growing or replacing them. Effects of bushfires resulting in destroying natural resources. Getting affordable materials easily The human resource, design and production : Inability of textile artist/producers to design and produce quality items. 	 Students to brainstorm the concept of sustainable development. ie. Maintaining and transmitting values, ideas, skills and resources from generation to generation. Put students into group to discuss and debate problems in sustaining textiles as an enterprise for the present and future as outlined in the content and report in class for discussion. Invite specialists, experts and practitioners from establishments and enterprises to give talks on various topics in relation to problems and solutions in the practice of textiles sustainability. Examples of enterprises and establishment are: Intermediate Technology Transfer Unit. (ITTU) Ministry of Science and Technology Environmental Protection Agency (EPA) Ghana Export Promotion Council National Board for Small Scale Industry (NBSSI) Council for Scientific and Industrial Research (CSIR) 	Students to gather more information from available sources including the internet. And write a seminar paper/ essay on "how to sustain the textile industry for development.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (CONT'D) MANAGING RESOURCES	The student will be able to:	 Inability of textile producers to cope with keen competition from technology and quality control and marketing. Lack of adequate and effective skill development and training in school or apprenticeship for employment. Uncreative ideas and practices. 	 National Co-ordinating Council for Technical and Vocational Education and Training. (NACVET) Ministry of manpower and Social Welfare. 	
	2.1.2 propose solutions to the challenges in textile marketing, distribution and entrepreneurship and suggest solutions.	 Challenges in Marketing and distribution of Textiles Failing to satisfy standards and demand of customers on schedule. Producing to satisfy limited market segment. Conservatism and lack of skills to identify new markets and expand Failing to take advantage of opportunities. Entrepreneurship Problems with setting up and managing material and human resources of the enterprise efficiently to achieve goals and make profit. Difficulties in laying down an effective system or ways for accounting, quality control, training, re-training and motivation of staff or individuals. 	Students to debate the topic "problems and their solutions in practicing textiles as a sustainable enterprise". Guide students to summarize the main points in the debate and report on them.	Students to interview practitioners about how they are managing their enterprises in view of the stiff competition and challenges in the textile industry and propose solution.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT UNIT 1 (CONT'D) MANAGING RESOURCES	SPECIFIC OBJECTIVES The student will be able to: 2.1.3 analyse issues associated with publicity, promotion, advertisement, labour, employment and industrial environment.	 CONTENT Publicity, promotion and advertisement. Inability to let the consumer or public know the existence of the enterprise, entrepreneur and the items produced Inability to use ICT and marketing strategies to reach customers and consumers. Labour, Employment and industrial environment. Problems with enforcing copyright and patenting laws imitating/copying designs of others creating a conducive environment for self 		EVALUATION Students to interview employers/workers of textile establishments on pertinent problems facing the establishment and discuss analyse them to write a report or article intended for an identified newspaper.
		 employment getting orders for work, customers, financial and technical support. collaborating with enterprises and schools satisfying job entry requirements, etc. 		

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 HEALTHY STUDIO PRACTICES	The student will be able to: The student will be able to: 2.2.1 state reasons for observing healthy studio practices	 The need for healthy studio practices: There is therefore the need for visual arts teachers and students to become aware of the potential hazards in using art materials. There are three ways in which such chemicals can enter the body: i. Absorption – hazardous chemical are absorbed through the skin from cuts or scrapes, resulting in burns or rashes, etc ii. Inhalation – chemical irritants can be inhaled, causing lung problems like bronchitis, etc. iii. Ingestion – chemicals can be ingested by touching the mouth with the hands or fingers while working with supplies or unconsciously placing tools like paint brushes in or near the mouth. 	Guide students to brainstorm and discuss the need for healthy studio practices. Students visit the studio of a practicing artist and interact with him/her on what healthy studio practices he/she employs and write a report on their findings for class discussion.	Students to: - present their reports on the need for healthy studio practices for assessment. - visit the internet to research into the need for healthy studio practices.
BUILDING A PORTFOLIO AND TEXTILE EXHIBITION	2.3.1. build up a hard and soft copy portfolio or works for exhibition.	 Hard and Soft copy Portfolio or work: Portfolio – a collection of creative works. Building a portfolio: selection of best works finishing of works e.g. neatening, trimming preparing brochure i.e. the artist's statement, appraisal from referees etc. using digital content (ICT) to store works on CD's, DVD's pen drive etc. 	Students to build and select appropriate portfolios for their exhibition. NB: Guide students to organize a power point presentation of their works.	Students to evaluate the exhibitions and write report on them.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3(CONT'D) BUILDING A PORTFOLIO AND TEXTILE EXHIBITION	The student will be able to: 2.3.2 mount a textiles exhibitions	 Steps in mounting an exhibition, e.g. preparing planning organizing mounting procedures opening and closing evaluation, etc 	Revise the steps for mounting an exhibition with students. Students in groups mount a textile exhibition at community and national levels. NOTE: Emphasize on good mounting procedures and honesty.	PROJECT: Prepare a portfolio of a hard and soft copy of works and present for simulated job seeking interview.
UNIT 4 I) Develop a Business Plan. ii)Designing a Business Brochure and Card	 2.4.1 prepare a business plan for an enterprise in textiles 2.4.2 design and make an artist brochure and card 	A business plan for Textiles: Purpose -controls direction of the enterprise Key points -executive summary -identify a problem to solve -establish what to achieve Usefulness -for monitoring and evaluating -as a collateral to seek financial assistance Artist Brochure and Card: -An artist's brochure is a printed document, booklet or a small book that gives information about an artist and his/her works. -Purpose To create public awareness of what he/she does and can do.	 brainstorm and discuss the purpose of a business plan discuss the relevant key points in preparing a business plan. apply the knowledge and skills in exhibition to participate willingly in organising and mounting artworks. their knowledge, skills to prepare a business plan. brainstorm and suggest ways by which an artists can create public awareness of what he/she can do and present report for class discussion discuss the purpose, key points and usefulness of an artist's brochure and cards. 	 write out a business plan for a textiles enterprise write an essay on how to design and make an effective brochure or card. PROJECT Design and make samples of artist brochure and call card using appropriate skills and technology
		-key points The name of the artist. The artist's statement Contact: email, telephone numbers.etc Location of studio -Usefulness Record of previous exhibitions	preparing designing and producing an artist's brochure with words and images.	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 5 COSTING AND PRICING	The student will be able to: 6.1.1 identify production and fixed Cost.	Variable Cost (Direct cost or <u>Production Cost)</u> This consists of the cost of raw materials and wages.		Students to:
		Variable costs are the direct costs of making the product. They are called "variable" because the cost of materials for producing ten items a day is different from the cost for producing twenty items a day. The cost varies. <u>Fixed Cost</u> Consist of rent , lighting , cost, taxes, cost of adverts, depreciation cost of tools and equipment, telephone cost, transportation, postage, salaries, etc. fixed costs are also known as "Indirect Costs" or "Overheads"		Differentiate between Direct at Indirect costs.
Pricing	6.1.2 explain factors that determine the price of a textiles product.	 Price is generally determined by the market forces of supply and demand. Factors to be taken into account in pricing a product generally consist of Cost of the product (total production cost). Profit margin. The two are combined in various price-setting ways such as: Introductory price (also called market penetration price that is pricing below the actual market price to attract market share). This is only temporary pricing to get market share. Using "going price" system that is charging the same price as other suppliers of the same product are charging. Using the "cost plus"system – adding a percentage to total cost as profit. 	Guide students to discuss the various factors which determine the pricing of products. Lead students to discuss the factors that influence the pricing of textiles products.	State four factors that determin the price of a Textiles product and discuss two of the factors
		Using the pricediscrimination system known as "what the market can bear" pricing system e.g. selling at a higher price in say Accra than in a smaller town. Selling at different prices in different areas of a town depending upon the income levels of the different areas		Students to determine the prot margin of one textiles product class has produced.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 5 (CONT'D) COSTING AND PRICING Pricing	The student will be able to:	 <u>Objective of Pricing</u> To meet the pocket of the average income earner. To cope with competition To capture greater percentage of the market. To maximize profit. 	Through questions and answers, students should discuss how to set prices for items produced in a village and items produced in a big town.	Students to cost and price oth textile item.
UNIT 6 PACKAGING IN TEXTILES	6.2.1 explain the meaning and purpose/function of packaging in Textiles.	Meaning and Purpose/Functions of Packaging in Textiles Packaging in Textiles explained as e.g. making container that holds a textile product and makes it possible for easy handling.Types of Packages Primary package Secondary packageImportance/Functions of Packages e.g. identification, protection, information, convenience, attraction, value addition, etc.Qualities of a good package e.g. attractiveness.	Guide students to brainstorm and come out with meaningful explanation of packaging and its purpose/function in Textiles. Lead them to: • Collect different packages and discuss them according to: a. types b. importance c. materials suitable for packaging in textiles d. qualities of a good package e. packaging for local and export markets. <u>NB:</u> Discussion could take the form of group work. <u>Attitudes</u> Critical study and accuracy.	Assignment Students to visit shops in town and collect different types of packages for discussion in classion Students make group presentation on packaging in relation to: suitability of materials for packaging in textiles, etc. Compare the three types of packaging with regards to the functions.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 6 (CONT'D) PACKAGING IN TEXTILES	SPECIFIC OBJECTIVES The student will be able to: 6.2.2 design and construct packages to meet national and global textiles needs.	CONTENT Designing and constructing packages to meet national and global ceramic needs Tools for designing e.g. computer, etc. Tools: e.g. hacksaw, craft-knife, etc. Materials: e.g. straw, wood, etc. Techniques: e.g. cutting, gluing, twisting, etc.		EVALUATION Students to explore the environment for new ideas an motifs to be used in designing their packages. Projects Students to design and produc suitable packages for exportin textiles products in groups.

SECTION: 3

FABRIC CONSTRUCTION – TWILL WEAVES AND OTHER WEAVES

- be aware of various interlacing patterns in twill fabrics.
 develop skills in constructing twill and other fabrics.
 be aware of the effects of weave structures and fibres on the body

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1	The student will be able to:			Home work
DESIGNING AND WEAVING TWILL STRUCTURES	3.1.1 identify and describe the characteristics of twill weaves and their variations.	 Twill weaves: they are weave structures in which yarns are interlaced such that distinct diagonal lines are observed on the surface of the fabric. Identification of twill weave fabrics, eg.drill, denim, tweeds, gabardine, etc. Twill variations: left hand twill, right hand twill, herringbone. 	Display samples of twill weave examine and describe their structure. Students to identify and describe the characteristics of twill weave fabrics. Ask students to unravel twill fabrics to analyze the pattern of interlacing of the yarns. Students to transfer the pattern of interlacing of yarns into designs on graph sheet. Students to compare and identify left hand and right hand twills, herringbones and discuss their differences.	Students to collect pieces of twill woven fabrics and paste them in their scrapbooks Class Exercise: Describe the characteristics of twill weaves.
	3.1.2 design basic 2/2 twill and variations on graph sheet and weave them on card and broadloom.	Designing of 2/2 twill and twill variations on graph sheets. e.g. 2/2,1/2, 2/3, 1/3, 4/4, etc.	Demonstrate and guide students to design 2/2 twill and twill weave variations on the graph sheet. Demonstrate twill weaving on card and let students practise the skills. Guide students to develop criteria for appreciating (judging/criticizing) their works, e g. pattern, correct arrangement of warp and weft yarns, firmness of weave etc.	Students to critique work using their own criteria.

			TEACHING	
UNIT	SPECIFIC OBJECTIVES	CONTENT	AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (CONT'D)	The student will be able to:			
DESIGNING AND WEAVING TWILL STRUCTURES		Planning, preparing and weaving basic twill and twill variations on card and on the broad loom.	Guide students to plan, prepare and weave 2/2twill on the broadloom.	
STRUCTURES			Note: Emphasize skills on the differences in tying-up order between twill and plain weaves on the broadloom.	
			Students apply skills to weave twill variations on card and on the broadloom.	Project: Students to design and weave $\frac{2}{2}$ twill fabric on card and broadloom
UNIT 2				
SATIN/SATEEN WEAVES	2.2.1 identify and describe satin/sateen weaves and discuss their uses.	Identification of satin/sateen weaves e.g. Warp faced (shiny) and weft faced (dull) appearances.	Display samples of satin/sateen fabrics for students to examine and describe their structure.	
			Students to identify warp faced and weft faced satin/sateen.	
			Ask students to collect specimen of satin/ sateen fabrics and analyze them.	Prepare album of satin/sateen samples and label them.
			Students to discuss the uses of satin/sateen fabrics e.g. For linings.	
			Guide students to compare the characteristics of satin/sateen fabrics with other fabrics, e.g. Plain fabrics and twill fabrics.	Students to discuss their observations after comparing the fabrics.

		TEACHING	
SPECIFIC OBJECTIVES	CONTENT	AND LEARNING ACTIVITIES	EVALUATION
The student will be able to:			
2.2.2 design and construct simple satin/sateen weaves on graph sheet	Designing satin/sateen structures on graph sheet, e.g. 4×4 satin, 6×8 satin.	Guide students to design basic satin/sateen weave structures on graph sheet.	
and on card.	Construction of satin/sateen weaves on card.	Students to use the ideas to develop and design other satin/sateen weave on graph sheets.	
		Demonstrate the cutting of cardboard paper into warp and weft strips and using them to weave satin/sateens.	
		Students to weave satin/sateen patterns using the strips	Students to compare their samples and discuss them.
2.3.1 analyze the structure of knitted and crocheted fabrics.	Meaning of crocheting and knitting. Characteristics of knitted and crocheted fabrics.	Guide students to brainstorm and discuss the meaning of crocheting and knitting.	
	Crocheting: it is a process of fabric construction in which hook/needle and a single strand of yarn are used to form interlocking loops to produce a patterned fabric.	Displace crocheted and knitted fabrics for students to examine. Guide students to discuss the characteristics of crocheted and knitted fabrics e.g. Presence of wales, elastic, absorbent, heat retentive, easy to unravel etc	Collect samples of crocheted/knitted items and examine types of yarns used, the pattern of interlocking, how it unravels etc. and report on them.
	Knitting : it is a process in which yarns are looped around each other with one or more knitting needles to form a fabric.	Ask students to bring out the differences.	
	Uses of crocheted and knitted fabrics.	Discuss the uses of crocheted and knitted fabrics with students. e.g. Socks, bags, singlet, toys, table mats, chair backs, etc	
	 The student will be able to: 2.2.2 design and construct simple satin/sateen weaves on graph sheet and on card. 2.3.1 analyze the structure of knitted and crocheted 	The student will be able to: 2.2.2 design and construct simple satin/sateen weaves on graph sheet and on card. Designing satin/sateen structures on graph sheet, e.g. 4x4 satin, 6x8 satin. 2.3.1 analyze the structure of knitted and crocheted fabrics. Meaning of crocheting and knitting. Characteristics of knitted and crocheted fabrics. 2.3.1 knitted and crocheted fabrics. Meaning of crocheting and knitting. Characteristics of knitted and crocheted fabrics. Crocheting: it is a process of fabric construction in which hook/needle and a single strand of yarn are used to form interlocking loops to produce a patterned fabric. Knitting: it is a process in which yarns are looped around each other with one or more knitting needles to form a fabric.	The student will be able to: 2.2.2 design and construct simple satin/sateen weaves on graph sheet, e.g. 4x4 satin, 6x8 astin/sateen weave structures on graph sheet, and on card. Guide students to design basic satin/sateen weave structures on graph sheet, e.g. 4x4 satin, 6x8 astin. 2.3.1 analyze the structure of knitted and crocheted fabrics. Meaning of crocheting and knitting. Characteristics of knitted and crocheted fabrics. Demonstrate the cutting of cardboard paper into warp and weft strips and using the strips. 2.3.1 analyze the structure of knitted and crocheted fabrics. Meaning of crocheting and knitting. Characteristics of knitted and crocheted fabrics. Demonstrate the cutting of cardboard paper into warp and weft strips and using the strips. 2.3.1 analyze the structure of knitted and crocheted fabrics. Meaning of crocheting and knitting. Characteristics of knitted and crocheted fabrics. Demonstrate the cutting of cardboard paper into warp and weft strips and using the strips. 2.3.1 analyze the structure of knitted and crocheted fabrics. Meaning of crocheting and knitting. Characteristics of knitted and crocheted fabrics. Demonstrate the cutting of crocheting and knitting. Characteristics of knitted and crocheted fabrics. Crocheting: it is a process of fabric construction in which hook/needle and a single strand of yarn are used to form interlocking loops to produce a pattermed fabric. Displace crocheted and knitted fabrics for students to bring out the differences. Knitting: it is a process in which yarns are looped around each other with one or more knitting needles to form a fabric. Ask student

			TEACHING	
UNIT	SPECIFIC OBJECTIVES	CONTENT	AND LEARNING ACTIVITIES	EVALUATION
UNIT 3 (CONT'D) CROCHETING AND KNITTING	SPECIFIC OBJECTIVES The students will be able to: 2.3.2 demonstrate skills in planning, designing and constructing crocheted and knitted fabrics.	CONTENT Tools and materials for crocheting and knitting: e.g. Tools: Knitting/crocheting pins Pair of scissors Knitting machines Materials: Wool/nylon/cotton yarns, Twine Planning, designing and constructing crocheted and knitted fabrics.	TEACHING AND LEARNING ACTIVITIES Lead students to discuss and identify tools and materials for crocheting and knitting. Emphasize on the importance of care and maintenance of tools and materials for crocheting and knitting. Demonstrate different stitches and Guide students to practise them. e.g. Single stitch Double stitch Slip stitch Chain stitch etc. Guide students to plan and design on graph sheet or on computer and use them to construct crocheted and knitted fabrics e.g. bags, toys, dolls, table mats, socks etc. Demonstrate crocheting and knitting and guide students to crochet and knitt some items and decorate them with beads, seeds, sequins etc.	EVALUATION Project: Use the knitting and crocheting techniques to produce an artifact for decoration. Students to appreciate their works using their own criteria.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 4	The student will be able to:	CONTENT	AND LEARNING ACTIVITIES	EVALUATION
TAPESTRY	2.4.1 demonstrate skills in planning, designing, and constructing tapestry items on the broad loom and discuss their uses.	Meaning of tapestry: e.g. It is a hand-woven decorative fabric made by working a large number of weft threads into a system of undyed warp yarns. Planning, designing and constructing tapestry items. i.e. laying of warp, weaving by hand picking.	Guide students to brainstorm to come out with the meaning of tapestry, Discuss the characteristic features of tapestry. Guide students to discuss and identify suitable designs for tapestry work. Guide students to use ideas from the environment to design on graph sheet or computer and produce the item on the broad loom.	Students to interview and observe professional tapestry makers at work for inspiration and improvement
			Note: Designs should reflect contemporary national issues and regenerative health, e.g. STDs, HIV/AIDS, teenage pregnancy, maintenance of culture, corruption, political rivalry, and drug abuse/trafficking honesty / faithfulness, good eating habits, water for life, etc. Guide students to collect specimen and	 Project: students to weave strips of fabric based on the following themes: Exercise is medicine Food is medicine Water is medicine Rest is medicine
			pictures of tapestry fabrics to analyze and compare them with other woven fabrics. Emphasize on the differences between plain, twill and tapestry weaving. Discuss significance and uses of tapestry items.	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT UNIT 5 TYPES OF POWER LOOM (SHUTTLE/ SHUTTLELESS)	SPECIFIC OBJECTIVES The student will be able to: 2.5.1 identify and describe types of power looms and discuss their functions.	 CONTENT Types of power looms e.g. Shuttle looms: tappet, dobby, jacquard. Shuttleless looms: rapiers, water/air jet looms. 	AND LEARNING ACTIVITIES Guide students to discuss and explain what power looms are. e.g. they are looms that are operated by electric power instead of manpower. Guide students to discuss and classify power looms into shuttle and shuttleless looms. Discuss and compare the characteristics and mode of operations Students to discuss and come out with the advantages and disadvantages of shuttle looms and shuttleless looms. Guide students to distinguish between	EVALUATION Students to collect more information by reading, going on the internet Compare power looms and state their functions, advantages and disadvantages.
			characteristics of fabrics woven on shuttle looms and shuttleless looms. Organise students to visit a textile factory to identify and examine shuttle and shuttleless looms or show pictures from books, magazines or the computer/internet.	Visit the industries or the internet to observe existing and newly invented power looms and report on them.

		CONTENT		
UNIT	SPECIFIC OBJECTIVES	CONTENT	AND LEARNING ACTIVITIES	EVALUATION
UNIT 5 (CONT'D)	The student will be able to:			
TYPES OF POWER LOOM (SHUTTLE/ SHUTTLELESS)	2.5.2 identify and describe the primary, secondary and auxiliary motions of power looms and state their functions.	 Primary motion: shedding, picking and beating-up Secondary motions of power looms: let -off motion, take -up motion. Auxiliary motions: warp stop motion, weft stop motion, warp protector motion, etc 	Guide students to discuss and describe primary, secondary and auxiliary motions and their functions. Secondary/auxiliary motions occur only on the power looms. e.g. Secondary motions help weaving to be continuous and avoid waste of time. Auxiliary motions help prevent damages and faults that might occur in the fabrics during weaving.	Quizzes on loom motions
UNIT 6			Students to discuss the advantages of the secondary and auxiliary motions.	
FINISHING AND CARE OF WOVEN FABRICS	2.6.1 explain finishing and its effects on textiles.	Definition of finishing: it is the treatment given to textile goods to change, improve, or develop their appearance, performance or behavioral characteristics.	 Students to brainstorm the concept of finishing in textiles. Guide students to discuss the effects of finishes on textile fabrics e.g. make fabric more absorbent, lustrous resistant to water penetration/fire improves appearance improves serviceability 	
	2.6.2 classify finishes and state their effects on fabrics.	Classification of finishes into a. chemical: e.g. bleaching, mercerizing scouring fire proofing water proofing b. mechanical: e.g. calendaring singeing tentering napping	Guide students to discuss, explain and classify finishes into chemical and mechanical finishes. <u>Note</u> : emphasize on temporary and permanent finishes. Students to observe and discuss observe effects of finishes on fabrics. Let students compare finished and unfinished fabrics, e.g. grey baft and poplin or mercerized cotton	Assignment:- Students to collect specimen of finished fabrics and identify the finishing techniques used on them.
			Guide students to experiment how to finish fabrics using some of the techniques listed in the content column.	Identify and discuss the effects of different finishes applied onto fabrics

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 6 (CONT'D)	The student will be able to:			
FINISHING AND CARE OF WOVEN FABRICS	2.6.3 demonstrate skills in caring for and maintaining fabrics.	Care of fabrics: washing, drying, ironing, storage, effects of soaps and detergents, care labels, effects of poor caring and importance of good caring.	Guide students to discuss care and maintenance of fabrics. Guide students to identify and explain different ways of caring and maintaining fabrics.	
			Lead a class discussion on the effects of soaps/detergents, sunlight, ironing, sweat, deodorants/body creams etc. on fabrics.	Quizzes on care and maintenance of fabrics
			Students to discuss the need to take good care of fabrics in the light of high cost of fabrics and economic constraints.	Students to collect different care labels and interpret them.
			Students to identify various care labels and explain their meaning. eg. Non iron, dry cleaning, percentages of fibres in a fabric, etc.	Project: Score and bleach a piece of grey baft fabric using the household scouring and bleaching agents and report the findings.
	2.6.4 identify and describe the effects of fibres and weave structure on the body	The texture of some fibres is by nature, coarse and rough and may cause abrasion when used for garments when worn next to the skin e.g. wool, flax, etc. Some synthetic fibres also cling to the body making it uncomfortable to were.	Guide students to identify coarse weaves and fibres and discuss their effects on the skin. Such fibres may be used for outer garments instead of underwear worn next to the skin	

SECTION: 4

FABRIC DECORATION PROCESSES

General objectives: The student will:

1. be aware of various fabric decoration methods

2. understand fabric decoration as a major aspect of textile production

3. develop skills in fabric decoration techniques

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1	The student will be able to:			
TOOLS AND MATERIALS FOR FABRIC DECORATION	3.1.1 identify and describe tools and materials for fabric decoration and state their uses.	 Meaning of tools/equipment and materials e.g. Tools/equipment: it is an object designed to do a specific kind of work (e.g. cutting) by directing manually applied force or by means of a motor. Material: it is a substance that is used up in the process of producing an item. It forms part of the finished product. Types of tools and materials: Printing tools/equipment: squeegee, screen, block, printing table, spoon, bowl, gloves, light exposure box. Printing materials: ink/paste/dyes, plain fabric, chemicals. Dyeing tools: bowl, spoon, hand gloves. Dyeing materials: dyes, chemicals, wax, cassava powder, raffia threads. 	Guide students to brainstorm and come out with the meaning of tools/equipment and materials as stated in the content. Assemble tools and materials for students to identify and describe them. Guide students to construct some tools/equipment e.g. screen, squeegee, light exposure box. Students to discuss the types and uses of the various tools/equipment. Emphasize on proper care and maintenance of the tools and materials. e.g. washing, cleaning, drying, etc.	Students to read for more information about tools and materials for fabric decoration. Students to draw some tools and equipment discussed

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 (CONT'D) TOOLS AND MATERIALS FOR FABRIC DECORATION	The student will be able to: 3.1.2 identify safety measures when using the tools and materials.	Safety measures: e.g. use of gloves and nose masks, washing of tools and equipment after use, protection against burns from hot water, wax, chemicals, etc.	Discuss the need to take precautions when working with tools/equipment and materials. Discuss the safety measures with students.	Write down safety measures to be taken when using tools/equipment and materials during fabric decoration processes.
	3.1.3 design, construct and use printing tools.	Designing and construction of printing tools: e.g. measuring, cutting, joining, smoothening.	Guide students to design and construct printing tools. Discuss with the students the uses of the tools.	Students to construct and use printing tools to make printed items.
UNIT 2 DYEING TECHNIQUES	3.2.1 identify synthetic dyes and their recipes.	 Types of synthetic dyes: Direct dye (dylon) Vat dye (indantherene) Reactive dye (procion) Azoic dye (napthol and fast salts) Recipes and preparation. 	Discuss the types of synthetic dye as listed in the content with students. Discuss recipes of various dyes and demonstrate the preparation of the dyeing solution. Note: Emphasize on safety measures when handling preparing and using the dye bath.	
	3.2.2 demonstrate knowledge and skills in preparing fabric for dyeing, the dye bath and dyeing process	Preparation of fabric for dyeing. Preparation of dye recipe/dye-bath Application of dyes to fabric (hot dyeing and cold dyeing). Fixation treatment.	Discuss with students the methods of preparing the fabric for dyeing, e.g. Washing to remove impurities. Emphasize on the need to prepare the fabric before dyeing. Guide students to prepare dye-bath Demonstrate the dyeing process, e.g. dipping, turning, timing, washing, rinsing, ironing.	Students to dye samples of fabric with different synthetic dyes and compare the effects

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 (CONT'D) DYEING TECHNIQUES	SPECIFIC OBJECTIVES The student will be able to: 3.2.3 design and make tie-dye and batik fabrics applying skills in dyeing exploration and experimentation.	CONTENT The concept of dyeing: tie-dyeing, batik. It is a process of using various techniques to prevent the dye from reaching some parts of the fabric to create patterns. Techniques of tie-dyeing: tying, stitching/tritiking, knotting, folding, bunching, sandwiching, etc. Techniques for batik: stamping, (tjanting) dipping, sprinkling, splashing, lace- 'kokonte' technique, drawing/painting, scrapping etc.	Discuss and explain the concept of resist dyeing. Discuss and explain the differences between tie-dyeing and batik. Demonstrate processes in planning, designing, preparing and carrying out tie-dyeing and batik activities. Guide students to practise tie-dye and batik on their own. Emphasize on safety measures (the use of protective clothing, plastic containers, spoons, etc. instead of metal ones). Students to experiment and come out with new and creative techniques in tie-dyeing and batik production. Guide students to develop appropriate	EVALUATION Students to find other methods of preparing fabrics for tie-dye and batiks through: Interviews, experimenting, observations, reading. Etc. Students to do group work using two or more tye-dying techniques with one fabric Students display tie-dyed and batik fabrics and discuss the effects.
UNIT 3 SCREEN PRINTING TECHNIQUES	3.3.1 prepare and describe types of screen construction and development techniques.	Types of screen development techniques Stenciling Lacquering Photochemical (light exposure box; solar) 	 Criteria and use it to appreciate and criticise their fabrics, e.g. colour harmony, brightness of colour, design, etc. Discuss the various types of screen development techniques with students as listed under the contents. Demonstrate skills in the preparation of the various types of screen for printing. 	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3 (CONT'D)	The student will be able to:			
SCREEN PRINTING TECHNIQUES	3.3.2 construct and develop screen using the various techniques.	 Construction and development of screen. Stenciling: preparation of frames, stretching with mesh, cutting stencil. Lacquering: preparation of frame and stretching with mesh, drawing design on 	Demonstrate how to prepare the screen by the stenciling technique Guide students to prepare screen using the lacquering method.	Students to write a paper on different ways of building a light box for developing screens.
		 Photochemical: preparation of frame , stretching, preparation of sensitizing solution, application of solution to screen, drying. 	Guide students to prepare screen using the sensitizing solution as indicated in the content.	Project: Design and construct a light exposure box and use it to develop a screen. (group work)
	3.3.3 demonstrate skill in transfer of designs onto screen using and experimenting the various methods.	 Transferring designs onto screen: Stenciling: pasting Lacquering: drawing and coating with lacquer. Photochemical: light exposure box, exposing, washing, drying, retouching, re-enforcing 	Demonstrate how to transfer the design onto the screen by stenciling and lacquering methods. Demonstrate the photochemical method by using the light-exposure box to transfer the design. Guide students to develop their own screens for printing. Students discuss problems in screen construction and development.	Students to experiment the use of wax and 'kokonte' for blocking screen
	3.3.4 demonstrate skills in printing using the screen.	Screen printing processes: preparation of printing table/printing ink/fabric, placing the screen on fabric, supplying printing ink to screen, squeeging, repeating printing, drying fabric, ironing,	Guide students to prepare the printing table, paste, and fabric for printing. Demonstrate the placement of screen on fabric, supplying with paste and squeeging. Emphasize on registration and correct repeating to avoid gaps between repeats.	Students to design and print an item using the screen printing process.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3 (CONT'D) SCREEN PRINTING TECHNIQUES UNIT 4	The student will be able to:		Guide students to plan, prepare and print their own fabrics using screen. Insist on student to use safety measures while printing. Guide students to develop a criteria for appreciating their printed works	Students to discuss common faults and problems in printing and report on them. Project: Students to do group projects on screen printing.
TRADITIONAL (ADINKRA) PRINTING	 3.4.1 recount the origin of traditional(adinkra) printing in Ghana. 3.4.2 identify adinkra symbols and state their symbolism. 	 History of adinkra printing in Ghana Legend of war between king Adinkra, the Chief of Gyaman (Cote d'voire) and Nana Osei Bonsu of Ashanti The belief that the adinkra symbols were possibly amulet signs introduced by Mohammedans from the North Claims that the Denkyiras made the cloth in early 1900 Legend related to the meaning of adinkra. Adinkra means saying good bye to dead relatives Ntonso was supposedly the first place where traditional adinkra printing started Adinkra symbols and their meanings eg. Akoma- Patience and endurance. Nsoroma – Child of heavens Osrane ne nsoroma – symbol of faithfulness Fihankra – Safety or security in a home Aya – Symbol of defiance Krapa – Symbol of sanctity and goodness Fofoo – symbol of jealousy. etc 	Lead a class discussion on the origin of adinkra printing as listed in the contents. Students to visit museums, art centers, chief's palaces, etc. to interview people about the origin of traditional adinkra printing. Students to debate the origin of traditional (adinkra) printing among themselves. Guide students to identify and describe the adinkra symbols NOTE Refer to the adinkra chart prepared by Prof. Ablade Glover and others Students to discuss the meaning of the symbols and relate them to the socio- cultural values of the ethnic groups in Ghana	Ask students to collect more information from libraries, the internet, etc. Students to: - Reflect on traditional symbols and express their views on their origin and history and significance today. Students to: - compile adinkra symbols into a chart. - Research and compile traditional symbols and their meaning in the communities into a chart. - Design and name own symbol on e.g. wise saying/ proverbs, moral and human, love, values e.g. patience

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 4 (CONT'D) TRADITIONAL (ADINKRA) PRINTING	The student will be able to: 3.4.3 demonstrate skills in designing and making traditional adinkra stamps, dyes and printing with them.	 Printing with Adinkra stamps and dyes: Tools and materials for adinkra printing. Tools – Adinkra stamps, screen Materials – badie dye, 'kuntunkuni' dye, iron filings, plain or dyed fabrics. Preparation of 'badie/kuntunkun' dyes: eg. cutting, soaking, breaking, boiling. Preparation of printing stamp;, cutting, shaping, carving; Adinkra printing processes, e.g spreading, dipping, stamping, drying. Characteristics of adinkra prints: Colour – black and white to dark brown and red. Design – combination of adinkra patterns. Appearance – lustrous, slightly stiff, motifs appear clearly on only one side of the fabric. Care – not to be washed, iron from the back. Uses of adinkra fabrics: eg. Mourning cloth Depicts traditional Ghanaian culture. 	 Students to identify and discuss the preparation of the traditional adinkra printing stamp using calabash and broomstick. Guide students to discuss the preparation of 'badie/kuntunkuni' dyes from barks /roots of trees botanically known as adasonia digitata and bombax brevicopsi respectively Demonstrate and guide students through adinkra printing processes using the traditional ink and stamp. NOTE: Draw students' attention to the fact that nowadays screen is also used for adinkra printing at Ntonso and Bonwire and their environs. Students to discuss the characteristics and uses of adinkra prints as listed in the content. Discuss the significance of adinkra fabrics in the Ghanaian society. Emphasize the need to improve the quality of the traditional adinkra prints as well as to preserve, promote and transmit the craft. 	Students to prepare adinkra symbols printing stamps based on e.g. wise saying, human and moral values, proverbs.etc Students to visit Ntonso/Bonwire or traditional printing centers to interact with the traditional printers and write a report on it. Students to collect adinkra fabrics for an album Project : Prepare the badie printing ink, design and print a piece of Adinkra cloth. (group activity) Students to prepare dyes from local plants for adinkra printing.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 5 FINISHING AND CARE OF DECORATED	The student will be able to: 3.5.1 apply skills in finishing, caring and maintaining decorated fabrics.	Finishing, caring and maintaining dyed and printed fabrics:	Discuss the need to undertake finishing, caring and maintaining decorated fabrics.	Students to: 1. Students to collect care labels and describe instructions on them in
FABRICS		 Washing Steaming (fixing) Ironing Airing/drying Finishing of appliqué and embroidered fabrics: Neatening Trimming Backing/quilting Ironing. 	Guide students to identify and explain different ways of finishing dyed and printed fabrics as listed in the content and reasons for doing that. Discuss the different methods of finishing appliqué and embroidered fabrics listed in the content. Guide students to practise skills in finishing.	class. 2. Write an essay on the importance of caring for and maintaining fabrics.
	3.5.2 identify and describe methods of caring for decorated fabrics.	Care of fabrics : cleaning, airing, ironing, storage, effects of soaps and detergents on fabrics, care labels, the need to care for fabrics and the effect of poor caring.	Discuss the effects of soaps/ detergents, sunlight, ironing, sweat, deodorants/body creams etc. on fabrics. Guide students to discuss the need to take good care of fabrics in the light of high cost of fabrics and economic constraints.	Students to identify and observe and report on how an individual in the home or neighbourhood cares for decorated fabrics by cleaning, washing, drying, ironing etc.
	3.5.3 describe the effects of dyes and chemicals on the body	Effects Dyes and chemicals on the Body:	Lead a class discussion on the effects of dyes and chemicals on the body. Students to collect care labels and analyze instructions on them in class.	Write an essay on the effects of dyes and chemicals on the body.

SECTION: 5

APPLIQUE AND EMBROIDERY TECHNIQUES

- 1.
- be aware of the importance of appliqué and embroidery technique develop knowledge and skills in making appliquéd and embroidered items. 2.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1	The student will be able to:			
STITCHES	5.1.1 describe types of stitches.	 Meaning and of stitches. Types of stitches: Temporary stitches: tacking, running Permanent stitches: (Decorative/Neatening) back stitch, chain stitch, fly stitch, stem stitch, blanket stitch, herringbone stitch, chain stitch, cross stitches, etc. 	Guide students to brainstorm and describe the term 'stitch'. e.g. movement of threaded needle in and out of a piece of fabric for decoration or joining fabrics together. Guide students to discuss and identify different types of stitches as listed in the contents, Guide students to make stitch samples.	Students to search through books and internet for different stitches. Students to produce some of the existing stitches and create new ones
UNIT 2 APPLIQUE AND EMBROIDERY TECHNIQUES	5.2.1 determine the difference between appliqué and embroidery techniques.	 Meaning of appliqué/embroidery. Appliqué: it is carried out by cutting shapes from fabric, leather or other materials and stitching onto another fabric /item with contrasting background. Embroidery: it is the art of decorating a cloth with a needle and coloured threads using different types of stitch. 	Guide students to brainstorm and discuss to define appliqué and embroidery and show the differences. Assemble appliqué and embroidered products e.g. table cloth, chair backs, dresses, jumpers etc. for students to observe group and compare them to determine the difference.	Students to differentiate between appliqué and embroidery fabrics and write a report on them

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT UNIT 2 (CONT'D) APPLIQUE AND EMBROIDERY TECHNIQUES	SPECIFIC OBJECTIVES The student will be able to: 5.2.2 demonstrate skills in in-lay and on-lay appliqué and embroidery techniques.	CONTENT Techniques in appliqué: • in-laying, • on-laying Techniques in embroidery, developing motifs/pattern, drawing motif on fabric, stitching motif		EVALUATION Students to interview practitioners about the different techniques they use for in-lay and on-lay appliqué and write a report for assessment and feedback discussion.
			Emphasize on neatness and good finishing.	

SENIOR HIGH SCHOOL - YEAR 3

SECTION: 1

FABRIC CONSTRUTION

General objectives: The student will:

- develop advanced skills in the use of the traditional loom. 1.
- 2. be come ware of handpicking as a method of creating patterns.
- develop further skills in weaving, crocheting and knitting. understand the nature of non-woven fabrics. 3.
- 4.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 TRADITIONAL WEAVING (KENTE WEAVING)	The student will be able to: 1.1.1 design and weave advanced kente designs on the traditional loom.	Parts and accessories of the traditional loom. Designing kente patterns on graph sheet or computer. Designing and preparing: ie. Warping, heddling, reeding, tying- up. Weaving advanced kente designs on the traditional loom e.g sikafutro, Fathia fata Nkruma, etc.	Revise names and functions of parts and accessories of the traditional loom with students. Discuss, explain and demonstrate designing the kente patterns on graph sheet or computer. Demonstrate planning and preparatory processes as listed in the contents and weaving on the traditional loom. Guide students to weave advanced plain kente structure on the traditional loom. Discuss and compare the differences and similarities between traditional weaving and broadloom weaving.	Students to weave kente samples and paste them in an album. Make a critical comparison between traditional weaving and broadloom weaving.
	1.1.2 analyse the significance of kente symbols and fabric	 Significance and uses of kente symbols and fabric: Kente designs: eg. sikafutro, Fathia Fata Nkruma, Adwini asa, Ohene Aforo hyεn, Okubi, Akyεm, etc. Portrays Ghanaian culture Symbol of royalty and richness Used on special/important occasions Given as gifts to important dignitaries 	Guide students to collect variety of kente designs, identify their names and explain their symbolism. Organize students to visit traditional weaving workshops, cultural/arts centres, museums, chief's palaces, kente shops etc. to observe designs in kente fabrics and explain the symbolism.	

11117				EVALUATION
UNIT UNIT 1 (CONT'D) TRADITIONAL WEAVING (KENTE WEAVING)	SPECIFIC OBJECTIVES	 CONTENT Source of high income/foreign exchange Used to decorate aircrafts, pastoral robes, pulpits, etc 	AND LEARNING ACTIVITIES Students to brainstorm to come out with the significance and uses of kente fabrics as indicated in the contents. Emphasize the need to preserve and transmit the culture of kente production as a means of preserving Ghanaian culture.	EVALUATION Students to collect kente fabrics and identify the designs and their meanings
	1.1.3 create kente design and symbols to express his or her ideas on contemporary socio- economic and cultural issues	Creating kente designs and Symbols: -applying knowledge and skills in the design and technical process -contemporary issues e.g. child abuse, child trafficking, teenage pregnancy, political confrontations, human rights, drug abuse/trafficking dishonesty and unpatriotic behavior.	Guide students to use their own ideas to create kente designs and give them names and discuss their symbolism. Stress on designs that relate to contemporary issues of the nation as stated in content	The student to design and create a kente symbol that express his or her ideas and communicate about -a community issue -a national issue
UNIT 2 CROCHETING/ KNITTING	1.2.1 describe the types, characteristics and uses of knitted fabric	 Characteristics and uses: Types of knitted fabric: Warp knits Weft knits (Flat, Circular) Uses of crocheted/knitted fabrics: placemats, chair backs, table cloth, pot holders, purses, cases, dolls, head/hand bands, bookmarks, pullovers, scarves, etc. 	Guide student to identify and discuss the characteristics of knitted and crocheted fabrics as compared to those of woven fabrics. Discuss the uses of crocheted /knitted items fabrics as listed in the contents. Students to explore other uses of knitted fabrics.	Students to prepare a chart showing the types, characteristics and uses of knitted fabric.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 (CONT'D) CROCHETING/ KNITTING	The student will be able to: 1.2.2 demonstrate improved skills in planning, designing, and constructing crocheting and knitting fabrics.	Constructing Crocheting and knitting Fabric: Types of stitches: machine stitch, crocheted stitch. Some abbreviated crocheting terms: Beg – beginning Rnd – round St – stitch p – loop Whr – wool round hook K – knit P – purl Yo – yarn over Tog – together ss – slip stitch. etc	Students to plan and revise tools and materials for crocheting and knitting. Guide students to identify and discuss some of the abbreviations used for crocheting and knitting. Demonstrate new stitches and Guide students to practise them.	Students to visit knitting industries and write reports on activities that take place there.e.g. materials, techniques, design, products and their uses Project: Identify a need in your home and use the design and technology process as well as skills in crotcheting and knitting to satisfy it.
		Planning, designing and construction of knitted/crocheted fabrics.	Guide students to plan and design crocheting and knitting structures on paper or computer and construct them using hand or machine. Organize a list to knitting industries for students to observe knitting machines in operation. Guide students to collect samples of knitted and crocheted items and label them.	Collect and paste samples of crocheted and knitted fabrics in an album.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3	The student will be able to:			
TAPESTRY	1.3.1 plan, design and construct advanced tapestry fabrics on the broadloom.	 Constructing advanced tapestry fabric: Planning: ideas from objects, figures, scenes,/landscapes Designing: using graph sheets and computer. Construction: handpicking. Comparing handpicked tapestry weaves with jacquard weaves. 	Revise tools and materials for tapestry. Guide students to develop ideas from scenes and landscapes and design them on the graph sheet or the computer. Discuss and demonstrate weaving more advanced tapestries. Guide students to compare the characteristics of handpicked tapestry fabrics with jacquard fabrics and draw conclusions. Guide students to weave advanced tapestry designs on the broadloom. Emphasize on colour effects, compactness, symbolic significance,	Project: Design and weave a tapestry item on the broadloom. Base the design on any current national issues. (group work) Collect jacquard woven fabrics and compare them with
UNIT 4 NON-WOVEN FABRICS	1.4.1 differentiate between woven and non-woven fabrics	Non-woven fabrics are fabrics which are not woven on looms by interlacing, interlocking or interlooping but are felted or bonded by means of heat, moisture and pressure by mechanical or chemical means. E.g. lint, paper, felt, tissue paper, some carpets, blanket.	originality of design, etc. Guide students to brainstorm and discuss for the meaning of non-woven fabrics.	handpicked tapestry and report on the similarities or differences. Collect samples of woven and non-woven fabrics and use them to make a chart. (group work).
	1.4.2 describe the types of non- woven fabrics	 Types of non-woven: Felt : e.g. blanket, some carpets, beret. Characteristics: does not fray or ravel has little tensile strength does not tear though fibres may pull apart 	Guide students to discuss the characteristics of non-woven fabrics.	

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 4 (CONT'D) NON-WOVEN FABRICS	The student will be able to: 1.4.3 classify the uses of non- fabric based on their properties.	 ii) Bonded: some carpets, upholstery Characteristics: Good shock absorbers Easy to shape Do not ravel Classifications: Durables Disposables Uses: Durables : Apparel Interlinings and interfacings Furnishings Upholstery Carpet backing Filters insulation etc. Disposables: Sanitary towels Diapers Industrial masks Bandages Towels etc. 	Guide students to brainstorm and discuss the durables and disposables fabric giving examples. Discuss and compare the nature of durables and disposables to determine the differences.	Make a collection / list of non- woven fabrics and classify them into durables and disposables. (Group work)

SENIOR HIGH SCHOOL - YEAR 3

SECTION: 2

FABRIC DECORATION TECHNIQUES

General objectives: The student will:

develop advanced skills in dyeing and printing to produce items for the job market
 appreciate the need to finish fabrics and take good care of them.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 TIE-DYEING /BATIK MAKING	The student will be able to: 2.1.1 demonstrate skill in applying advanced techniques in producing tie-dye and batik fabrics to satisfy an identified need.	 Advanced techniques in producing tie-dye and batik fabrics: Tie-dyeing: preparation of dye bath, preparation of fabric (e.g. bunching, folding, knotting, sandwiching, tritiking, discharging, etc. and combination of techniques), dyeing and finishing. Batiking: preparation of dye bath, preparation of fabric (eg. waxing by painting, splashing, dropping, dipping, brushing, stenciling, etc.) and combination of techniques; lace,/kokonte technique; dyeing and finishing. 	Revise lessons on tools/equipment and materials for batik / tie –dyeing with students. Ask students to develop ideas from objects in the environment and national issues and design them on paper or using the computer. Students to experiment and produce batik/tie-dye samples using the various techniques and their combinations as listed in the contents. Note: Emphasize on creativity and quality of work. Students to display their works discuss criticize and appreciate them based on common criteria.	Students to design and make fabrics based on national issues. Eg. HIV/AIDS, teenage pregnancy, child abuse, political rivalry, female circumcision, child trafficking, dishonesty, good health, etc. Students to collect and paste samples in an album and indicate the type of technique used under them. Home work Explore the market to identify tie-dyed/batik fabrics and compare the techniques, colour schemes etc. for improvement.

UNIT	SPE	CIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 2	The stud	ent will be able to:		Revise tools and materials for printing.	Students to:
PRINTING		demonstrate skills in applying advanced techniques in printing to produce printed items.	 Printing techniques: Stencil printing Block printing Screen printing Transfer printing Roller printing 	 Students to develop ideas from objects in the environment and national issues and design them on paper or using the computer. Emphasize on creativity and advanced designing. Guide students to experiment printing in the various printing techniques as listed in the content. Emphasize on continuation of techniques to bring about creativity. Organize students to visit printing studios and the industries to observe printing activities and later discuss and report on them. 	Generate ideas and develop designs using the computer Interview practitioners in the community about the materials and how they are able to cut down cost. Students to discuss common faults in printing and report on them. Project: Identify a personal need and use skills acquired in printing as well as the design process to solve it.
		identify and analyze characteristics of printed fabrics.	Analysis of Types and characteristics of printed fabrics • Fancy prints • Wax /Imitation print • Java prints • Sika prints	 Guide students to identify and analyze the characteristics of types of printed fabric e.g. Fancy designs: simple /bold, generally 1-2 colours are used, dull to bright colours, names depict current issues, front side is clearer than back side, etc. Wax prints: simple to complex design, generally 1-2 colours, names depict proverbs, myths, wise sayings, both front and back sides are similar, etc. Java prints: Intricate designs are more geometric, 4-6 colours combination, bright colours, front and back sides may be similar or different, etc. Sika prints: fancy but characterized by metallic dyes. Students to collect samples of the printed fabrics on the markets classify and compare their characteristics and write report on them. 	Compare and contrast the characteristics of the various printed fabrics and write a report on them.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 3 APPLIQUE/ EMBROIDERY	The student will be able to: 2.3.1 demonstrate skills in designing and producing advanced appliqué and embroidery items.	 Appliqué and Embroidery techniques: Appliqué: (on-lay and in-lay appliqué): designing, cutting, sewing, stitching/pasting, finishing. Embroidery: designing, drawing/ tracing, stitches/ stitching, finishing. 	 Revise the meaning of Appliqué/embroidery, tools and materials for Appliqué/embroidery. Guide students to use ideas from the environment and national issues to make designs for appliqué and embroidery on paper or computer. Emphasize on creativity. Guide students to produce on-lay and in- lay appliqué and embroidery items using the processes listed in the contents. Emphasize on quality of work in terms of neatness, skillful use of stitches, colour 	Students to collect pieces of fabric from various sources for appliqué. Project: Using a combination of appliqué and embroidery
UNIT 4 FINISHING AND CARE OF FABRICS	2.4.1 describe industrial, household and other finishing treatments of fabric	Finishing treatments: • Weighting • Calendering • Crabbing • Carbonizing • Decanting • Fulling • Embossing • Sanforizing • Water repellency /water proofing • Fire resistance/ fire proofing	 harmony and finishing. Student to display their works, compare and discuss them for appreciation. Invite appliqué and embroidery artists to the school for interaction. Revise definition and general classification of finishes. Revise households finishing treatment e.g washing, ironing, bleaching, etc. Guide students to identify and describe common finishing treatment as listed in the contents. Discuss the finishes in terms of fabrics applied on them and the effect imparted e.g. Crabbing is applied to wool fabrics to remove creases /wrinkles. 	 b) applique and embloidery techniques, go through problem identification and the design and technology process to produce an item to satisfy a need in your church. Students to write an essay on how finishing can transform a plain cotton fabric. Students should find out about indigenous methods of finishing

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 4 (CONT'D) FINISHING AND CARE OF FABRICS	SPECIFIC OBJECTIVES The student will be able to: 2.4.1 describe identified care labels need to take good care of fabrics.	Care labels for: • Washing • Ironing • Fibre composition	AND LEARNING ACTIVITIESCarbonizing is applied to wool to remove cellulosic matter .Decating is applied to woolens, silk and rayon blends to impart lustre.Weighting is applied to silk by adding weight to degummed silk.Water proof /water repellency is applied to fabrics of natural/manmade origin to resist or reduce water penetration etc.Guide students to collect fabrics with different finishing treatments and compare and discuss their characteristics and effects.Guide students to identify and discuss care labels for activities as listed in the contents.	Students to compare common home finishing treatments to factory finishing treatment. e.g. scouring, bleaching, ironing / calendaring, mercerization, sizing, etc.
		 Storage instructions etc. The need to take good care of fabrics : Preserve quality Last longer Look attractive Reduced economics expenditure on clothing. Have money's worth, etc. Developing care habits: Keeping wardrobe Lots of hangers Garment bags Clothes brushes/rubber sponge Airing daily Mending torn parts/ fixing buttons Spraying regularly. 	Students to brainstorm and discuss the need to take good care of fabrics. Students to discuss ways to develop personal care habits on daily basis Organise students to visit laundries to interact with personnel there and discuss their activities.	Students to identify and collect care labels from store /second hand clothing have and discuss them. Describe the importance of care labels and ways to keep personal care habits.

SENIOR HIGH SCHOOL - YEAR 3

SECTION 3

INDIGENOUS TEXTILE EXPLORATION

General objectives: The student will:

- 1. be exposed to indigenous textile tools and materials within the environment
- 2. appreciate the need to explore and research into indigenous tools, materials and techniques in textiles.
- 3. appreciate the contributions of indigenous textile artist to national development
- 4. recognize the need to mount exhibitions for personal and national development.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 1 EXPLORATION OF INDIGENOUS TOOLS AND MATERIALS	The student will be able to: 4.1.1 explore the environment/community to identify sources of indigenous tools and materials suitable for textile purposes.	 Sources of materials and tools: Materials from plants, animals and mineral sources suitable for fibres or dyes. Tools: traditional spinning and weaving tools and accessories (both existing and yet to be created). 	Put students into groups to discuss the possible existence of indigenous tools and materials within the environment/community that could be explored for textile purposes. They should also explore and identify sources of the materials/tools and use them and document their findings and discuss them in class.	Assignment: Students to interview the indigenous people for indigenous textile tools and materials existing in the community/environment
	4.1.2 demonstrate skills in extracting, processing and constructing the indigenous materials and tools.	Extracting and processing of materials: cutting, soaking, pounding/crushing/beating/grinding, sieving, boiling, etc. Construction of tools: cutting, smoothing/plaining, nailing/assembling, polishing, etc.	Guide students to construct the indigenous tools. NB They should test the tools and materials and make modifications where necessary for improvement and document their findings and discuss them in class	Students to collect the materials and process them into fibres, yarns, dye, etc.

			TEACHING	
UNIT	SPECIFIC OBJECTIVES	CONTENT	AND LEARNING ACTIVITIES	EVALUATION
UNIT 2 The EXPLORATION OF 4.2 INDIGENOUS FABRIC	e student will be able to: 2.1 explore and improve on indigenous fabric construction and coration processes being practiced in the community.	CONTENT Improving on indigenous fabric construction and decoration techniques: Traditional weaving, e.g. • Adawomaso, Bonwire ,Ntonso – Kente weaving, Magotime- yarn spinning/kente weaving, Northern Kente weaving, Northern Kente weaving, Northern Kente weaving, • Knitting /crocheting/tatting, etc. • Fabric construction techniques. • Indigenous printing at Ntonso, Individual/wayside printers e.g. Kris Art. • Indigenous batik/tie-dye producers • Indigenous batik/tie-dye producers. Preparing a business plan for a Textiles enterprise. Meaning and purpose – It is document that indicates what one intends doing, how and when one intents doing it. Purpose – as a plan, it: • controls the direction of the enterprise • useful for monitoring and evaluating the way how the business/enterprise should go. • Useful as collateral or security to seek loan or financial assistance etc.		EVALUATION Project: Students to conduct case-study on indigenous textile practitioners. Students to describe how to develop a business plan using concrete examples.

UNIT	SPECIFIC OBJECTIVES	CONTENT	TEACHING AND LEARNING ACTIVITIES	EVALUATION
UNIT 4 (CONT'D) ENTREPRENEURIAL SKILLS IN PRACTISE Business Plan	The student will be able to:	 Key points in preparing a business plan Executive summary. name and address of business/enterprise identification of need to satisfy Establish what you want to achieve or do. Fined out or research from past solutions to similar problems. analyse the industry or market where you can operate e.g. potential customers, competitors etc. Pick the best solution. describe the enterprise or business (products, services, background of the entrepreneur Describe production activity e.g. designing and making process, machines, sources or raw material, location of enterprise etc. Marketing activities e.g. customers, pricing, distribution, promotion, advertising etc. Organsation e.g. background of managers and their duties etc. Financial plan e.g. capital requirements, potential profits, cash flow, sources or funds. 	Guide students to: Apply their knowledge, skills and understanding in entrepreneurial skill (General Knowledge In Art) and textiles to prepare a business plan. NOTE: Guide students to present their business plan with or without digital content in class for discussion. Consult a business person for assistance on the topic.	Assignment: Develop a business plan for their enterprise in textiles for a consideration by a local: • Bank • Financiers or • Non-Governmental Organisation (NGO)

SUGGESTED BASIC TOOLS/EQUIPMENT AND MATERIALS FOR TEXTILES

It is suggested that every school offering textiles be provided with a studio furnished with at least a set of textile equipment from all the groups. e.g (Weaving equipment, printing /dyeing equipment, embroidery/appliqué equipment)

WEAVING

- 1. Traditional kente looms
- 2. Table looms and broadloom
- 3. Weaving accessories (reed, heddle hook, reed hook, warping mill, skeiner, bobbin winder, shuttle, warping / shedding sticks.
- 4. Yarns (hanks/cones/cheeses)

PRINTING /DYEING

- 1. Printing tables (padded)
- 2. Wooden frames /screens
- 3. Squeegees, spoons, bowls/buckets
- 4. Large coal pots, stoves (kerosene / gas/electric)
- 5. Hand gloves and face masks
- 6. Chemicals: Photo-emulsion, dichromate, hydrosulphite, caustic soda, common salt.
- 7. Fine mesh or silk organdie
- 8. Plain fabrics (poplin/calico/linen) Waxes, raffia threads, 'kokonte' powder.
- 9. Dyes (Vat, procion, etc.)

APPLIQUE /EMBROIDERY/CROCHETING/KNITTING

- 1. Knitting pins/needles
- 2. Crocheting pins
- 3. Hand-sewing needles (assorted sizes)
- 4. Stranded cotton/cotton-a-boarder /metallic threads
- 5. Sequins/beads
- 6. Fabrics (decorated / undecorated / coloured).

GLOSSARY

Applique:	The art of decorating a fabric or a garment by cutting, laying and sewing a piece or pieces of fabrics on a suitable background to form an ornament.
Bleaching:	It is a chemical process where oxidizing or reducing agents such as compounds of peroxide or hypochlorite are used to whiten the fabric
Braiding:	Plaiting or interlacing two or more strips of fabric, yarn or cords together in such a way that each strip passes over and under one another for the formation of
	an ornamental strand.
Calendering:	A process whereby a fabric is passed through hot rollers to impart smoothness and sheen and make the fabric attractive
Carbonizing :	The addition of hot sulphuric acid to wool fabrics or yarns to convert vegetable matters to carbon before scouring
Cord/Cable:	The product obtained by twisting two or more ply yarns together
Count:	The number of 840 yards of yarn that have been twisted from a pound of fibre (the higher the yarn count the finer and stronger the yarn)
Crabbing:	The finishing process applied to wool fabrics by stretching the cloth over hot or steam rollers to prevent creasing and uneven shrinkage
Decating:	A mechanical process applied to a woven fabric to remove creases as well as impart luster without any loss during subsequent finishes
Denier:	The weight in grams of 9000 meters of yarn
Embroidery:	The method of stitching yarns or threads to produce intricate designs in varieties of colours to form patterns.
Finishing:	A physical or chemical process applied to textile fabrics to alter or enhance its properties.
Knitting:	The interlooping of a yarns or set of yarns to form a stretchable fabric or a garment that can accommodate the movement of the body. (e.g. stockings,
	pullovers etc.)
Lap:	A roll of cotton sheet produced after the natural impurities and foreign matters have been removed by mechanical process
Lap: Mercerizing:	
-	A roll of cotton sheet produced after the natural impurities and foreign matters have been removed by mechanical process
Mercerizing:	A roll of cotton sheet produced after the natural impurities and foreign matters have been removed by mechanical process The addition of caustic soda solution to a cellulosic fabric to increase its affinity, strength and to impart luster
Mercerizing: Ply:	A roll of cotton sheet produced after the natural impurities and foreign matters have been removed by mechanical process The addition of caustic soda solution to a cellulosic fabric to increase its affinity, strength and to impart luster The addition of two or more single yarns, either in a plied form or twisted together
Mercerizing: Ply: Quilting:	A roll of cotton sheet produced after the natural impurities and foreign matters have been removed by mechanical process The addition of caustic soda solution to a cellulosic fabric to increase its affinity, strength and to impart luster The addition of two or more single yarns, either in a plied form or twisted together The application of stitches to fabrics sandwiched with a foam or any soft material
Mercerizing: Ply: Quilting: Roving:	A roll of cotton sheet produced after the natural impurities and foreign matters have been removed by mechanical process The addition of caustic soda solution to a cellulosic fabric to increase its affinity, strength and to impart luster The addition of two or more single yarns, either in a plied form or twisted together The application of stitches to fabrics sandwiched with a foam or any soft material The insertion of slight twist into a sliver
Mercerizing: Ply: Quilting: Roving: Sanforizing:	A roll of cotton sheet produced after the natural impurities and foreign matters have been removed by mechanical process The addition of caustic soda solution to a cellulosic fabric to increase its affinity, strength and to impart luster The addition of two or more single yarns, either in a plied form or twisted together The application of stitches to fabrics sandwiched with a foam or any soft material The insertion of slight twist into a sliver A mechanical finishing applied to a woven fabric to delibratetely shortened the width and length of the fabric resulting to tighter and closer weave.
Mercerizing: Ply: Quilting: Roving: Sanforizing: Scouring:	A roll of cotton sheet produced after the natural impurities and foreign matters have been removed by mechanical process The addition of caustic soda solution to a cellulosic fabric to increase its affinity, strength and to impart luster The addition of two or more single yarns, either in a plied form or twisted together The application of stitches to fabrics sandwiched with a foam or any soft material The insertion of slight twist into a sliver A mechanical finishing applied to a woven fabric to delibratetely shortened the width and length of the fabric resulting to tighter and closer weave. Treatment given to grey baft or a loom-state fabric by the addition of caustic soda to eliminate impurities from the fabric
Mercerizing: Ply: Quilting: Roving: Sanforizing: Scouring: Selvedge:	A roll of cotton sheet produced after the natural impurities and foreign matters have been removed by mechanical process The addition of caustic soda solution to a cellulosic fabric to increase its affinity, strength and to impart luster The addition of two or more single yarns, either in a plied form or twisted together The application of stitches to fabrics sandwiched with a foam or any soft material The insertion of slight twist into a sliver A mechanical finishing applied to a woven fabric to delibratetely shortened the width and length of the fabric resulting to tighter and closer weave. Treatment given to grey baft or a loom-state fabric by the addition of caustic soda to eliminate impurities from the fabric The longitudinal edges of a fabric so woven to prevent the fabric from raveling
Mercerizing: Ply: Quilting: Roving: Sanforizing: Scouring: Selvedge: Sizing:	A roll of cotton sheet produced after the natural impurities and foreign matters have been removed by mechanical process The addition of caustic soda solution to a cellulosic fabric to increase its affinity, strength and to impart luster The addition of two or more single yarns, either in a plied form or twisted together The application of stitches to fabrics sandwiched with a foam or any soft material The insertion of slight twist into a sliver A mechanical finishing applied to a woven fabric to delibratetely shortened the width and length of the fabric resulting to tighter and closer weave. Treatment given to grey baft or a loom-state fabric by the addition of caustic soda to eliminate impurities from the fabric The longitudinal edges of a fabric so woven to prevent the fabric from raveling The application of starch to warp yarns to strengthen them against breakage during weaving
Mercerizing: Ply: Quilting: Roving: Sanforizing: Scouring: Selvedge: Sizing: Sliver:	A roll of cotton sheet produced after the natural impurities and foreign matters have been removed by mechanical process The addition of caustic soda solution to a cellulosic fabric to increase its affinity, strength and to impart luster The addition of two or more single yarns, either in a plied form or twisted together The application of stitches to fabrics sandwiched with a foam or any soft material The insertion of slight twist into a sliver A mechanical finishing applied to a woven fabric to delibratetely shortened the width and length of the fabric resulting to tighter and closer weave. Treatment given to grey baft or a loom-state fabric by the addition of caustic soda to eliminate impurities from the fabric The longitudinal edges of a fabric so woven to prevent the fabric from raveling The application of starch to warp yarns to strengthen them against breakage during weaving The conversion of lap into a long strand of straightened and parallel fibres by drawing process
Mercerizing: Ply: Quilting: Roving: Sanforizing: Scouring: Selvedge: Sizing: Sliver:	A roll of cotton sheet produced after the natural impurities and foreign matters have been removed by mechanical process The addition of caustic soda solution to a cellulosic fabric to increase its affinity, strength and to impart luster The addition of two or more single yarns, either in a plied form or twisted together The application of stitches to fabrics sandwiched with a foam or any soft material The insertion of slight twist into a sliver A mechanical finishing applied to a woven fabric to delibratetely shortened the width and length of the fabric resulting to tighter and closer weave. Treatment given to grey baft or a loom-state fabric by the addition of caustic soda to eliminate impurities from the fabric The longitudinal edges of a fabric so woven to prevent the fabric from raveling The application of starch to warp yarns to strengthen them against breakage during weaving The conversion of lap into a long strand of straightened and parallel fibres by drawing process The production of light, medium and heavy weight woven figured fabric by interlacing more than two sets of coloured yarns depending on the nature