Home Science

Classes Nine and Ten



National Curriculum and Textbook Board, Bangladesh

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Home Science

Classes Nine and Ten

Revised for the year 2026

NATIONAL CURRICULUM AND TEXTBOOK BOARD, BANGLADESH

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Preface

The importance of formal education is diversified. The prime goal of modern education is not to impart knowledge only but to build a prosperous nation by developing skilled human resources. At the same time, education is the best means of developing a society free from superstitions and adheres to science and facts. To stand as a developed nation in the science and technology-driven world of the 21st century, we need to ensure quality education. A well-planned education is essential for enabling our new generation to face the challenges of the age and to motivate them with the strength of patriotism, values, and ethics. In this context, the government is determined to ensure education as per the demand of the age.

Education is the backbone of a nation and a curriculum provides the essence of formal education. Again, the most important tool for implementing a curriculum is the textbook. The National Curriculum 2012 has been adopted to achieve the goals of the National Education Policy 2010. In light of this, the National Curriculum and Textbook Board (NCTB) has been persistently working on developing, printing, and distributing quality textbooks. This organization also reviews and revises the curriculum, textbook, and assessment methods according to needs and realities.

Secondary education is a vital stage in our education system. This textbook is catered to the age, aptitude, and endless inquisitiveness of the students at this level, as well as to achieve the aims and objectives of the curriculum. It is believed that the book written and meticulously edited by experienced and skilled teachers and experts will be conducive to a joyful experience for the students. It is hoped that the book will play a significant role in promoting creative and aesthetic spirits among students along with subject knowledge and skills.

Home Science is a life-oriented and career-oriented education. The skill-based knowledge acquired in this subject will enhance students' adaptability. Also, this experience will make students skilled in using limited resources to achieve desired goals, manage many unexpected events at home and outside, and overcome problems that arise in the home environment. The Home Science Textbook for grade IX and X students has been developed considering these issues and keeping in mind the needs of the times.

It may be mentioned here that due to the changing situation in 2024 and as per the needs the textbook has been reviewed and revised for the academic year 2026. It is mentionable here that the last version of the textbook developed according to the curriculum 2012 has been taken as the basis. Meticulous attention has been paid to the textbook to make it more learner-friendly and error-free. However, any suggestions for further improvement of this book will be appreciated.

Finally, I would like to thank all of those who have contributed to the book as writers, editors, reviewers, illustrators and graphic designers.

October, 2025

Professor Robiul Kabir Chowdhury
Chairman (Additional Charge)
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Part-A

Home and Family Resource Management





After studying this unit we will be able to –

- describe the framework and objectives of home management;
- explain different steps and procedures of home management;
- make proper decision;
- explain the qualities, duties and responsibilities of the home manager;
- clarify the criteria, classification and necessity of the home resource as well as encourage others to use this resource properly;
- describe the concept, importance and procedure of preparing a budget and set up monthly budget for the family;
- explain the necessity of management of time and energy;
- describe the techniques of work simplification;
- explain the methods of interior design and decoration of home;
- describe the aesthetic aspects of home decoration;
- describe the ways of maintaining healthy environment at home;
- make decorative items by recycling the unusable things.

Chapter-1
Home Management

Lesson-1 Concept of Home Management

Natasha, Saira, Ariba and many of their friends decided that they would go to "Shaheed Minar" (national monument for the martyrs of the language movement) at 6:30 a.m in the morning on 21 February. But it was already 6:30. Natasha could not wake up. She became upset as she was late. It was not possible for her any more to go to "Shaheed Minar" then with her friends. In this case Natasha should have given alarm on her watch or she might have asked her parents to call her up. But she did not make the proper use of her intelligence. And there was also lack of proper plan and proper use of time. So it is clear that there was lack of something in her. You may call it management. Existence of management is noticed in different steps of personal, family and social life of human being. Management is inseparably related with our daily life activities. To achieve the cherished goal everyone takes different actions while living in a family. He/she makes planning or programmes, takes decision, organizes the works after consultation, controls the situation of the work and finally evaluates the work. These continuous courses of actions are reflected in the home management system.

Management is inevitable and essential not only in running an organization but also in running a family. To fulfill the needs of a family, it has to take right decision with its limited resources. Members of a family do several courses of actions to achieve its goal, or objective. Wherever some people are working together to achieve a goal, management is essential. So there is the need of management in a family as well as an organisation.

Nickel and Dorsey have called the home management as the administrative side of a family life. They have said that home management is planning, organizing, controlling and evaluating a family's human and material resources to achieve its goal.

Home management is a continuous and active process that requires a right decision to achieve a certain goal. If the definition of home management is illustrated, three aspects are noticeable, such as-

- Fixing up the goal or objective
- Proper use of the resources
- Gradual course of actions in using the resources- planning, organizing, controlling and evaluating.

After fixing up the goal, the family is to proceed step by step getting the idea of all sorts of resources. First of all, to do a work a proper plan is to be taken. Next, the planned works are to be done in an organized manner. At the last step it is necessary to evaluate the work, to see how much the work has been successful. If the activities of management have been completed in this way, some new objectives are to be set up and to achieve those objectives, the activities of management are to be started in a new way.

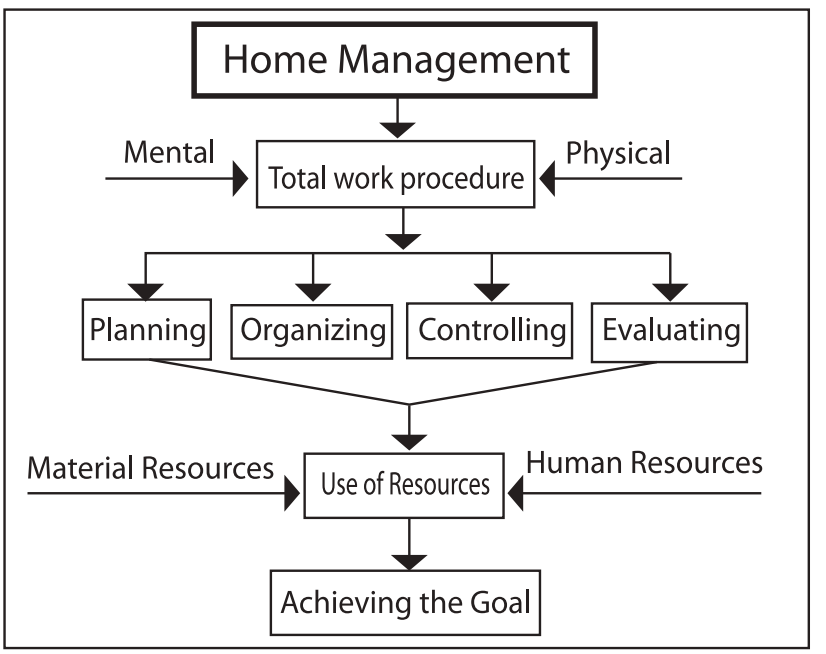


Fig. : Framework of the concept of home management

Work : Prepare and display the framework of the concept of home management in the class room.

Lesson 2-Goal and its Classifications:

What is Goal?

The key factor of home management is goal. Because all our activities centers round the goal. To achieve any goal management is required. Necessity of management arises where there are possibilities of achieving goals. In general, the goal is nothing but what a person or a family wants to do or wants to achieve. Aims or objectives are always in the conscious mind of a person. Everybody always sets a goal in his/her mind. Once a goal is achieved we set another goal. Specific goals help us to proceed in right direction.

Every family possesses its own major and minor goals. Generally, depending on the values, we set our goals. For example, one family gives emphasis on earning money, another one wants to increase property and another family wants to give its members' higher education.

Goal is a desired objective which has specific scope and it refers the activities of a person. Without specific goal and clear expectation it cannot be achieved. When the goal is set, then the course of actions could be properly accomplished. That means the goal makes the management easier and helps to execute it successfully. Each of the members of the family has his/her own goals. When something is desired to be done collectively, conflicts will be less and achieving goals will be easier.

Types of goal

Nickel and Dorsey have divided the goal into three types. Such as:

- Long term goal
- Midterm goal
- Immediate goal

Long Term Goal

Long term goal is considered as permanent goal. This goal is time consuming and it always stays in mind. It has an influence on the midterm goal, so it is very important.

Midterm Goal

To achieve the long term goal the family often sets midterm or short term goal. These goals are more comprehensible than long term goal. Taking more decisions is needed to reach this goal.

Immediate Goal

These goals are minor in nature which do not need much work to be done. Sometimes a little work can help to achieve such goals. In other word goals can be achieved immediately as soon as they are identified.

These three different types of goals can be explained through examples. Shoma is a student of class IX. She wants to be an engineer. This is her long term goal. She is in science group. She is preparing herself for passing successfully through S.S.C. and H.S.C. examinations. She needs to be qualified for getting herself admitted in Engineering University. So she is looking for the efficient tutors these are some midterm goals to achieve the long term goal.

To achieve her target she has to go to school regularly, study with attention, complete the class work properly and achieve good result in class-are her immediate goals.

Task - Set your specific goal. Prepare a list of your work to achieve that goal.

Lesson 3- Objectives of Home Management

Scope of home management is not limited only at home. Outside of the home, it is extended in the society and environment and working places. Society is always changing. Impact of the change of the society reflects on home and family. To adapt this situation bringing change in personal and family life is very much essential and it can be learned from home management.

Resources are limited according to our needs. To fulfill these needs taking right decision and being efficient in using resources is inevitable. To increase the efficiency level it is very important to know the nature and alternative uses of the resources. In such situation home management plays an important role. Family is considered as the unit of economy at present. Sources of the most of the economic activities such as- income of the family, expenditure, savings,

investment etc. are related with family. In national economy family's economic decisions are very much important. In this situation a person or family should be concerned that as a consumer and buyer what rights they have and what they will do to protect these. Knowledge of home management helps to acquire requisite skills in this area.

Aim of home management is to benefit the family as well as the society through work oriented behavior. Man can be successful in every sphere of life by using his/her knowledge and skills on management. This success can bring accomplishment in family and social life.

Specific Objectives of Home Management

- To accomplish expertise in using resources through planning, organization, controlling and evaluation.
- To set up and analyze the goal on the basis of the values of person and family.
- To build up a habitable environment in and outside of the home.
- To enhance the skill to take decision and its implementation.
- To become concerned on the rights and responsibilities of the consumer.
- To identify the problems of daily life and be sincere to solve that problem.
- To decide ways to obtain personal and family economic solvency.
- To increase efficiency in professional areas.
- To get the opportunity to participate in development activities.
- To adapt with modern lifestyle and to achieve efficiency in caring and maintaining modern household equipments, tools, furniture etc.
- To establish pollution free habitable environment.
- To take active part with awareness regarding fuel crisis in present and future.

By learning home management the learners can learn the qualities, which will help them to ensure the welfare and progress of the family in present and future. Knowledge of home management helps someone to adapt with the difficulties and practical circumstances of home and workplace.

Lesson 4- Process or Phases of Home Management

It is clear from the definition of home management that it is the total sum of a continuous process to reach the family goal. These procedures are followed consecutively. So they are called the steps or stages of home management activities to achieve the goal of the family. Such as planning, organizing, controlling and evaluating. This is a continuous process which we need to follow consciously in our daily life activities. These activities rotate like a cycle where home management plays the role of the executor of the activities. The home manager needs to perform his/her duties as planner, organizer, controller and evaluator.

Planning

First step of home management is planning. What are the works to be done and how to be done etc. have to be determined in ahead of time to achieve the goal and thinking about this process is known as planning. In a word planning is the forecasting of future work.

There are some matters which need to be considered while planning. Such as-

- Planning has to be done by considering the opinion of all members of the family and their convenience.
- To achieve success in any activity while planning; the efficiency, ability, experience, willingness to do the work etc. of the members should be considered. So to make proper plan good relation among the members is a must. Good relation makes taking and implementing of plan easier.
- Planning has to be flexible, so that if it is needed changes can be made. It is essential to keep in mind that if any sudden crisis arises, the situation should be favorable to solve the problem. Besides this, the planning has to be simple.
- Planning has to be accepted by all members of the family.

Organizing

Organization joins the activities of the family according to planning. It decides which work has to be done where and how. By considering different resources of family and which is to be used where and how, it is determined at the organization level.

Organization includes which work to be done by whom, who has experience in

that field, how to accomplish that work and what are the resources to be used. Therefore, in a word organization establishes coordination among the activities, people and resources. There are three phases in organization-

- On the first phase the person sets different activities to be done through the steps to accomplish the work.
- On the second phase the person arranges the sequence of the activities.
- On third phase the person sets a work structure through that one or more works to be done by different people.

So, it can be told that accomplishing any work by applying the thoughtful steps is organization.

Controlling

Controlling is an important step of home management. During the work process it is required to monitor the development of work whether it is going on according to the plan, or not. If required then the ways of work may be changed. Followings are the chronological phases of controlling-

- **Being active in work:** First of all to take initiative or being active in work is necessary. Taking initiative to start any work is very important. If the assigned responsibilities and the process of accomplishment are known then it is easy to start the work.
- **Monitoring:** At the second phase of work it is needed to observe its development through monitoring. It is needed to ensure proper use of resources, the success rate of the work in the given time etc. During the procedure of work these should be observed.
- **Adaptation/Adjustment:** At the third phase of controlling it is needed to adjust with the changed situation and handle the aroused problem. According to the planning to meet the requirement of the changed environment is adaptation or adjustment.

Evaluating

The last step of home management is evaluation. To asses or judge the result of the work is evaluation. The result of the work depends on planning and controlling. The contribution of the previous phases should be evaluated precisely to achieve the goal. Without evaluation it is not possible to determine the success or failure of the work. According to the goal the result has to be assessed. If the desired outcome does not appear, it is needed to be

conscious about the planning and controlling. Through evaluation the success or the level of success of the goal can be measured. If the goal is not achieved then the causes of failure and the required alteration in future can be determined. For accurate evaluation it is needed to consider the following matters-

- The planned works are done according to the goal
- To determine the success and failure of the work
- If the failure occurs then finding out the reasons and later applying modification can bring success in work.

Task- By following different steps of home management arrange a picnic.

Lesson 5- Decision Making

In home management decision making is an important matter. Because in its different phases small/minor and big/major decisions are to be taken. According to Gross and Scrandel, the main fact of decision making is to choose the specific function from the different activities or ways to solve the problem. Family may face the changed situation or problems at any time. To tackle this situation it is needed to select the best option among the different alternative options. It is called decision making.

A family may need to take personal or group decisions. The nature of the work determines the type of decision of the family. Individual can make the small or minor decisions of the family. Group decision plays vital role for doing any creative work or solving any critical problem. In this case to find out the alternatives, role of the group is better than an individual. Taking group decision is more preferable to make an important decision of the family. Therefore the work is done nicely and the chances of doing mistakes become less.

Procedure or steps of decision making

There are several continuous steps of decision making. These are-

- Understanding the nature of the problem
- Finding the alternatives
- Thinking about the alternatives
- Accepting one solution
- Taking responsibility for the decided matter

Understanding the nature of the problem: In the first step of taking the decision, it is needed to understand the nature of the problem. If the nature of the problem is unknown then it is not possible to solve it properly. Problems may be simple or complicated. Minor problems can be solved by individual decision. But taking decision in major problems requires intensive thinking.

Finding the alternatives: In second step of decision making it is required to collect information and finding the alternative solutions of the problem. There can be different alternatives to solve any problem. To analyze the alternatives experience, knowledge and time are essential. Because of the limitations in these areas it is difficult to select the right method and right decision can't be taken. For example to go to a far place which mode of transport will be appropriate is needed to be decided. In that case by considering the financial condition, time, energy etc. the alternatives should be analyzed and then the decision would be taken.

Thinking about the alternatives: During this step the alternatives to solve the problem are evaluated elaborately. The outcome of all the alternatives and the advantages and disadvantages of these are to be thought. The decision maker is needed to be foresighted. Though many changes may occur in future, due to that the expected result may not come. Due to the limitations of timing different alternatives may not be thought. To do so it is needed to give enough time to evaluate all the alternatives to take right decision. At this level of decision making excellent intelligence is required.

Accepting one solution: In this step of decision making it is needed to select one alternative among all the alternatives. This step is very much dominating. It influences the life style of people. Most of the time people choose the rational alternative of the solutions though they try very less to find out the best alternative. People become influenced by the time and the condition of the family. As example, someone may buy the thing which is well displayed in the shop. Accepting one solution depends on the condition of the surrounding environment, age of the decision maker, need, income etc. At the time of accepting a solution it is to be considered whether it is enough effective and it can satisfy the mind completely or not.

Taking responsibility for the decided matter: The decision which has been taken, by considering its result taking responsibilities is the last phase of decision making. It should be implemented after taking the responsibility.

Otherwise all the works done before will go in vain. So responsibility to execute the decided solution chosen from the alternatives must be taken. The decision maker may alter the decision by consulting with the other members of the family. Family decisions would be taken by the person who has good relation with all the members and who is very much sincere towards his/her duties and responsibilities.

Task- Identify the advantages and disadvantages of the individual decision and group decisions taken by the family.

Sample Question

Multiple Choice Questions

1. Who has told that home management is the administrative side of the family?

a. Nickel and Gross
b. Gross and Scrandel
c. Scrandle and Nickel
d. Nickel and Dorsey

2. The home management system proceeds mainly focusing on-

a. Goal
b. Planning
c. Controlling
d. Evaluation

Read the following paragraph and answer questions 3 and 4:

Manowara considers starting a poultry farm to support her family's comfort. She arranges the required capital and hires workers. However, when she visits the farm after a month, she finds it in a state of disarray due to poor management. In contrast, her sister Sumaiya begins a sewing business. She decides on the clothing designs, assigns tasks to workers, and supervises the entire process diligently.

3. At which stage does Sumaiya's work fall?

a) Evaluation b) Decision-making
b) Organization d) Control

4. What actions should Manowara have taken?
   i. Planning
   ii. Taking initiative
   iii. Monitoring the progress of the work

Which of the following options is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii, and iii

Creative Question

1. Saiham is a student of class IX. He wants to be a doctor in future. Parents are noticing that Saiham doesn't want to go to school very often. He doesn't have adequate interest in studies. After discussing the matter in the family Saiham's mother gets some specific responsibility.

   a. What is the key factor of home management?

   b. Write clearly how it would be easy to achieve the goal?

   c. Explain the deficiencies Saiham has in his activities to achieve the goal?

   d. Evaluate the measures Saiham's family has taken.

Short Answer Questions

1. What is meant by the stages or methods of home management?
2. Explain the first step of home management.
3. Is it possible to complete a task efficiently without setting a specific goal? Provide arguments in support of your answer.
4. How can the success of a task be measured?

Chapter 2

Home Manager

Lesson 1- The Qualities of Home Manager

Every human being feels the essentiality of home for some personal and social reasons. Home plays a vital role in achieving the goals of human beings. The wholehearted effort, mutual understanding and cooperation of all the members of family create peaceful environment in a family. Therefore appropriate and efficient home management is needed. Proper home management can make a simple home unique. And who plays the major role in home management, he/she is the home manager. Both the parents in the family can perform the responsibility of home manager. Home manager is the main centre of all the activities of the home. On his/her management depends family's happiness, peace, good financial condition, and disciplined home environment. Home economist (Nickel and Dorsey, 1950) notify that home management is the administrative part of family life. Home manager leads this administration successfully with his/her energy, ability and diversified skills. To perform this hard job the home manager must possess some qualities. These qualities are-

Intelligence	Enthusiasm
Rationality	Creativity
Perseverance	Adaptability
Self-control	Knowledge about human nature
	Personality

Intelligence: A home manger must be intelligent. Person's observation ability, considering the surrounding condition, eagerness to learn etc. represent his/her intelligence. Analyzing the situation by understanding the problem, using previous experience while needed depend on intelligence. For bringing success in different activities of the family, home manager must be intelligent for enhancing the beauty of the home, bringing discipline, taking any decision intelligence is needed. Manager can even meet all the needs with his/her intelligence by using limited resources of the family.

Enthusiasm: One of the special qualities of home manager is enthusiasm. No work gets success without encouragement and enthusiasm. Trying to accomplish the work with sincerity according to the necessity and importance

of the work can be called encouragement and enthusiasm. This quality of home manager spreads in other members. If there is enthusiasm all the works can be done with interest and happiness. It is also seen that many plans cannot be implemented due to the lack of enthusiasm. And so the goal cannot be achieved.

Rationality Judgment: The person who is capable of analyzing the justice or injustice, good-evil etc. of the family can give neutral judgment is considered as judgmental person. In every aspect of life a home manager should be judgmental. Arising unusual complication is very natural in different times and activities. If the home manager is very much judgmental, he/she can handle it easily. To meet the needs of the family the judgmental home manager needs to decide what is more important and what is optional. For example, judgment includes taking the decision by considering the fact of selecting school for the young child of the family, standard of that school, distance of the school from home etc.

Creativity: To create attractive and diversified home environment, something new is required. That is the symbol of creativity in everyone's eye. The home manager has to posses that creativity which creates innovative things with his/her imaginary power. With the creativity it is easy to make plan of any work and the result can be assumed without difficulty. If any preplanned work needs alteration, it is easy to handle with the creativity. For example it can be said that while changing home a home manager can guide with his/her creativity to select, buy and decorate the new furniture.

Perseverance: Without perseverance no work gets success. Completion of a work properly till its ending is perseverance. For this quality of the home manager any hard work becomes easy. Patience, tolerance, concentration etc. help to be perseverant. If a special work doesn't come under control while doing once, it can be done by doing several times. To achieve success in different activities the home manager must have this quality. To guide the children and make them study this quality plays an important role.

Adaptability: As we are living in the changing environment, often we face different alterations. Home manager must have adaptability or adjustability in any altered situation. As for example it can be said that it is necessary to give treatment on time if any person becomes sick in family. If he/she stays at home then proper care needs to be given. Or he/she may be admitted into hospital if doctor suggests. In this case by adapting with the situation all functions should be done. Home manager should have the ability to adjust in any type of situation. He/She who will be able to adapt easily, he/she can control the situation easily.

Self-control: While going through normal life there can be arisen different problems. During the crisis period of family keeping the emotion under control is self-control. A good manager must be self-controlled. By possessing this quality many critical problems can be solved. If the ability of self-control exists, it is easy to maintain good relation among the family members. In family sometimes misunderstanding happens among the family members which hampers the good relationship. In this situation the home manager can control the situation by being self-controlled. Thus peace will be maintained in family by resolving the misunderstanding.

Knowledge about human nature: To understand the nature of human is a special quality of a home manager. Everybody is different from each other. Different persons of the family do not possess same nature, behaviour, liking-disliking, temper-mood etc. To maintain peaceful environment in family it is essential to know about the overall behavioral pattern of all the members of family. A home manager can come to know about the human nature through observation and practice. Therefore he/she can resolve any problem easily which is created by the members of the family. Children expect love-affection, elder persons expect respect-obedience from the other members of the family. To do a work children need command and others need advice from elder persons. It helps to maintain discipline and peace in family.

Personality: The expression of one's conducts, conversation and taste is called personality. A home manager must have an attractive personality. The manners of a home manager should be liked by all the members of the family. He or she should have decency in conducts, dress-up and conversation. He/she must have the qualities like-justice, responsibility, refinement etc.

With the integration of the above qualities a home manager can have excellent personality. The person who possesses this kind of personality gets obedience and cooperation from others. So he becomes successful in any kind of management.

Task- Show the qualities of home manager through a chart.

Lesson 2- Duties and Responsibilities of Home Manager

Already we have known the qualities of the home manager. There are different types of work in a family. A home manager can expose and develop his/her qualities by being conscious to his/her assigned works. He/she has to be always active to perform the duties and responsibilities. Due to the negligence of the home manager to perform his/her duties and responsibilities disaster may happen in family. For efficient management the home manager has to perform different small and big responsibilities. He/she is responsible for the overall activities of the family. To perform all the works properly is home manager's duty and responsibility. Other members become active after getting his/her instruction.

The home manager has to take the right decision to meet the needs by using the limited resource of the family. Besides, it is also his/her responsibility to take right measures by being aware of by whom the work is to be done, how, when and why it is to be done. Assigning the specific responsibility to individual and supervise these are also his/her responsibilities.

Duties and responsibilities of home manager in family are-

- Create proper work condition at home
- Ensure proper arrangement of income and expenditure of the family
- Maintain good relation with the family members
- Ensure family's proper safety
- Develop good utilization behavior among the family members
- Maintain suitable work environment

Create proper work condition at home- Distributing the work of the family among all the members is one of the important responsibilities of the home manager. There are many works which are done inside the home such as cooking-serving, keeping home neat and clean, washing the clothes, helping children in their studies, nursing the elderly or sick person, arranging entertainment etc. There are some activities which are done outside of the home such as shopping, going to the laundry, gardening, taking information of the relatives etc. According to the family members' energy, ability, age, work spirit etc. home manager distributes these works among them. Until the work is done it is home manager's responsibility to monitor that and be cooperative to the members.

Ensure proper arrangement of income and expenditure of the family- It is essential to ensure income to meet the needs of everyone of the family. With the earned money they buy all the required goods and services. If the income is ensured there will be

no scarcity or complain in family. As a result there will be peace and pleasure. Home manager has to look after this matter.

Proper use of the income is to be ensured by the home management. According to the income a planning is required for expenditure, which is known as budget. It needs to be ensured to meet all the requirements of the family by using the limited resources of family through appropriate buying principles. As well as it is also the home managers responsibility to save money for future security. Due to his/her proper financial management all the members of family grow good habit of spending, become economical and have saving tendency.

Maintain good relation with the family members- In a family the members are of different age and relation is different too. Several activities are related with home management. Through united effort of all the members of the family these are performed. If the interrelation among the members is good, there exists disciplined and peaceful condition. Home manager will maintain good relation with others. Except this he/she has to be careful that other members should have respect for each other. By considering the need and requirement of the members of the family he/she has to take right measures to meet these in the easiest way. Sometimes there is difference of ideology between the elderly and young generation of the family. In this case home manager needs to understand the nature of the elderly and young persons and handle the situation with patience and tolerance. If the need of all the members is fulfilled, gradually the relation improves with the home manager.

Ensure family's proper safety- Home manager should be very much careful regarding the overall safety of the family. The safety of home, members of the family and the commodity is to be arranged. The home should be safe and well guarded. For house safety keeping fire extinguisher, good drainage system, disbursement of the garbage in right place, keeping the home pollution free etc. are the overall responsibility of the home manger. He/she has to be careful about the members' physical and mental safety. First aid is needed to be kept to give primary comfort if any family member has an accident. Dangerous things should be stored in safe place. To ensure good health for the sick person good treatment has to be arranged. For the safety of the commodities there should be proper storage facilities in home which is the responsibility of the home manager.

Develop good utilization behavior among the family members- The duties and responsibilities of home manager have increased with the present

mechanical life and with the development of science. It is needed to notice that the mental growth of the children is parallel according to changed world. For that arranging the modern technology for the children is also a responsibility of the home manager. And he/she has to put effort for selecting the right things as food, clothing, housing etc. for the members of the family. As for example, selection of food, selection of cloth should be according to the need and social rules- regulations, house should be hygienic. To achieve these goals it is home manager's responsibility to take conscious decision so that the need of members can be fulfilled according to the capability. He/she also needs to take initiative to increase the capability of limited home resources to meet the need.

Maintain suitable work environment- Home manager's responsibility is to ensure proper work environment where all the members can accomplish their work properly. If the work environment is good and comfortable, it is possible to do the work with pleasure and enthusiasm. Such as, well ventilated and noise free place is needed for studying. If all the educational elements like book, exercise book, pen, pencil etc. are kept in specific place, it is easy to use. In such environment study can be done without disturbance and with comfort. In this way, the home manager has to ensure good environment for every work.

Besides the above jobs home manager has to arrange several family programmes, different activities according to the occasion and seasons. To perform these works home manager has to accomplish various important responsibilities.

It has to be kept in mind that the home manager performs the hard job of the overall management of home. It is the duty of all the members to cooperate with him/her as much as possible. All the members have to work together and perform the assigned responsibilities with utmost sincerity with due respect to him/her, obey the commands, instructions to perform the jobs. The family affairs are done by the home manager's perfect management. All the family members have to be sincere to their duties and responsibilities so that he can be successful to perform his responsibilities. Then it can be expected that the goal of the family will be achieved through proper home management.

Task: How can you help your family's home manager to perform his/her duties and responsibilities? Write that serially.

Lesson 3- Social Duties and Resposibilities of Home Manager

Family is the basic foundation of the society. From the family, the members get knowledge about the social rules-regulations, ideology-values and develop socially. The home manager can involve him/her as well as the members of the family in various social organizations and contribute in social welfare. Such as, during different calamities he/she can serve for the mankind as being involved in Leo club, Girls guide, Red Crescent etc. Home manager can teach the family members about the rules-regulations of the society and can ensure maintaining relation with others and attending different programmes. Members of the family can be developed as good citizens by teaching them etiquette, ideal values. Through educating them toleration of other's opinion, keeping patience in crisis, helping others, socialization can build the moral character of the family members. Thus it can be possible to stop the social degradation as well as reduce the crime.

Home manager whether it is father or mother must make the family members respectful, loving, caring for each other. Side by side home manager makes the family member interested in participating in various social occasions/functions like-marriage ceremony, birthday, Milad, Eid, Puja, Christmasday, death-anniversary. Moreover home manager must make the family members eager in helping the distressed.

Home manager can develop the family members as responsible citizens by educating them about nation, national programmes, rights and duties of the citizens. The social duties and responsibilities of the home manager will be obtained when he/she can make members social by teaching social values.

Sample Question

Multiple Choice Questions

1. What quality is needed to become successful in work?

   a. Judgmental b. Creativity

   c. Perseverance d. Enthusiasm

2. If a home manager possesses the quality of self-control then-

   i. Family relation continues well

ii. Easy to solve the family problems

iii. Peace is maintained in the family

Which one is correct among followings?

a. i and ii b. i and iii

c. ii and iii d. i, ii and iii

Read the following paragraph and answer questions 3 and 4:

After Maria moved into her in-laws' house, she initially struggled to adjust. She had disagreements with several family members and often felt disheartened. However, she is now learning to understand the situation and manage it better. As a result, it has become easier for her to deal with the challenges

3. In which quality has Maria lacking?

a) Knowledge about human nature b) Adaptability

c) Ability to judge d) Intelligence

4. Which quality of home management has Maria developed?

a) Patience b) Imagination

c) Judgment d) Awareness of human nature

Creative Question

Sanjida enjoys a happy life with her husband and children. She encourages her children in various ways to perform well in studies. But often she becomes irritated to entertain the guests at home.

a. Who is the central figure in all household activities?
b. Why is it important to establish a proper work system in the home? Explain.
c. Which of Sanjida's qualities is reflected in her children's education? Explain.
d. Analyze whether Sanjida's home management strategy is effective.

Short Answer Questions

1. Explain the administrative role within family life.
2. Which quality of a household manager is passed on to other family members? Explain.
3. What should the work environment be like to ensure tasks are completed effectively?
4. How can a household manager contribute to the decline or improvement of social values ?

Chapter-3

Home Resource

Lesson 1-2 Family Resources, Characteristics of Family Resources

Every family has some sort of resources. By using these resources through nice, suitable and normal lifestyle family leads to specific goal. Prime resources of a family are human beings and these human resources work as tools to create other materialistic resources. There are some people who do not have money, land, house but the resources the person possesses e.g. personality, education, time and energy etc. by using these they may be financially sound and by preventing wastage family can increase its physical resources.

In every family it is seen that the master of the family earns money by using his educational qualification, time, energy, patience, efficiency etc. And the mistress of the family may not earn but with her educational qualification, time, energy, patience, activeness she can handle that money properly to meet the needs of the family and tries to increase the overall resources too.

'Resource' is the basic element of home management. Without resource the goal cannot be achieved. In Economics the material or things which help to eliminate people's poverty and which has exchange value that is resource or wealth. But in Home Economics through which the family meets all the needs and achieve its ultimate goal that is resource, such as money, land, house, all the commodities and energy of home, time, health etc. So, we can say that, the one by using that we get benefit, can meet our need, can eliminate poverty and help to achieve the goal is the resource.

Characteristics of Resources

Resources are the tools to meet our every need. We are benefitted by using resources. The characteristics of the resources are:

1. Utility 2. Accessibility 3. Limitation 4. Inter-changeability
5. Manageability

1. Utility: The ability of the commodities/elements/goods/things to eliminate people's scarcity is utility. People want to get those commodities which have utility. Because people want to use that material: that have the characteristic of utility to meet their need. So utility is the one of the characteristics of material or resource.

Utility depends on education, intelligence, place, time, size, ownership and creativity, such as- in education the utility of the book is more prominent. To make the nutritious food with less cost the knowledge and intelligence of nutrition has more utility. In summer water and fan have more utility. The utility of food is more when hunger appears. When we are thirsty, the utility of water increases. Yet again the utility of the same material varies from person to person, such as, the utility of the betel leaf is more to the person who eats this, but who doesn't eat this, there is no utility of this to him.

In four ways the utility can be increased-

a. **Changing the dimension-** Such as- when the grain is boiled to cook rice, powdered rice to make pitha (native cake) then its utility increases.

b. **Timely use-** We save money in the bank, if the money is used to buy land or house, the utility of the money will be increased.

c. **By transferring in another place-** The utility of the material can be increased by transferring the place. Such as, in Rajshahi area mangoes are more available. The utility of this mango can be increased by transferring it in other areas.

d. **By meeting the need-** The need of one thing is very high in a particular time, e.g. while thirsty the need of water is high. During examination the need of paper and pen is high.

2. Accessibility: The resource should be accessible. To use the resource it is to be accessible or owned. Rarely other's money can be used for own use. Right on resource cannot be established if it is not accessible. Resource of others can be used only if it is borrowed or gifted. The ownership of accessible resource depends on its quality characteristic and use, e.g. as much as the fertile of the land is increased the owner will be benefitted. If the money saved in bank cannot be used when necessary the money does not have much value.

To get some resources practice is essential, such as skill, good health etc.

3. Limitation: Limitation is one of the main characteristics of the resources. Resource is limited qualitatively and quantitatively, such as energy is qualitatively limited and time is quantitatively limited.

But the limitation of any resource is elastic, such as when a teacher teaches in a class, all the students cannot acquire knowledge equally because of the limitations in personal intelligence and interest. Limitation of time is universal.

On the other side, limitation in energy varies from person to person. But through proper management limitation in time and energy can be controlled.

4. Inter-changeability: Resource is interchangeable. We can inter-change in some ways;

- **Using the alternative resource:** Alternative means using one instead of the other one, such as- eating bread instead of rice. Using paper or cloth made bag instead of plastic bag etc. to save environment.
- **Multiple uses:** One resource can be used in many ways, such as, dining table and chair can be used for studying, ironing, meeting etc.
- **Exchange:** Resource is exchangeable. Such as- exchange money for buying thing.
- **Convertible:** One resource can be converted to another one, such as- with the old sharee making katha, curtain, making cloth of children. Thus the uses of resources increase.
- **Creation:** By using one resource another resource can be created. Such as through cultivation producing corps. Producing vegetable on the roof of home.

5. Manageability: Management is using the resources properly. People either consciously or unconsciously follow the system of management, e.g., while building house time, knowledge, skill, money etc. resources are used. To use these resources different steps or phases like- planning, organizing, controlling, supervising and evaluating are essential.

For the manageability of the resources we become benefitted, such as-

- Goal can be achieved
- Resource can be increased
- Financial development occurs
- Scarcity and crisis can be handled
- Satisfaction can be achieved

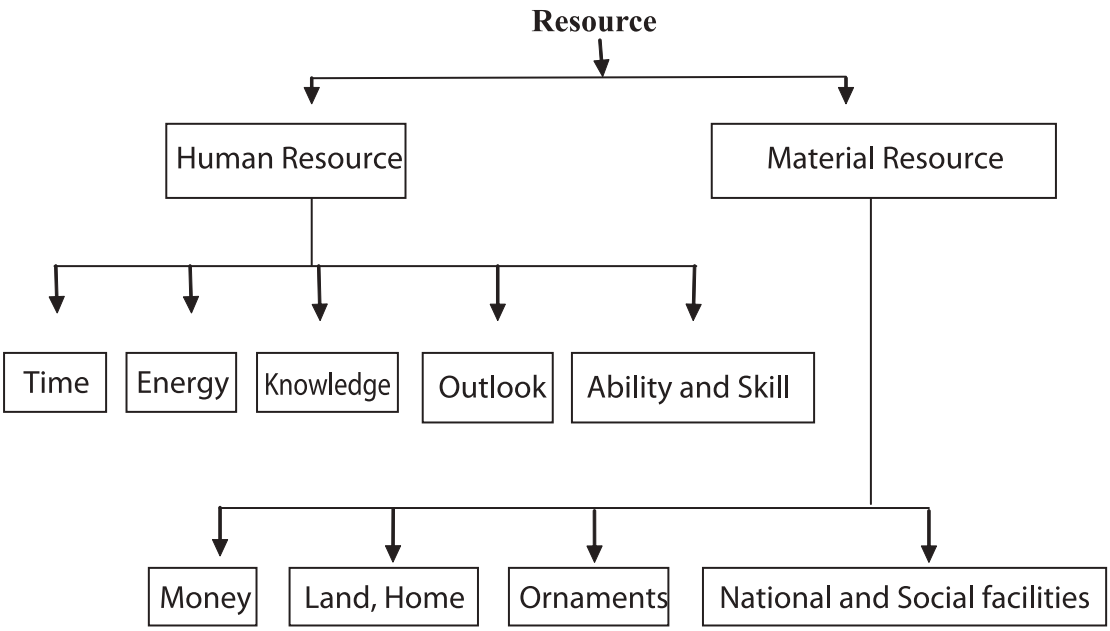
Task- 'Resources are inter-changeable' write with examples how this characteristic can be applied during crisis period.

Lesson 3-Classification of the Resources

Every human being owns some resources. So, to increase the consciousness on resources and to manage them properly, knowledge on the classification of resources is very essential.

Resource can be classified mainly in two types-

1. Human resource 2. Material resource



1. Human Resources- This increases through human's quality and practice. Such as: time, knowledge, energy, skill, education etc. In every family there are more than one member. The family goes forward nicely and can achieve the goal if it uses properly the time, energy, knowledge, skill of every member according to their ability. Family members' skill, expertise, attitude make management easy and reduces the wastage of non-human or material resources and brings enrichment. Such as- expending as budget. Budget ensures proper utilization of money and reduces wastage of money.

On the other side if the time is scheduled, every work can be done on time and success comes in life. The importance of human resource is immense for proper management and in enhancing the material resources of the home. The importance of human resources are discussed below-

Time- Home economists have considered time as human resource. Time is equally important to young-old, rich-poor, for all people. 24 hours are fixed for everyone. The person who can use this properly can be successful and established in life.

Energy- Energy is of two types - physical energy and mental energy. To do any work both types of energy are required. Success can be achieved by enhancing the skill to use energy through suitable habit, practice and thoughtful planning.

Knowledge- Knowledge is the essential resource to lead the home properly. Knowledge of nutrition, clothing, taking care of child, managing home, religion and specific knowledge of different subjects can establish one person in family and in workplace.

Outlook- Outlook varies from person to person. Thinking, consciousness, feelings, belief etc. are the integration of person's outlook. In childhood child's outlook develops from parents' thought process. Later with the development of age child's self outlook expands. This outlook guides the life.

Ability and skill- The ability and skill of the members of the family help to achieve the goal of the family. So ability and skill are the resources of family. The more the family members are capable and skilled, the more that family is developed. But all the members of family do not possess same ability and skill. If the works are divided among the members according to ability and skill, the quality of work becomes high and good relation develops in family.

Task- Write the importance of human resources.

2. Material resources: The materials and services that can meet the need is non-human or material resource. Such as: money, land, house etc. Besides these, some social and national facilities, like- road, market, school-college, transport facility etc. meet our needs and make the home life easier.

Money- Money is a material resource. It has exchange value and it is transferable and calculable. The importance of money is immense in human life. With money we buy commodity and service. Its proper use ensures sound financial condition in life.

Land, House and Ornament- These are exchangeable, measureable and ownership is transferable. But proper planning is required to use these. Making unplanned property creates problem.

National and Social Facilities- The facilities we get from the society is social resource. Road, communication facility, electricity, gas, school-college, market etc. are national and social facilities which people get from right. Park, amusement centre etc. eliminates monotony of family life. The people of any country enjoy these facilities as their inherent right.

Lesson 4- The Necessity of Proper Uses of Resources-

The prime aim or objective of using resources is to ensure satisfaction and achieving goal through its uses. Our needs are unlimited, but there is limitation in resources. To meet these unlimited needs with the limited resources, it is essential to use the resources properly.

- Proper uses of resources help the family to increase income, reduce expenditure, and to save money. Through the proper use of member's time, energy, ability, skill, intelligence etc. human resources of family, income of family can be increased and expenditure can be reduced, such as planting vegetables on the front compound of house, poultry farming, cloth making at home etc.
- Supply of resources is increased through proper use of resources, such as- if the mistress of the home distributes the responsibilities of the work among the family members, she can save her time and energy. She can use that time and energy in the development activities of the family or enjoy the free time for recreation. Thus the members of the family improve their sense of duty and responsibility.
- Balanced distribution of human and material resources is done through proper use of the resources. As a result the relationship among the family members becomes well, such as- maintaining budget, following time table. As a result, with few resources more satisfaction and mental happiness can be achieved.
- To increase the longevity of the resource its proper use is essential. Different appliances of home especially the refrigerator, iron, pressure cooker, oven etc. need proper care and maintenance which give financial and mental satisfaction.

Task- Write about the facilities we get from the society.

Sample Question

Multiple Choice Questions

1. What is the term for a product's ability to meet human needs?

   a. Utility
   b. Accessibility
   c. Limitation
   d. Manageability

2. Which one is more needed to manage the family?

   a. Physical strength
   b. Mental strength
   c. Knowledge
   d. Time

Read the following paragraph and answer questions 3 and 4:

Mr. Haider couldn't supervise the work while building the house. The person who was responsible for this, completed the work very quickly. After a few days crack was seen on the wall.

3. Which method could Mr. Hyder use to avoid this situation?

   a. using the alternative resources
   b. increasing the use of resources
   c. following the management system
   d. using the resources in multiple activities

4. What is the reason of the crack in Mr. Hyder's house?

   i. not giving time
   ii. not achieving goal
   iii. not following the steps of management

Which one is correct among followings?

   a. i and ii
   b. i and iii
   c. ii and iii
   d. i, ii and iii

Creative Question

Aysha Begum is a house wife. She completes her work with limited resources. She makes curtain, rug etc. of the house with her old sharee if needed. She meets the requirement of the family with her own effort. Everyone of the family is pleased with her.

a. From which side is the energy limited?

b. What type of resources is transferable to another hand?

c. Through the activity of Aysha Begum which characteristic of resource has been seen? Explain.

d. Everyone is satisfied on Ayesha Begum due to her proper use of resources- Analyze.

Short Answer Questions

1. Which type of wealth can be increased through practice? Explain.
2. Which form of wealth is equally accessible to everyone? Why?
3. What problems may arise if wealth is not managed properly?

Chapter-4
Home Resource Management

Lesson 1- Money Management

Money is considered as a material resource in home management. Money is one of the material resources as well as the most important. Importance of money is immense in life. To meet any of human's need money is the most essential. By exchanging money we get our essential commodities and service. Through proper money management we can meet our unlimited needs with the limited resources. Money management means how the money will be used to achieve the goal or to meet the needs. The methods of home management are applicable for money management too. For example, by meeting the needs to achieve the goal, implementing that plan and evaluating at the end. Family earns money in several ways. Like all other resources money is also limited. As money is the only media of exchange so we can get the needed goods with the money. We can save money for future security. The strategy or technique that is applied to use this valuable resource according to planning is known as budget.

Budget

Budget is the pre-planning process for money expenditure. More specifically it can be said that, for a particular time, expenditure of fixed income and pre-planning for savings is budget. In which areas, when and how much the expected income will be expended is written in budget. If the expenditure is pre-planned, the wastage does not take place with that valuable money. In addition all our demands are fulfilled.

Necessity of Budget

Budget is an excellent strategy to spend money. Budget helps us to meet all our needs with limited resources. Following are some mentionable necessities of budget-

- Gives idea about the income and expenditure of the family
- Prevents the misuse of money and helps to bring solvency
- Helps to take measure to save for the future
- Meets the important needs on priority basis
- Helps to bring cautiousness among the family members in spending money
- Saves time and energy
- Can give satisfaction by fulfilling all the needs of the family members

Heads of the Budget

To make the realistic budget these are to be fixed that in which heads money will be spent. The heads of expenditure are needed in family life; these are known as the heads of budget. According to the importance, the heads are arranged in such a way where things are determined to be included according to their heads. The heads are arranged according to the need of the life style-

Food a. Dry Grocery: rice, wheat, pulses, sugar, tea, different spices etc. b. Raw Grocery: Fish, meat, egg, milk, vegetables, fruits etc.	Medical a. Doctor's fee b. Medicine
Housing a. House rent b. Electricity, gas, water, etc. c. Tax on house, repair and maintenance	Family member's personal expenses a. Pocket money b. Expense for recreation
Cloth a. Purchase of dress and cloth b. Tailoring of cloth c. Cleaning and ironing	Other expenses a. To attend guest b. Gift and donation c. Conveyance d. Newspaper, magazine etc. e. Maid's salary
Education a. Tuition fees for school and college b. Books and stationeries c. Fees for house tutor	Savings a. Provident fund b. Bank, insurance, prize bond, savings certificate etc.

Task- 'Realistic budget saves time and energy'-give your opinion with logical reasons.

Lesson 2- The Rules of Preparing Budget

There are some rules to prepare the budget, by following these, realistic budget can be made. As every work needs to follow some rules to be completed properly and nicely, budget does not become realistic and effective if the rules are not followed. The rules to prepare budget are described below-

- Usually budget is done on monthly basis. So it is needed to determine the expected income of the month. To calculate the income all the income sources of the family is to be considered. As the budget is prepared with money, so the total financial income of the family is to be determined.
- The budget is to be prepared for the specific time, according to the family members' need of commodity and service. Essential commodities to be categorized in main sectors and the other things of the specific category needs to be mentioned.
- Before determining the prices of the listed commodities, actual market price of those things should be known. Later total price of all of these is to be included in the budget. To do so it is good to take the opinion of the family members. From the members' different information about the price of the commodities can be known. Without having a clear idea about the price of different commodities, implementation of the budget becomes difficult.
- There should be balance between the expected income and expenditure. After knowing the total income, expected expenditure to be calculated so that there is a balance between income and expenditure. Expenditure should never be more than income. But by increasing the family income and reducing the expenditure this situation can be handled.
- How much will be spent in which head is to be settled. Usually for food maximum allocation is given. In middle class families' budget for food requires 40 to 60 percent allocation. On the other side in lower class families this allocation can be 80 percent of the income. As much as the income increases the percentage of expenditure in food sector becomes less. Usually less budget allocation is given in saving, treatment etc.
- At the end the budget has to be analyzed for its implementation. There are some points which need to be considered to make practical budget. Such as- to consider the needs of every person, to meet the crisis situation it is needed to keep extra money in hand, keeping focus in long term goal etc.

Sample of Monthly family Budget

Monthly income of the family - TK 30,000

Family members - 4 people

Heads	Estimated Expenditure (Taka)	Total Expenditure (Taka)	% of Total Expenditure
1. Food Item			
a. Dry Grocery	5000/-	12000/-	40%
b. Raw Grocery	7000/-		
2. Housing			
a. House rent	7000/-		30%
b. Utility bills like- electricity, water, gas etc.	2000/-	9000/-	
3. Clothing			
a. Purchase of dress and clothes	1000/-		
b. Tailoring of cloth	400/-	1600/-	5.33%
c. Washing and Iron	200/-		
4. Education			
a. Tuition fees for school and college	1000/-		
b. Books, note books and stationeries	500/-	3500/-	11.67%
c. Fees for house tutor	2000/-		
5. Medical			
a. Doctor's fee	400/-	600/-	2%
b. Medicine	200/-		
6. Family member's personal expenditure			
a. Pocket money	300/-		
b. Recreation expense	400/-	700/-	2.33%
7. Other expenditure			
a. Guest	400/-		
b. Gift and donation	400/-	2200/-	7.33%
c. Conveyance	200/-		
d. Newspaper, Magazine etc.	200/-		
e. Salary for maid	1000/-		
8. Savings	400/-	400/-	1.33%
		30,000/-	100%

Note- Teacher will explain this budget according to the persent market price.

Comment- In the mentioned budget the income and expenditure is equal. This type of budget is called balanced budget. When the expenditure is more than the income, that is called deficit budget. Apart from these where the expenditure is less than the income, it is surplus budget. Surplus budget is the best budget. Deficit budget is never expected, because in this type of budget the amount of loan increases.

Task- With the help of your guardian make your family's budget.

Lesson 3- Management of Time and Energy

Among the human resources of family time is one of the important resources. Time is such a kind of resource which does not stay constant and does not wait for any one. Time is the most limited resource which cannot be expanded or reduced in any condition. Time can never be saved. Rather it is used in different sort of activities. The person who engages himself/herself with the time appropriately through different significant activities, he/she becomes more successful in life. With the proper utilization of time, people individually and socially can make valuable contribution.

For proper utilization of time every person needs to make a plan for 24 hours. From the beginning of the day to till beginning of the next day what are the activities to be done during that time, when to be done and every day how much time will be spent for that specific activity etc. need to be considered to prepare time schedule. In every person's life as the time is his/her own resource as the time schedule is different from each other. According to every person's habit, likings, need, requirement etc. the time schedule is being prepared.

Necessity of the Time-Schedule

To prepare the time schedule all the daily activities have to be written according to time. The schedule has to be kept in such a place so that it is easily visible. Followings are the necessity of time schedule-

Creates idea about the work to be done - When someone works with a time schedule he/she can have a clear idea about all the works. Which work is more important than the other, which work is better, which can be avoided–all these factors are considered at the time of preparing time schedule.

- **It creates the habit of working on time -** Since all the works are to be done in a fixed time, it creates the habit of doing work within the time frame and ultimately in future it becomes a habit.
- **It increases the idea about relation between time and activity -** Time schedule for work gives the idea about the work/activity for which time can/cannot be changed or rearranged. For example, time for visiting physician, going to school or religious activities cannot be changed, whereas sleeping time, chatting time or study time can be rearranged.
- **It gives the idea about required time for each work -** In the time schedule, time for each work is given. This gives the idea about the required time for individual work or activity.
- **Co-relation between work and recreation -** Time schedule for work always gives emphasis on recreation. As a result, there is opportunity of enjoy recreation which removes tiredness or exhaustion and this helps to increase motivation on work.
- **Increases work efficiency and speed -** Work can be done on time if time schedule is set accordingly. This ultimately becomes a habit and helps to improve the efficiency in work. It also helps to increase inspiration in creative work.

Points to be considered in preparing time schedule

While making the time table following points need to be taken into account

- Determine the works to be done in a day
- Prioritize the work according to their importance
- Time schedule should be done in consultation with the family members
- Time for each work is to be set according to its need
- Family condition, facilities and family members habit to be considered
- Those works which could be done together should be put together to reduce time
- Family works and activities to be divided into daily, weekly and monthly basis. Weekly or monthly works should be separated from daily works
- In the time schedule, allocation of time to be given on work, rest and sleep
- After hard work, easy work to be set. This will help to get enthusiasm in work
- Time table should be flexible, so that it could be reviewed if required

Task - Show in a chart what benefit could be obtained if the work is done as per the schedule of time.

Lesson 4 - Preparation of Daily Time Schedule

If the daily time schedule is followed work can be finished in right time. This encourages in doing more work with efficiency. In student life if the time schedule is followed, it helps to achieve success. Everybody should work on time and should not waste the valuable time.

Sample of daily time schedule of a student when school is open

Description of Work	Time frame	Time to finish work
Wake-up in the morning	5:30	-
Finish toilet	5:30-5:45	15 minutes
Brush teeth and wash face Perform religious duty	5:45-5:55	10 minutes
Clean and tidy the bed	5:55-6:05	10 minutes
As per school routine study and take the books	6:05-7:05	01 hour
Have breakfast and get ready for school	7:05-7:30	25 minutes
Time for school	7:30-2:00	06 hours 30 minutes
After returning from school change uniform and take rest	2:00-2:20	20 minutes
Take shower and offer prayer	2:20-2:35	15 minutes
Lunch	2:35-2:50	15 minutes
Rest time	2:50-4:00	01 hour 10 minutes
Finish home work	4:00-5:00	01 hour
Prepare and offer afternoon prayer	5:00-5:15	15 minutes
Be tidy and brush hair	5:15-5:40	25 minutes
Help parents in doing work and spend time with family	5:40-6:40	01 hour
Prepare and offer evening prayer	6:40-7:00	20 minutes
Help mother for serving evening snacks	7:00-7:30	30 minutes
Study time	7:30-8:45	01 hour 15 minutes
Watch T.V	8:45-9:40	55 minutes
Dinner time and prepare bed	9:40-10:00	20 minutes
Watch T.V news	10:00-10:15	15 minutes
Finish study for School	10:15-11:00	45 minutes
Prepare and offer night prayer and go to bed	11:00-11:15	15 minutes
Sleeping time	11:15-5:30	06 hours 15 minutes
		Total 24 hours

Sample of daily time schedule of a student when school is closed

Description of Work	Time frame	Time to finish work
Wake-up in the morning	5:30	-
Finish toilet, brush teeth and wash face	5:30-5:45	15 minutes
Prepare and offer individual religion's prayer	5:45-5:55	10 minutes
Clean and tidy the bed	5:55-6:05	10 minutes
Help mother to prepare breakfast and finish breakfast	6:05-7:20	01 hour 15 minutes
Help siblings in study	7:20-8:05	45 minutes
Take the dirty clothes for wash	8:05-9:05	01 hour
Help mother for cooking and cleaning house	9:05-10:05	01 hour
Watch T.V	10:05-11:35	01 hour 30 minutes
Have nail cut, wash cloth and shower	11:35-1:05	01 hour 30 minutes
Keeping oneself tidy	1:05-1:35	30 minutes
Help mother in serving lunch, also have lunch and clean the table prepare and offer noon prayer	1:35-2:35	01 hour
Spend time with family members and take rest	2:35-3:35	01 hour
Prepare home work for school	3:35-4:35	01 hour
Prepare and offer afternoon prayer	4:35-4:50	15 minutes
Go out for shopping	4:50-6:10	01 hour 20 minutes
Prepare and offer evening prayer	6:10-6:30	20 minutes
Help siblings in study	6:30-7:45	01 hour 15 minutes
Preparation time for school	7:45-9:00	01 hour 15 minutes
Watch T.V	9:00-9:55	55 minutes
Have dinner and prepare the bed	9:55-10:15	20 minutes
Finish study for school	10:15-11:00	45 minutes
Prepare and offer night prayer and go to bed	11:00-11:15	15 minutes
Sleeping time	11:15-5:30	06 hours 15 minutes
		Total 24 hours

For school student two samples are given. However, due to seasonal time it may vary. In winter night is longer than day. Moreover, prayer time also changes during winter and summer. As such, time to be adjusted with the season. For special reason time schedule may be readjusted with other works and activities. From student life one should practice to habituate in working according to the schedule of time.

Task - Prepare a schedule for one day during your summer vacation.

Lesson 5- Management of Energy

Energy is a prime resource of the family as money and time. Family members' health and satisfaction depend on proper utilization of this human resource. Along with other resources everyone needs to be careful for proper utilization of energy. To achieve the goal by meeting the needs we have to do many activities. The work should be done in such a way so that the minimum energy will be used in that work. Or by using same amount of energy many activities can be accomplished. Then we will be able to do many works with our limited energy. Energy loss occurs due to its improper use. As a result reluctance, tiredness and irritation occur towards work. If the energy is utilized through proper management, the misuse of it can be eliminated. To utilize the energy properly there are some points to be considered. Such as-

- Work to be done as per the set time table
- Determine in advance which work needs how much energy and how to get the work done
- In distributing the works emphasis should be given on the age, individual liking and interest of the family member
- Both the hands to be used for work. In addition if the work is done with the correct posture less energy will be required. Like wiping the floor in standing position needs less energy than in sitting position
- After heavy work one should take rest or do some light work
- Use of different tools will help to waste less energy, e.g. use of pressure cooker, washing machine, oven, electric iron etc.

In addition to above by using certain techniques different works can be done easily. In home management these are known as techniques to work easily. Required techniques to work easily and with less energy are:

- **Correct body posture and correct force to work -** For effective use of energy work area should be such that it allows working with correct body posture and force. If the working equipments are within the reach, energy can be saved.
- **Work in right place and use of correct equipments -** If the work is done at the right place, energy can be saved. For instance dine in the dining room,

washing in the bathroom etc. If the required equipments are kept in the work place, energy is not lost in unless walking. Using of right types of equipments also save energy. For example use of mop to wipe the room is more comfortable than cloth.

- **Work with right technique -** Every work has some techniques. If the technique is followed less energy will be used. For example instead of washing the cloth separately, if all the cloths are washed together and dried together then less time and energy will be used.
- **Change of usable items -** By changing the usual items sometimes energy is saved. Like use of plastic table cloth instead of cotton one.
- **Change in the technique of preparing food -** Sometime energy can be saved by changing the technique used in preparing food. For example for preparing salad tomato and cucumber can be sliced instead of grinding.

Task - In day to day work what techniques you can apply to waste less energy.

Sample Question

Multiple Choice Questions

1. Which one is more essential to meet the needs of human beings?

   a. Time b. Money

   c. Labor/work d. Planning

2. What is called to keep the expenditure limited according to the income?

   a. Goal b. Planning

   c. Table/List d. Budget

Read the following paragraph and answer questions 3 and 4:

Amena Begum spends a significant amount of time doing household chores. She performs tasks as they come to mind, without any specific plan. Her neighbor, Lipi, had been observing this for a while. One day, Lipi offered Amena some suggestions to help her complete the chores more efficiently.

3. How can Amena Begum do her work to avoid exhaustion?
   a. At first by doing the heavy works
   b. At first by doing the light works
   c By doing the light work after heavy work
   d. By doing the heavy work after light work

4. Which is missing in the activities of Amena Begum?

   i. Planning

   ii. Schedule of time

   iii. Doing the work with new spirit

Which one is correct among followings?

   a. i and ii
   b. i and iii
   c. ii and iii
   d. i, ii and iii

Creative Question

Tanjil Saheb is a salaried employee with a monthly income of 50,000 Taka. He lives with his wife, two school-going children, and his ailing mother. His wife, Meena, manages all the household chores. Occasionally, Tanjil feels overwhelmed, but due to financial constraints, he cannot afford domestic help. Recently, Meena has started using electrical appliances to make her work easier.

   a. What is a timetable?
   b. How can a budget be made realistic? Explain.
   c. Prepare a monthly budget for Tanjil Saheb's family.
   d. Meena's contribution reflects the qualities of a good homemaker. Explain.

Short Answer Questions

1. What does "spending according to income" mean? Explain.
2. How can energy be saved by using appropriate tools and organizing the workplace efficiently?
3. Why is it difficult to save time even though it is considered a valuable resource?

Chapter 5

Interior Decoration of Home

Among our basic needs housing is one of them. The furniture is essential to make this home useable. To enhance the good looks of home by making it nice and attractive, interior decoration is essential. In this case expensive furniture is not required. Own taste and artistic mind can be projected through the inexpensive goods according to ability. For making the home nice and convenient to use, interior decoration is very much essential. Through decorating the home family enhances the lifestyle and gets mental peace. And depending on peace and prosperity of home social development takes place.

Lesson 1- Selection of Furniture

Furniture refers table, chair, sofa, bed, wardrobe, cupboard, bookshelf etc. which are heavy but movable home decorative things/goods. For accomplishing different activities of home the role of furniture is enormous. Besides, to enhance comfort and beauty there is no other thing like this.

Either town or village, everywhere furniture is used to accomplish different activities of the home. The types of furniture's need varies according to the lifestyle of family, living place that means town or village, level of family life cycle etc.

The houses of village are permanent and enough sized so it is seen that the use of heavy big sized wooden furniture is more. Among the furniture bed, chowki, chair, table, tool, bench, kitchen shelf, cupboard, clothes' rack etc. which are used in village mentionable. According to the need of the person these furniture can be made at home by the carpenters with the wood of mango, black berry, jack fruit, koroi etc. trees.

In town areas the number of temporarily living working people are more. Most of the people live in rented houses. Those who live in own house, because of the limitation of the size they also use light and contemporary furniture to fulfill their needs. Besides these, the light furniture of good taste are used as these are not difficult to carry from one place to another place. Among the furniture which are used in town, bed, box bed, different sized table, wooden cupboard along with mirror, sofa set, cushioned chair, etc. are mentionable.

There is tendency of using limited size- designed, luxurious and modern designed furniture in town areas. Along with the wood of mango, jack fruit, koroi, other artificial woods like ply wood, Partex etc. are commonly used. In town areas use of readymade furniture is more visible.

Now a days in village and town everywhere the plastic made furniture like- chair, table, bed, rack etc. are commonly used.



Different types of furniture

Concerned matter for selecting the furniture are discussed below-

- **Necessity-** Before buying the furniture it is needed to determine that whether it is essential or not. If it is not essential though it is bought whimsically, than later it seems wastage of money. Besides this, if the old furniture is used after burnishing, there will be no need to buy new furniture and it will seem wastage of money.
- **Family Income-** Furniture should be selected according to the income of family. If the furniture is bought according to income, it is more acceptable by the society. Otherwise it looks odd to society.
- **Cost of Furniture-** The price of the furniture depends on its material. The Teak, mahogany etc. made furniture is more expensive. The cane, plastic or rod made furniture is comparatively less priced.
- **Comfort-** To select the furniture comfort is an important matter. If furniture's size, height, depth are not comfortable, it is not easy to use.

Such as- if the table is very high, it is difficult for working. And if the chair is not comfortable, it is difficult to work.

- **Utility-** The utility of the furniture is its ability to meet the need. Small children's furniture will be appropriate for age. Bed, chowki these meet our need of lying. And tool, sofa, couch, chair meet our seating need. In addition utility depends on material with which the furniture is made. Such as, the cushioned furniture is more comfortable than wooden furniture so its utility is more.
- **Taste and Choice-** To select the furniture family's taste and choice is most important. The beauty of the home enhances if it is decorated according to the income of the family as well as the size, floor and wall of the house.
- **Durability-** Durability of furniture depends on the material and manufacturing process. If the furniture is made with raw wood, termite damages. And the furniture made with seasoned wood and good manufactured lasts long.
- **Standard of Lifestyle-** The standard of lifestyle depends on professional position and wealth. Holding higher position and rich family's furniture is quite expensive. In these families the drawing rooms are specious and gorgeously decorated. On the other side in lower class family, sitting arrangement is in one corner of the bed room.
- **Design-** The design of the furniture needs to be of good taste In this case contemporary, comfortable and artistic design is acceptable. As well as the design would be in such a way so that it doesn't take longer time or energy to clean.
- **Various Uses-** Flexibility is the multiple use of the furniture. Such as, divan is used for sitting and sleeping. Dining table is used for eating, studying, discussing. In present time because of the smaller size of the room flexibility of the furniture is to be considered.
- **Size of the Family-** If the size of the family is big, the flexibility and multiple use of the furniture needs to be considered.
- **Nature of Job-** If the job is transferable, the furniture which is light and able to meet daily need will be selected. More furniture brings hazard while transferring. The furniture becomes damaged too easily.
- **Weather-** In our country heat and dust are more. So light designed and colored furniture is more suitable and easy to care.

- **Care-** To select the furniture it is needed to think about the care. Because longevity and beauty depend on care and maintenance.
- **Size of Room-** If the furniture is selected according to the size of room then it represents the taste and enhances beauty.

Task- What are the matters you will consider while buying furniture for your family?

Lesson 2- Arrangement of Furniture

After selecting the furniture it is needed to arrange it. Arrangement of furniture is not only to decorate home. Through proper arrangement interior decoration of home becomes attractive, comfortable and convenient. As a result, the members of family get more comfort and satisfaction.

Either village or town there are some rules which need to be followed for arranging the furniture to decorate the interior of home. Such as-

Essentials of Furniture Arrangement- To arrange the furniture first of all it is to remember that there should not be excessive furniture in room. Before arranging furniture for home it is needed to consider the reason of using that room. Such as-

Bedroom- Bed, wardrobe, cloth's rack, cupboard etc.

Drawing Room- Sofa set, caned chair, centre table, showcase, bookshelf etc.

Dining Room- Dining table, showcase, refrigerator etc.

Study Room- Bookshelf, table, chair, computer etc.

- **Practical Use-** To arrange the furniture it is needed to consider the practical use of that furniture. According to the function of that room the furniture should be arranged.
- **Mobility –** In the home while arranging it is needed to consider the mobility, facility to accomplish the work. For going from one place to another place in room and to accomplish the work there should not be any problem of mobility. Such as the bookshelf should be kept just beside the study table. It is better to arrange the furniture in accordance of the child's activities if there is child at home. It is essential to notice that the children are able to move around the room freely and safely.
- **According to the work-** Furniture arrangement will be in such a way so

that there will be harmony among the works. It means that in which room what function happens furniture should match with that.

- **Well ventilation-** The furniture will be arranged in such a way so that to open the door and window there will be no problem. If the house is not well ventilated then hygienic condition hampers.
- **Distance from the wall should be maintained-** While arranging the furniture it is to be remembered that table, chair, sofa should not be kept by touching the wall. A short distance from the wall should be maintained. Otherwise the wall will be discolored with the graze and furniture may be damaged. Arrangement of furniture can hide the structural fault of the home or rooms.
- **New touch in home decoration-** Furniture is not to be kept permanently in the same place. Therefore the monotony comes in home decoration. Time to time it is essential to rearrange the furniture by changing taste, that for new touch comes in home decoration.
- **Applying Art Principles-** The beauty of home depends on the arrangement of furniture. To create the artistic effect the principles of creating art such as- proportion, consistency, balance, rhythm and emphasis will be maintained. Application of art principles/rules are described below-

a. **Proportion-** To arrange the furniture according to the size of the room if the size of furniture and the furniture's relative size is proper, the arrangement can be told as well matched. In big room big sized furniture and for small room small sized furniture is suitable. And where it is needed to keep big and small sized furniture together then by keeping balance with big furniture two/three small furniture can be kept.

b. **Balance-** It is essential to keep balance while arranging the furniture. Furniture of the room's one side to another side, furniture of the middle and corner's to be balanced. In one side if there is more and another side less furniture it does not maintain balance. If the furniture of one room is kept in two sides with the same importance then it is known as direct balance. On the other hand if there is more furniture in one side with importance is known as indirect balance. Indirect balance brings new dimension and attraction in room.

c. **Harmony-** Good relation among everyone is harmony. It is not enough to keep only expensive furniture, art work, showpiece in room. There should be harmony among all of these.

d. Rhythm- If there is rhythm in arranging furniture then the look does not fall on just a furniture, it moves simply and naturally to other furniture as well. The look moves from one corner to another corner of the room. This ups and down and speed of the rhythm creates new dimension which bring attractiveness in the arrangement of furniture.

e. Emphasis- One of the principles of arranging furniture is emphasis. Emphasis means the main centre point of attraction. Nice flowers in the flower vase which is kept on the centre table of the drawing room, dining table with varieties of fruits, decorating the bedroom with nice furniture or carpet can create emphasis of the room and furniture.

Task- Write the things you will keep in mind to arrange the furniture in your home.

Lesson 3- Arrangement of Furniture in Different Rooms

Bedroom

After the daylong work people come back home. The peaceful environment of home gives us comfort. So we should be careful while selecting the bedroom furniture. In bedroom bed or chowki, dressing table, cloth rack, cupboard, wardrobe etc. furniture is kept.

Noticeable matters-

- The placing of bed or chowki has to be in such a way so that light can't fall on eyes.
- The wall will be preferably light colored.
- A side table can be placed beside the bed to keep book or newspaper. If there is table lamp then enough light can be get while reading.

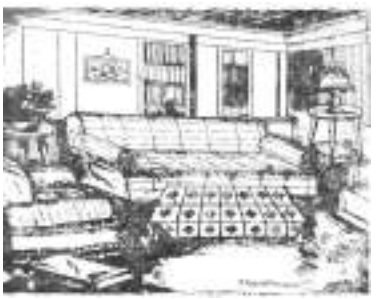


Bedroom

- Art work can be hung to decorate the wall. A bunch of flower on the dressing table or side table enhances the beauty of room.

Drawing Room-

Known persons and relatives sit in drawing room while they visit. To maintain the socialization, drawing room is the centre place. The arrangement of this room represents the taste of the house owners to the outsiders. On the drawing room sofa set, divan, stool, book shelf, showcase are placed.



Drawing Room

Noticeable matters-

- To make the room attractive flowers in the big vase, aquarium, art work, picture of renowned person, carpet etc. can be kept.
- Furniture is to be arranged according to well ventilation, mobility, artistic principals.

Dining Room

Dining room is the meeting place of the family members. While all the members of family sit for having food a happy environment appears. In the dining room dining table, chair, meat safe, refrigerator, trolley etc. are kept. Table may be round, oval or rectangle shaped. The top of the table is made with formica, glass or wood.



Dining Room

Noticeable matters-

- It has to be ensured that the dining table gets enough light.
- At the centre of the table keeping flower in flat vase or fruits in the basket enhances the beauty.
- Table should be placed in such a way so that there will be no problem with mobility.
- The water filter should be kept at one side in a little high place. The refrigerator should be placed beside a big wall while keeping distance from the wall for ventilation.

Guest Room-

It is better if the guest room is beside the drawing room. This room does not need much furniture. Bed, dressing table and wall closet are enough for the room.



Guest Room



Living Room

Living Room

There is a living room in present modern uses. The members of the family pass their leisure time in this room. In this room there are facilities for watching television, sitting and lying. Guitar, key board etc. things of entertainment are kept there.

Reading Room

The reading room will be in such a place where the sound and conversation cannot create problem to study. In the reading room table, chair, bookshelf, computer etc. are placed. It should be considered that the table gets enough light.



Reading Room

Kitchen

The kitchen is located next to dining room. As such it is easy to serve the food. If the stove is placed beside the window, the smoke goes out easily. Stove can be gas, kerosene or made of clay. In town areas gas burner and in village for stove dry wood/stick or kerosene is being used. And some people cook in heater too. If the tap is at one corner of the kitchen then it is better. To keep



Kitchen

the pots, shelf is being used. Heavy and usual knives, boti (native cutter) etc. sharp things should be kept on the top which is unreachable for the children. If there is wall cabinet up to the ceilling high then many things can be kept. It needs to be careful that insects can't stay.

Lesson 4- Enhancing the Beauty of Home

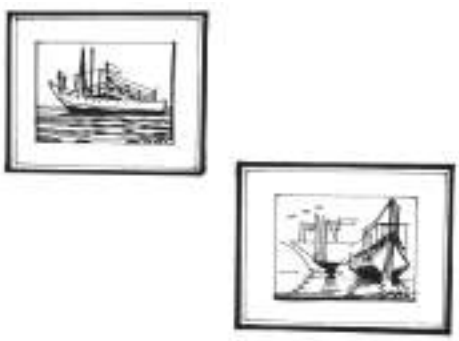
After Selecting and arranging the furniture people want to enhance the beauty of home through decorating the floor, curtain and flower. Bringing the consistency among everything makes a home elegant and represents good taste.

Covering of the Floor-

In our country the floor is made of cement or colored cement. In village the floor is made of clay. But in modern home tiles and mosaic floors are seen. In town area carpet is being used. The carpet should be suitable with the furniture. As in our country dust is more it is better to use small sized carpet so that it is easy to take care.



Picture of the floor cover (carpet)



Arrangement of Picture on the wall

Wall Decoration-

In every house there are art works in different rooms. In interior decoration the role of art work is enormous. The pictures of the renowned persons are the symbol of pride. The picture of motherland, natural scenery gives pleasure in mind.

There are some rules to hang the pictures. Such as-

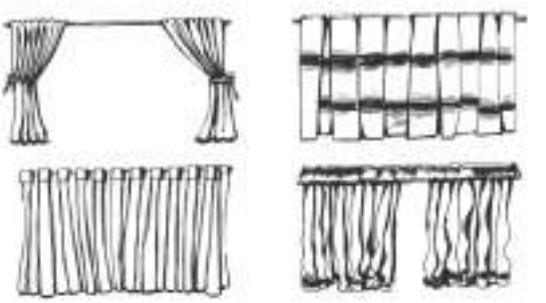
- To hang the picture selecting the place is very important. On the big wall big picture and in the small wall few small pictures can be hanged.
- Picture is to be hung at the eyesight level. If it is hung very high or low, it does not become prominent and looks disproportionate.
- According to the function of the room the picture is to be hung. In the

drawing room the picture of renowned person, natural scenery, art of renowned person, in dining room picture of food, in living room family pictures can be hung. Hanging family pictures in bed room stands for taste.

- Wall can be decorated with other things like- showpiece, flower, branch-leaf, wall mat, pottery, folk art. But it is essential to follow the principals of art.

Curtain-

Curtain is the cover of door, window. Curtain should be selected according to the color of wall, carpet, and other furniture.



Different Types of Curtain

Necessity of the Curtain in Room-

- Maintains the privacy
- Brings cool feeling
- Protects from dust
- Enhances beauty

Our country is mainly a hot country so light colored curtain is more suitable for us. It creates coolness. But in winter deep colored curtain can be used. The cloth of curtain will be such type so that it is easy to care.

Flower arrangement-

Flower arrangement is one of the main parts of home decoration. To arrange the flowers different types of vase or pot are needed. These pots can be made of china clay, plastic, glass, bamboo, different metals. Flower vase or pot can be round, flat, oval or square shaped.



Flower arrangement

Rules of Flower Arrangement-

- **Colour-** To arrange the flowers it should be noticed that the colour of the flower will attract everyone.
- **Structure-** One of the main characteristics of flower is its structure or stroke. The stick of lily, tube rose is tall. And marigold, jasmine, rose are suitable for dumped arrangement.
- **Artistic Principal-** To arrange the flower if the principals of art are followed then its beauty enhances. Such as flowers must be proportionate with vases.
- While arranging the flowers its natural rhythm is to be maintained. It means that as the flower blooms in the tree as it is arranged in that way then it looks nice.
- Flower should be arranged by giving the emphasis on most attractive flower. According to that other flowers, leaves to be arranged.
- The flower will get more emphasis rather than vase. According to the size of the vase the flowers are to be arranged.
- There should be enough water in the flower vase.
- To arrange the flowers pin holder should be covered.
- Many flowers are not needed to arrange the flowers. Just two or one flower can be arranged along with branch, stick, leaves. Flower can be arranged by using the pin holder on bowl and saucer.
- If the flower is picked in early morning or late afternoon then it stays fresh.
- In the water of vase if sugar is added then it stays fresh for long time.

Lesson 5- Maintaining Hygienic Environment at Home

Decorating the room with furniture is not enough, maintaining the hygienic condition should be thought. If the home is well decorated then it represents good taste. Not only expensive and attractive furniture will be used to decorate the home but also it should be neat and clean. The beauty of home destroys with the dirty and dusty furniture. The longevity reduces due to lack of care. Spider web, ant, insects' disturbance increase and germs spread.

Therefore to maintain hygienic environment the essential factors are-

- **Ensuring Well Ventilation at Home**:

  Sun is the never ending source of light, heat and anti germicide power. The sunlight eliminates darkness. Heat kills germs. So the furniture should be placed in such a way so that enough sunlight can come in room.

  The oxygen of the air keeps alive our body's cells. The impact of air is very much on health. So to maintain well ventilation, the home is to be faced preferably towards south or east.

- **Keeping the Floor and Furniture Neat and Clean**

  Every day the floor and Furniture need to clean up. Because of the mobility at home the floor becomes dirty and dust falls on the furniture. Sneezing, coughing are caught from this dust. So every day it is needed to clean and wipe the room's floor, kitchen, bathroom's floor and furniture. For that using anti germicide once in a week is essential. Other things like door, window, kitchen's wall, sink, toilet's pan-commode etc. should be cleaned once in a week.

- **Keeping Curtain, Bed sheet, Table cloth, Covers of different Furniture Clean**

  Dust develops in home's curtain, bed sheet and in covers. Bed sheet needs to be cleaned once in a week. By giving 3/4 months break the curtain and covers of furniture need to be cleaned. So dust goes off and enhances the brightness of home.

- **Arranging Artificial Light for Night According to the Work**

  If the light is not sufficient according to the work then eye sight damages. So enough light should be arranged for reading, kitchen's work, dining table etc.

- **Keeping the Internal and Surrounding Environment Clean**

  To maintain good health it is essential to clean the surrounding environment clean. The pests/insects, mosquito stay if the home is surrounded by dirt, garbage, open drain, bush etc. Serious diseases spread too. So the surrounding of the home needs to be cleaned. Trashes should be thrown in proper place or in dustbin. The surrounding of the home's unwanted bush should be cut and anti insecticide should be sprayed. Water should be removed from the flower pots or surrounding places, to keep safe from aedes mosquito.

Lesson 6- Recycling the Unused Things for Interior Decoration

People worship beauty. So for comfort and beauty of the home they use a lot of other things along with furniture. But it is not necessary that for decoration of home only the expensive things to be bought from market. Rather the artistic things made with own creativity by recycling the unused things can be used.

Creating art and craft is human's by born nature. To create this art and craft there is no need to use the expensive things. Easily available things or the disposed things can be used to make artistic things and by these own creativity can be exposed.Such as, artist creates art work on the white canvas with color and brush and makes it worth. Potter makes designed pottery with clay.

Name of the Different Unused Things of Home

Water or cold drink's bottle, can, tissue box, old calendar, old cloth, egg shell, biscuit, chocolate or chip's hard box, ink over ball pen, small pencil etc.

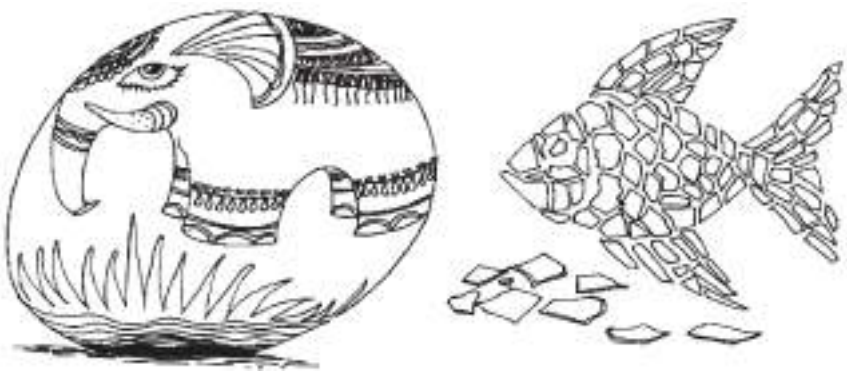
Now we will discuss about the procedure of using unused things:

Egg Shell

Egg is every day's common item in our food menu. We throw away its shell. But we can create art work with this disposed thing. Like-

A small hole to be made at one side of the egg and the inner substance should be removed and dried under the sunlight. Then drawing nice art work with the colors and can be used to decorate home.

The egg shell can be broken in small pieces and those can be pasted on art paper with glue, after drying it up different scenery can be flourished.

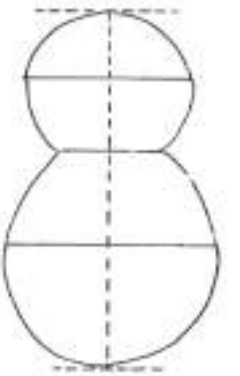


Home decoration pieces made with egg shell

Making home decoration pieces with old paper/card/board etc.

Sample- 1: Doll shaped holder making

Calendar's page, hard paper, disposed old cloth, wool, jute rope, black tassel, lace, round shaped dotted material (tip), ribbon and aica/glue etc. are needed. According to the following picture (No. 1) cut the calendar's hard paper and make the main structure of forma. To enhance its beauty use glue to stick lace, make braid with flower/ jute rope/ tassel, with the round dotted material (tip) or color draw/make eyes, nose, lips. At the back side of the hard paper the ribbon can be assembled to make hook for hanging. After making the doll it can be kept beside telephone set, for keeping clip/pin or can be used as message holder by hanging on the wall.



Picture of Forma (no.1)



Message Holder

Sample-2: Wall Pocket Made with Sack Cloth

Used Elements- Sack cloth, colored cloth for border, needle-thread for sewing etc. The wall pocket made with sack cloth can be used as home decoration piece as well as the essential things can be kept in convenient place.



Sample of Wall Pocket

Sample Question

Multiple Choice Questions

1. Friendship among everything is called -

   a. equality b. rhythm

   c. harmony d. emphasis

2. Why the surrounding of the house should be clean?

   a. to get light and air b. to keep away from insects

   c. to keep the bushes clean d. to maintain good health

Read the following paragraph and answer questions 3 and 4

Shefali bought marigold flowers from the market and placed them in a vase. However, the flowers drooped and did not stand upright, which made the arrangement look unattractive. While cleaning the house, Shefali also considered discarding several unused items. Seeing this, her mother advised her to repurpose those items creatively instead of throwing them away.

3. What type of vase should Shefali have used?

   a) Round b) Oblong

   c) Square d) Flat

4. By using the old/unusable things Shefali could:

   i. Maintain a balance between old and new things

   ii. Have the chance for innovating things

   iii. Have scope for creativity

Which one is correct among the followings?

   a. i and ii b. ii and iii

   c. i and iii d. i, ii and iii

Creative Questions

Due to her husband's job, Mukta frequently has to move and live in different places. In the center of the living room of their new house, she has hung a beautiful wall decoration that immediately catches the eye upon entering. It is admired by everyone who sees it. In addition, Mukta takes special care when purchasing essential household furniture like beds, cupboards, and more.

a. What is harmony?
b. Explain how the durability of furniture can be increased.
c. Which characteristic of industrialism is reflected in Mukta's living room? Explain.
d. What is the rationale behind Mukta's special attention while purchasing furniture?

Short Answer Questions

1. How can furniture serve multiple purposes?
2. How does balance enhance the beauty of a home?
3. Eliminating monotony is a characteristic of which form of industrialism?
4. Why are curtains important in a house?

Part-B

Child Developoment and Family Relation





After studying this part we will be able to-

- describe the concepts and characteristics of growth and development of a child ;
- identify the steps or stages of development ;
- describe the developmental task of different stages;
- analyse the heredity and environmental affect on child development;
- describe the importance of family bondage on child development ;
- explain the concept of different types of family crisis and their nature ;
- describe the principles of guiding children;
- describe the different types of psycho-social problems of adolescence age;
- identify the causes of retardation and describe the ways of prevention;

Chapter Six

Growth and Development of Child

Lesson 1: Idea of Growth and Development

Ramin is two years old. He plays with his toy cars. He plays more practically now than how he used to play a few months ago. He makes 'Boo Boo' noises now when he plays with them. When the toy cars collide or fall down he makes a different noise than he used to. That means he has more experiences. Before Ramin could only say 'Ba Ba' and 'Da Da', now he uses different sounds to express himself. Not limited to just sounds, Ramin can now walk, run and climb, which he was unable to execute just a few months ago. Just like Ramin, with age, every child is slowly able to perform tasks which are expressed through their behavior. This is called child development. Development is a qualitative change, and a continuous process. From birth till death, this development process never ceases.

We use the words 'Growth' and 'Development' interchangeably. Growth is a quantitative process. Whenever any part or whole of the body grows and changes in shape, it is defined as 'Growth'. Height and weight increase are easy examples of this process. Growth and development do not have the same meaning. When a child is born, it weighs about 3 KG. In six months, this weight doubles and almost triples in a year. This weight change of a child is a quantitative change. As a newborn starts to gain weight, some parts of its body acquire strength. Right after birth a child can only play with his own hand and feet. Within five years, he/she can draw with their hands and within ten years, can throw a cricket ball skillfully and with ease. The child's arm not only grew in length, but also had qualitative changes. This is development. Development is far more encompassing than growth. Growth is only a part of development.

Development is a complicated and continuous process. Maturity and experience are the drivers for changes in development. Development increases and decreases simultaneously. At the beginning stages of our life cycle, increase in development is prominent, and near the end, development decreases more than it increases. Hair and nails grow even at an old age, but unfortunately, both physical skills and mental abilities deteriorate.

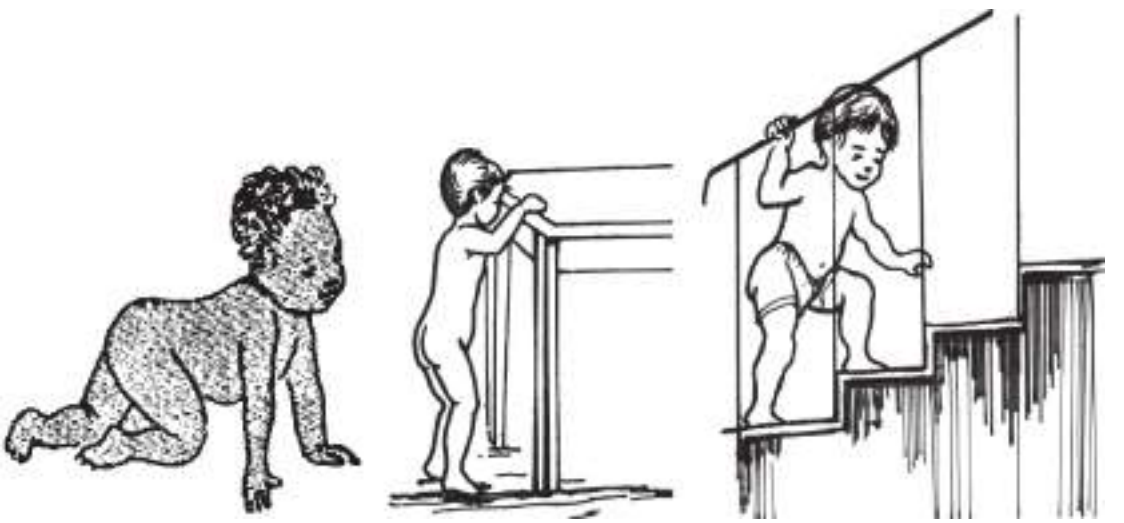
Characteristics of Growth and Development:

- Changes in physical size and shape are defined as growth. Development on the other hand is changes in behavior, skills, abilities.
- Growth is a quantitative change. Development is a qualitative change, but it is directly related to quantitative change. Development is the effective result of quantitative change.
- Growth takes place in human life up to a certain point. Generally, growth continues up to the age of twenty five. On the other hand, development continues till death. There is no specific limitation.
- Growth has an upward trend. But the trend of development is upward in the beginning of life, slows down in the middle and gravitates downward at an old age. Example:

The ability to understand and logical thinking increases during adolescence, but at an old age, thinking ability decreases and memory loss increases. Hearing, vision and understanding decrease. Both increase and decrease is part of development.



Growth - Increase in height



Motor development- can sit, can walk

Areas of Development are -

Physical Development – Changes in shape and size of different parts of the body, weight increase, height increase, widening of chest and shoulders, physical health etc.

Intelligence Development – Paying attention, trying to understand a subject, memorization, factual thinking, creative thinking, problem solving etc.

Motor Development – Hand and foot movements after birth, ability to sit, walk, run, catch, and kick, and to keep balance etc.

Language Development – Speaking one or two words and short sentences, answering questions, ability to talk systematically etc.



Emotional development- laugh when becomes happy

Emotional Development – To smile when happy, cry when sad or physically hurt, being scared of loud noises, displaying anger when not given what is desired, etc. are expressions of emotion. Emotional development is the ability to control emotions when necessary, and appropriately express feelings of good and bad.

Social Development – Ability to adjust with parents, siblings and others according to age after birth and slowly develop the ability to adjust with family according to rules and regulations of the society. For example: to help others, show kindness, sense of respect, common feelings etc.

Moral Development – Sense of good and bad, right and wrong, remorse for any wrongdoing, sacrifice for doing the right thing on the basis of social and religious rules and regulations is moral development. To tell a lie, harm, deceive etc. - all works are against morality.

The developments of different areas of children are intimately related to each other. When a child learns to sit, crawl and walk, he learns about the world around him. When a child learns something new, the older members encourage him in various ways, making him happy and comfortable. Through these events, a child develops socially and emotionally. Therefore it can be concluded that the full development of a human child is the combination of all types of development.



Motor development-can sit, can walk



Social development- friendship

Task- Make a chart to show the differences between growth and development

Lesson 2- Stages of Development

We all know that life begins at mother's womb. A child is born 280 days or 40 weeks or nine months from mother's womb. An individual becomes old by passing the stages- childhood, adolescence and adulthood after birth. The characteristics of human life is not same from the beginning to the end, there are many differences between the child of 2 years old and a child of 10 years old. Again the development of adolescence and adulthood is never the same. The life span of human are divided into some stages. These are called the stages of development. These stages are –

Prenatal period - This period starts from the beginning of the life until birth. The prenatal period is a time of rapid growth. Within this short time one cell (zygote) becomes a full human child. Great changes occur in the newborn child to adjust with the outside environment of mother's womb after birth.





Neo natal Period- The duration of neonatal period is after birth to 2 weeks. The child has to adjust with the new environment during this period. For breathing, taking food & eliminate bowel his glands becomes active. He has to balance with the environment of low temperature from the warmth environment of mother's womb (100°F). After delivery the healthy child cries loudly. They sleep 20 hours out of 24 hours. Crying is one of the media to express his any discomfort. In the context of our country the normal weight of a neonate is from $2\frac{1}{2}$ to 3kg.



Babyhood & Toddlerhood- The duration of this stage is from 2 weeks to 2 years. Some days ago which child was very helpless now he can sit, walk and talk. Within these years he develops intimacy with others. First one year is babyhood and up to 2 years is toddlerhood. The first step of self dependency begins within two years which helps him to be more independent.



Early Childhood - This stage is from 2 years to 6 years. In this time the child becomes tall and thin. Acquire more skills in walking, running, climbing and catching etc. They can do more works for themselves. e.g. eating, dressing and cleaning etc. by himself. They play by imitating the members of the family. Begins to make relation with peer group (same age). They become more curious and ask many questions.



Middle Childhood- This stage is the age from 6 to 11 years. The child of this age knows many things about their environment and becomes skilled to take various new responsibilities. Skilled in sports and games and participate in lawful sports (e.g. Gollachut, Bouchi, Cricket etc.). He acquires logical thinking, language skill and their conception becomes more clear about good and bad, right and wrong. They keep a role on making friends.



Adolescence period - The age of this stage start from the age of 11 to 18 years. According to WHO the age of 10-19 is called the adolescence period. This is the time to proceed to adulthood. During this time the structure and shape of the body of adolescence becomes like adult and acquire sex characteristics. After full development of sex ability they acquire the ability of reproduction. They can think about abstract things that means which is not seen by eyes, e.g- honesty, affection, love etc. Study in accordance to his profession. Own goals and values are created in him. He begins to feel attraction toward opposite sex. Their attention towards their face increases.



Early adulthood- The age of this stage is from 18 years to 25 years. One of the functions of this stage is preparation for profession and selection of partner. The interest grows for marriage and formation of family, can take proper decision about profession. After passing S.S.C and H.S.C, selection of profession is settled. They become interested in the role of spectator than participate in sports and games. They exchange their views of thinking about government, politics and world situation with their friends.



Late adulthood- This stage starts from the age of 25 years and end at the age of 40 years. The important characteristics of this stage is taking responsibility of the family as parents. During this period he/she has to learn to adjust with his/her partner who comes from different environment. To raise the child is a new task which they have to do. The success of home management comes from the understanding of husband and wife. They become so busy with job, marriage, children etc. that they do not find leisure time to become attentive in any other outside matters.

Middle age- The age of the stage is from 40 to 65 years. This is the mid-time of adulthood to old age. This is the age of success in working place or giving leadership. The main physical changes are- gain weight, gray hair, wrinkles in skin, pain in the joint of hands and legs, problems of eye sight etc.



Old age- It begins from the age of 65. This period is the last stage of human development, old age is the beginning of decay. During this period the physical & mental conditions deteriorate continuously. The strength to do work decreases. Elderly people think themselves unwanted. They can do less creative work. Their interest toward religion increases. If frustration, apathy about life, fear of death can be faced during old age then feelings of satisfaction comes.



Lesson 3- Developmental Task

We know that development is a continuous process. It never stops. There are some specific expectations of the society in each stages of life about development. The expectation of the society about an adult is that he will earn, will take different responsibilities of family and society, when an adult is dependent on parents they cannot do activities according to the expectation of the society properly. In every stages of life when specific task is completed successfully, then life becomes happy and can complete the task of next stages successfully. In other side failure brings miseries and it hinders the success of next stage. According to social expectations the task of different stages of development is called developmental task. The developmental tasks are-

- Some tasks which society expect on the specific stages of life.
- Success of this stage helps to pass successfully to the next stage, it brings happiness in life.
- Failure of these tasks hinders to pass to the next stage, it brings tranquility.

Developmental tasks are -

- Developmental task are those task according to physical maturity -- learning to walk, learning to speak, skills in sports and games etc.



Developmental task



Developmental task

- Task according to society and culture - to study, develop own-self as good citizen, be disciplined to rules and regulations, selection of profession etc.

If we have conception about developmental task the advantages are –

- It becomes easy to behave properly if we know about developmental task.
- Parents or guide will know the normal development of a child according to age and can help to achieve social skills in that way.
- Developmental task gives pre-preparation and inspiration to behave according to social expectations. So it becomes easy to adjust in each stages of development.

Some developmental tasks of babyhood & early child hood-

- Learning to walk -- within 12 months to 15 months the child acquires physical ability to walk.
- Learning to take solid food -- within two years the child becomes able to suck food and chewing solid food.
- Learning to speak -- The child makes meaningless sound within 6 months. At the age of three the child is able to speak sentences of two or three words. Within five years the child speaks full sentences by using many words.
- Learning to control bowel movement -- within two years the place and time for elimination of bowel is specific. Training is necessary to control.
- Acquire physical skills – Within five years the temperature of the body, balance of metabolism and stability in physique comes. So that the possibilities to become sick is less.

- Learn to distinguish between right and wrong - In early childhood when parents give reward for the good work or say good to good work and when instruct them not to that work as it is bad work, this way they get a conception of good and bad.

Some developmental tasks of middle childhood-

- Learn to behave properly with peers – This age is called gang age. By mixing with peers they learn social exchange, compete in good work.
- Learn necessary physical skills for general play and games – acquire physical ability to learn technique by throwing something correctly, catching and kicking ball correctly.
- Learn social rule according to sex – The boy imitates the role of father and the girl imitates the role of mother and learn role according to sex.
- Learn the basic techniques of reading and counting -- Nervous system, muscles of finger, arm are not ready to write before the age of six. After acquiring physical fitness, the skill of reading and writing increases with age.
- Development of understanding about essential subject of daily life -- The child acquires concept about many things after going to school. e.g.- time concept (concept of hour, minute and second), distance (distance from house to school, distance from Dhaka to Chittagong), weight (cotton is light, iron is heavy) etc. From this concept their beginning of thinking starts.

Developmental tasks of adolescence-

- Learn to behave maturely with peer group of both sexes.
- Emotional dependency decreases from parents and others – Dependency of childhood decreases from the period of adolescence. They become self dependent. Many times they feel the affection of parents is excessive. There is a need of independence among them.
- Preparation for vocational choice and profession – During childhood the plan about profession is not clear and not real. In the light of own ability and skill interest grows in adolescence towards profession and becomes practical.
- Interest in taking responsible social behavior -- one of the main developmental tasks of this time is interest in participation of social and

political activities through his own behavior. They become interested to work in group for the good of the society.

- Achieve morality – within this time own concept develops about good-bad, right-wrong and just-unjust. Before that the basis of right and wrong would depend on punishment and reward from parents.

Task- The developmental task of middle childhood and adolescence - list separately.

Lesson 4 & 5- Heredity & Environment on Child Development

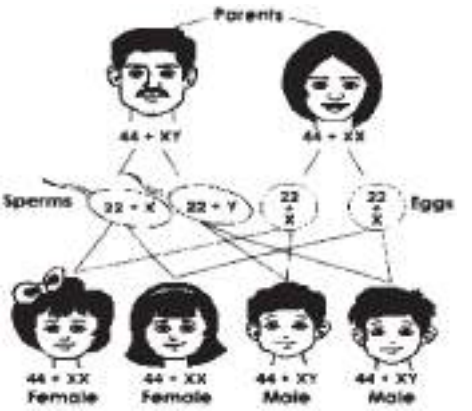
Why do the people around us not look alike? What potentials are there among children from fertilized time that the physical size, shape, facial behavior, qualities are different from others? Or the development of his whole life is controlled by the environment that he lives in. The psychologist, educationist, doctors are doing research for ages, , from research they got perception that how heredity works, what the role of environment is in child development etc. Now we will know about these subjects.

Heredity-

The colour of the skin of the girl is like her grandma. The boy is courageous or the girl sings like her mother. Always we hear statement like this. Heredity is what characteristics the child gets from his parents or ancestor by birth. The child begins his life by heredity. Human children look like human not like other animal because of heredity. Again height, physical shape, hair, nail, color of skin etc. physical quality and different mental quality become different from one another due to heredity. The influence of heredity begins from the beginning of life and continues until death.

Heredity starts from mother's womb. After fertilization of sperm and ovum it becomes one cell or zygote. The three main phase of zygote are cell wall, protoplasm and nucleus. Nucleus is the centre of chromosome. The zygote has 23 pairs or 46 chromosomes. Of each of pair one comes from mother and another from father. From 23 pairs of chromosome 22 pairs of chromosome are same in boys and girls. These are called auto some. The rest one pair in boys and girls is different which determines whether the child will be a boy or girl. This twenty third pair of chromosome is sex chromosome. The 22 pairs of chromosomes (auto-some) transmit different inherited characteristics among children.

The sex determinant chromosome which comes from mother is always XX type chromosome, sex determinant chromosome which comes from father is XY type chromosome. When X chromosome of mother unites with the X chromosome of father the child will be a girl and if X chromosome of mother unites with Y chromosome of father the child will be a boy.



Process of sex determinant

We see two children never look alike. There are differences between siblings. Why does it happen? One pair of gene determines one characteristic. That's why someone is more intelligent, somebody is less and someone is short in length and someone is tall. It is mentioned here that there is no fixed law that which genes of chromosome of mother will be paired with the genes coming from father's chromosome. For this the differences are seen among the children of same parents. Now certainly question arises in your mind that why are the physical feature and behavior of twin same? It is found only in identical twin.

There are two types of twin. Identical twin and fraternal twin. When one zygote breaks into two zygotes then the twin are of same sex, and their characteristics are also same. They are identical twin. In the case of fraternal twin more than one ovum is fertilized by more than one sperm. In many times it is found that when more than one ovum is matured and more than one sperm is fertilized and form zygotes by more than one ovum, this type of twin may be two boys or two girls or one boy or one girl. If zygotes are more than two then the number of child is more than two. In fraternal twin characteristics of each child are not similar. Their characteristics becomes like normal siblings, only difference is that siblings are born one year after or more. Fraternal twin are born in same day.

Environment on the development of child –

In the development of a child both prenatal and postnatal period play important role. Prenatal period is when a child stays 40 weeks in mother's womb. The normal physical and mental growth and development of fetus depends on physical and mental health of mother, e.g. if the pregnant mother is

malnourished, the intelligence and development of brain of the child is hindered. Again if the age of mother is below 18 years there may be hazards in the life of both mother and fetus.

Postnatal environment begins after the birth of a child. There are two types of environment; natural environment and social environment. Nature of soil, weather, climate, light and air, trees and plants, rivers and brooks, hills and mountain, animal and bird are natural environment. Differences can be seen between the boys of hill tracts with the boys of plain land. Survival for life is difficult in hilly areas than plain land. So the boys and girls of that area are hard working and industrious.

In social environment there are families, educational institutions, play-mates, neighborhood, relatives, native culture, economic condition, environment of working places etc. Parents, siblings, love and affection of family members, correct guiding methods help the life of a child for proper development. On the other hand, deprivation of love and affection from parents, negligence, excessive control, impediment etc. hinders the development of a child. Boys and girls are sent in the educational institution for long period of their life. Environment of educational institution, discipline, subject matter of study, methods of learning and the whole environment of education influence on the development of a child. Besides these, with the help of class mates, playmates, neighborhood, relatives etc. and with the help of all members a helpful environment may be created for the development of a child.

Heredity and environment, which one has more influence on the development of a child? This debate is for long time. Some says the development of a child depends absolutely on heredity. Other's opinion - the role of environment is major for the development of a child. Those who give importance of heredity their opinion is – in whatever environment the child is born, only hereditary characteristics influence his development. For example, the children of intelligent parents mostly become intelligent. Research on identical twin shows that though brought up in different environment until 14 years the taste of identical twin, their liking, behavior, character and nature had no differences (Researcher- Gessel and Thompson).

On the other hand environmentalists think for the development of an individual

as whatever the heredity is, if given proper training by keeping them in a suitable environment, the expected development is possible. Two identical twins name Gladis and Hellen at the age of 18 months were sent in different environment. Hellen got opportunity for study but Gladis did not get any scope to study. When they were compared at the age of 35, Helen was superior to Gladis in their structure (shape) of mouth, face, behavior, mental strength and intelligence. Both of their characteristics should have been same as they were identical twin. But this did not happen. It proved that development differs for environment.

Those who support both heredity and environment, according to them-development determines by the interrelated action of these two factors -- heredity and environment. Best quality seeds yield best quality product, but to get tree from seeds there needs fertile soil, adequate water, light and air etc. It is not possible to get best quality product even from best quality seed for want of these elements of environments. Again though fertile soil, adequate water, light and air and good environment exists yet for non availability of best quality seeds good production cannot be expected. That means for the proper development of a child the importance of both heredity and environment is unlimited.

If low intelligent child from birth are nurtured in a best environment there remains some limitation for his mental development. In the same way if a child born with more intelligence and if he does not get conducive environment and scope to get education, his intelligence does not fully bloom. The characteristics which he inherited by birth is fully developed if he get suitable environment. So it can be said that interaction of both heredity and environment determines the development of a child.

Task- Heredity and environment-which one is more important in the development of a child? Justify with examples in favour of your answer.

Sample Question

Multiple Choice Question:

1. Which time is called neonatal period of a child?

   a) Birth to 1 week
   b) Birth to 2 weeks
   c) Birth to 3 weeks
   d) Birth to 4 weeks.

2. Reasoning ability develops during which stage of growth?

   a) Physical
   b) Motoric
   c) Language
   d) Emotional

Read the paragraph below and answer the question no. 3 and 4 :

Tahmid, a fourth-grade student, is full of curiosity. After school, he constantly asks his mother questions to learn more about the world around him. Recently, he has learned to play chess and is thoroughly enjoying it.

3. What stage of development is Tahmid currently in?

   a) Early childhood
   b) Middle childhood
   b) Adolescence
   d) Puberty

4. Children of Tahmid's age -

   i. Can analyze logical thinking
   ii.Are conscious of their physical appearance
   iii.Can differentiate between right and wrong

Which one of the following is correct ?

   a) i and ii
   b) ii and iii
   c) i and iii
   d) i, ii and iii

Creative Question

1. Moon has three children. Her eldest son, Shad, is an eighth-grade student. Besides playing sports, he is attentive to his studies. Lately, he often discusses with his father what profession he would like to pursue in the future, and for some time now, he has also started taking care of his appearance. Moon has six-month-old twin babies—one is a boy and the other is a girl. However, their skin tones and features are different from each other.

a) What is development ?
b) Which type of development involves reasoning and logical discussion? Explain.
c) At which stage of development is Shad? Explain.
d) Analyze the logical reason behind Moon's twins being different from each other.

2. Jawyad and Jarif are two brothers. Somehow they look like their grandfather. Their elder uncle also has two sons. Some days ago a first son was born to the younger uncle of Jawyad. To hear this news their grandmother becomes disheartened. So Jawyad's grandfather forbids the grandmother of Jawyad not to be saddened and also said that 'Man has nothing to do about the birth of a child'.

a. How many chromosomes are there in the nucleas of human cell ?
b. What is meant by child development ?
c. Explain the causes of look alike to see Jawyed and Jarif.
d. Analyse the authenticity of grandfather's comment.

Short Answer Questions

1. What is meant by development?
2. What is toddlerhood?
3. What is meant by heredity?
4. Why is an increase in a child's weight referred to as growth and not development?
5. Explain the final stage of human development.

Chapter Seven

Child Development & Family Environment

Lesson 1- Attachment of Chlidren with Parents

Let us talk about a plant, when the plant germinates from seed it remains weak. The survival of the plant depends on proper care and nursing. Once if the root of plant is steady in soil later without special care the tree will grow. Just like that the care and nursing for first few years in the life of human child makes the foundation for later life.

The first five years after birth begins the basic foundation for the full development of a child. This is a time of rapid physical growth and simultaneously his behavioral changes also occur. During this period the physical care and intimate communication with people around him are necessary. Warm response helps him to achieve new skills. The child who gets conducive environment in early life for his development he becomes more intelligent, more social and acquire good health than others. His social skills, skill of language, creativity, self confidence etc. develop, which help him to become happy in later life.

All families love their children. But many of us have wrong conception about child raising practices and do not know how to give him suitable environment. Many of us do not know that exchange of feelings is very important for first few years of child's life. Mother is the first and most important person for development of attachment or bonding with the child.

Breast feeding and different types of nurturing by mother are the great contribution of mother in the development of child's physique, mind and emotions. Recently in some research findings it was clear that breast feeding one hour after birth and attachment of first few days between both mother and newborn grow a deep bondage which continues to flourish and remains permanent year after year. Some of the steps to make ties with children are-

- Breast feeding within one hour after birth.
- Respond as quickly as possible to the cries of child.
- Sleep closely with the child.
- Give adequate time to the child.

Breast feeding within an hour after birth

- In many cultures gold is considered as valuable. Bronze is valueless in comparison to gold. In place of mother's milk the artificial milk for the child is valueless like bronze against gold. Breast feeding within an hour after birth is the best beginning in the life of a child. Immediately after birth for warmth the healthy newborn is kept on the belly and chest of mother. The child starts sucking mother's milk. As a result love of mother increases to the child.
- Breast feeding is important for sound health and better living for a child. During feeding the touch of mothers skin gives warmth. This condition is especially important for the child whose weight is less than $2\frac{1}{2}$kg.
- Colostrums as a first food for the child works like a first vaccine. Colostrums have various immunological active cell, antibody and other protein rich curative food which prevents from any contagious disease.



Breast feeding is the greatest beginning in the life of a child within one hour after birth.

- First five days colostrums of mother’s milk releases in small quantity. But this amount is enough for safe physical protection of neo-nate. It stimulates the digestive system of the child. As a result miconium (first stool) releases from intestine quickly. This condition helps to release germs of jaundice from the body of the child.
- During breast feeding hormone like oxytocin of the body of mother releases. So mother feels quiet and free from stress and bondage of love becomes strong with child.
- With this first communication with child the mother becomes very glad. This way the process of bondage between mother and child begins. This way only mother’s milk is sufficient for first six months for the child, and after six months to two years mother’s milk can be given along with supplementary food.

To feed breast milk to the child mother needs a conducive environment. To create this environment the role of father is much more. He can help the mother in different ways.

- Make arrangement of necessary foods for the nutrition of mother.
- Make opportunities to keep the mother and child together.
- Help mother in essential work at home.
- Help mother to take care of the elder child of the family.
- Be sympathetic to the lactating mother.



Co-operation of father with mother creates conducive environment for the child.

The father keeps role in making bondage indirectly with child through his works.

Respond as soon as possible while the child cries –

Usually children express their needs and discomfort through crying before development of language. In babyhood the child usually cries for two reasons. These are due to hunger and for any type of discomfort. Giving foods when the child is hungry and making arrangement to remove physical discomfort, e.g.- not to keep the child in wet bed, clean bowel secretion properly, take correct measures for stomach pain etc. give comfort to the child. If the child can sleep with comfort, parents respond quickly while crying, take him on lap, then the child's trust and sense of security grow toward parents. On the other hand when the discomfort of a child is not removed timely or the child does not feel comfort then feelings of mistrust and insecurity grow. Lack of affection, care and love creates mistrust towards parents and at the same time the child develops mistrust, insecurity and frustration regarding environment.

Sleep with child together –

Different type of needs of a child are to be fulfilled at night like day time. To sleep at night with parents is one of the needs. In the first few years of life it is necessary to sleep with the child. So that mother understand the needs of the child at night and it becomes easy for breast feeding. Besides that presence of parents near the child at night creates a safe environment for the child. Every child wants to be near the parents before going to bed. This is very common feature before schooling. Many times elder child wants to tell his parents about their activities of the whole day before sleeping.





One of the ways to make bondage between parents and child-give adequate time and company to the child

Give adequate time to the child –

Children usually depend on mother for food and different types of physiological needs. If father also helps for these needs the dependency on mother decreases and attachment grows with father. If you have to give adequate time to the child you have to-

- Play with child, sing song, recite rhymes, storytelling – which develops social skill and intelligence of a child.
- Getting out with the child – From outing child achieves experience about outside.
- Take child in family works (e.g. watering in the garden, clean house etc.)- So the child can trust himself about his skill.

Other than these keeping the child together for more time with parents for first few years of life, physical contact, love and affection etc. strengthen the bondage with parents. If parents give more time and love to the child their bondage will be strong and this bondage helps to keep the good relationship with parents in later life.

Task- "Breast feeding to the child- is the great beginning for bondage with mother". Make a report on this subject.

Lesson 2 & 3 : Importance of Family Relation on Child Develepment

One of the function of the family is to help the child to become worthy to the society. After birth a relation develops between the families and the child. Within 7 /8 months the child can make relation with parents or with those who take care of him. If it is observed any child of this age, it is found that they specially try to get affection from parents.

When mother enter into child's room then the child becomes happy. If mother takes him in lap he keeps hand on her mother, play with hair. The child takes shelter in mother's bosom when he becomes afraid. Relation with mother begins immediately after birth. Soft touch of mother, affection, laugh everything develop deep relation with the child.

Researchers found that intimate relation with father keeps positive role in the development of a child. Participation of father in nurturing a child is not less important compared to the mother. On the other hand sometimes it keeps stronger contribution in intellectual, social and emotional development of a child than mother. In those families where father gives adequate time to the child, participate affectionately to nurture the child, then behavioral problem of the children of those families becomes less. Even participation of father helps to prevent drug addiction or criminal activities of adolescence period.

Not only intimate relation of parents with children but there should be a good relation between themselves as a husband and wife. Because child of happy parents also becomes happy. From attachment with parents the child feels more secure and gets pleasure. When there is absence of good relation between mother and father then they cannot give attention to nurture the child. So the development of a child is harmed. If a child gets adequate food but not nurtured properly, the development of brain is less than those children who got adequate love, attention and stimulation.

Flexible inter relation between siblings obstructs the self concept of a child. How siblings evaluate the child that means when they say he is good or bad, that concept is established toward him. By following the elder siblings the child learns good or bad behavior. With closeness of siblings the child feels security. Again for future life the child acquires experiences by mixing with group. Good relation between siblings like parents is necessary for the proper development of a child. If good relationship exists with siblings in a family closeness between them comes and their time becomes cheerful.

As a sibling the behavior which makes good relation and helps in the development of a child.	Which behaviors are harmful to develop the family relation and obstruct the development of children.
- Co-operate to take care of younger siblings. - Share something. - Help each other. - Give them company, play with them. - Live together with all. - Create affectionate relation with them.	- No time to give companionship to younger siblings. - Priority in self interest. - Jealousy. - Avoid the company of siblings. - Quarrel, hitting others. - Neglect them, feeling superior of himself.

In joint family system of our country there live many members in a family and they help parents to nurture a child. Specially in case of working mother the role of other members are more to take care of the child. It is noticeable the attitude of relatives toward the child. When somebody thinks that their task is to look after the child, not to hear the vocabulary of the child, there is no need to play with them, in that case the intimate relationship never grows with that member.



If good relationship exist with siblings their time becomes cheerful by companionship of both of them

In the family paternal grand pa and ma, maternal grand pa and ma tell story to the child, tell many events of their life, they hear the discomfort of the child and try to solve this and give affection and love to the child. In this way exchange of feelings with all the family members is very important in the first few years of the child. Exchange of feelings with the people surrounded him and on the basis of interpersonal relationship the brain of the child develops.

If the foundation of good relationship is created with the members of the family, in future the child will learn to think about parents, siblings and other members of the family as friends.

Task 1- Write some ways to develop relationship with siblings in a family.

Family disaster (Crisis) –

Every child needs such a family where he gets care, affection, love, security, trust, well protection and fulfills his basic needs. Family is such an organization where husband and wife live together. Nurturing the child and educating him are the responsibilities of the family.

The child is born in a family and learn to earn when he becomes adult. In this lengthy period the family faces various crisis. These family crisis are illness of mother or father, emptiness due to death, separation of parents or divorce. Besides these continuous quarrels of parents, differences of opinion, want of understanding to each other, absence of father in the family or dismissed from service, loss in business, physical torture on mother etc. whatever the family crisis is it gives painful experiences to the members of the family. So the normal development of a child is hampered.

Death of father/mother-

The death of father or mother in the family creates great crisis for the child. Usually father earns for the family. This is why the financial crisis becomes severe at the death of the father. If there lives children of different age it becomes difficult for maintenance and bearing the expenses of education. Child becomes helpless at the death of mother. They are neglected in taking care and in nurturing. At the death of father or mother, the children are deprived of affection.

Severe illness of father/mother-

If suddenly severe illness of father or mother is diagnosed the family falls in a disaster. Illness of mother or father for long period creates crisis in a family. For sudden severe illness or sickness for longer period financial crisis arises there. The children are deprived of good company of parents. For illness of parents they become afraid and despaired of losing parents. Without parents severe illness of any member of the family also create crisis in the family.

Broken family-

Differences of opinion between husband and wife, want of mutual understanding, second marriage etc. are the causes of broken family. In many cases the possibilities of break down is much more when the children are under age. Divorce or separation of parents brings frustration, conflict, want of attention in education etc.

There arise mental problems among the children. If the younger child has to stay with father he is deprived of the affection of mother. So his development is severely affected. In case of elder children they suffer from inferiority complexes. By the bad comments of school going children, become mentally shocked. Some times they do not like to go out, stop socialization to avoid the created situation and they become introvert. In many times their sorrows of mind may become physical pain, as-headache, apathy towards food, sleeplessness etc.

Problems of family disaster can be reduced if all the family members unitedly face the crisis. In most of the cases during family disaster the basic problem arises is financial crisis. To remove the financial problems of the family and to fulfill the developmental needs of a younger child of family the adolescent can play important role. What they can do is-

- Try to increase money income,
- Reduce expenditure of unnecessary account,
- Reduce expenditure by participating in different works of family,
- Do the works of servant by yourself,
- Take responsibilities for different care and nurture of younger siblings,
- Give adequate love and affection that they do not feel deprived,
- Spend more time with younger siblings,
- Share difficulties, hardship, sorrows between each other,
- Face the situation with patience,
- Work double to solve problems,
- Try to be free from mental pressure,
- Search the positive situation,
- Give more attention to prepare himself for future profession.

Task - Write what type of problem arised in the crisis of a family that you know. Mention what you can do to help the family.

Lesson 4- Principles of guiding children:

Many child psychologists, at the moment of the birth of a child, compared him with white papers. When a picture is drawn on a white paper it becomes like what you have drawn. Just like that the life of a newborn child has no experience. He learns to behave what experiences he achieves from the environment around him. By proper guidance a child can be developed properly; like that for want of proper guidance, there may develop various types of behavioral problems in a child which hinder his present development and future development. Children are like mud. A child can be brought up according to our own desire and the ability can be developed by proper guidance. For that it is necessary to know the principles of guiding children.

Some mentionable principles for guiding children –

Present ideal behaviour in front of a child – The child imitates, those who live near him. Children tend to imitate more what the elders of the family do than to do what they are asked and what they are forbidden. For this reason it is necessary to present good behaviour in front of children. Elder person should habituate that behaviour which he wants to teach to the child. As for example, respect the elders, help each other etc. Elderly people should also refrain from those behaviour which they prohibit the child to do e. g. not to tell a lie and not to quarrel etc.

Praise the child– Praise increases the power of understanding among children, gives experience of success, it teaches them how to praise others. If the child's work is praised his self confidence increases, acquires good concept about himself. He can understand that he keeps power of doing many things. By searching the good virtues of child we should praise him for that. This praise should be related with his works. In every child some good virtues or good behavior are seen. If these virtues or behaviours are praised the child will do good works again and again. He will understand that what he can do and what virtues he has.

Not to punish the child – If a child gets punishment for his work it keeps harmful effect on the child. There are two types of punishment- physical punishment and mental punishment. Physically hitting, beating, not giving food etc. are physical punishment. Mental punishments are – bad comments regarding children, scolding, accusing, not giving attention, put into shame, locked in a room etc. Whatever punishment is given to the child it ceases the

self confidence, the child grows up as fearful and shameful. Many times it is not understood that the behaviour shown to the child it is mental punishment for him or not. Mental punishment keeps a bad effect in later life on the child. If it is necessary to correct any behaviour of the child he should be warned about that behaviour. Why this behaviour is bad, the bad result of that behaviour should be explained to the child.

Say 'yes' for the child- Many people think that "say yes to the child" means to permit him to do whatever he likes or give him whatever he wants or to give him everything. But this is completely a wrong concept. To say yes to the child means guiding him in a positive manner. Any command to the child should be always in a positive manner, not to command in a negative way. For example, do not do it, do not touch that, you can do nothing etc. These commands should be expressed as 'yes' way. The following some examples of speaking positively-

1. Instead of telling 'do not keep the wooden pieces on the table', you have to tell 'put them on the floor';
2. Instead of saying 'it is not a play time' you have to say 'now eat your food and will play later';
3. Instead of saying 'do not spend so much time to wash face' you have to say 'wash your face quickly';
4. Instead of saying 'nothing can be accomplished by you' you have to say 'you can do if you try'.

Positive direction brings less protest than negative direction. It works better. Positive comment makes the child confident. He tries to become successful. It inspires him to work.

Exchange feelings with children - To talk with children the voice should be low, soft and language should be easy. Loud and harsh voice makes the child scared and he avoids him. While talking with child to understand the child's feelings one has to speak by keeping eye to eye like a friend. So it becomes easy to understand the child. One has to become a good listener while talking to children e.g. listen attentively what he says, no interruption while he speaks, ask him question to understand well etc.

Make an ideal environment for the child - Suitable environment is one of the elements for guiding children. The child disturbes less and

spends his times happily when he finds suitable environment. Playing is one of the jobs of a child before going to school. There should have a safe playing space and playing elements. For this there is no need of expensive or costly elements. The elements for play can be arranged with less cost or no cost e.g. leaves, plastic elements, cartoon etc. Besides these sing song for child, recite rhymes, story telling, play with them, inspire them to see, to hear, to catch, to taste something new. It is necessary to supply proper elements and create opportunity according to their age.

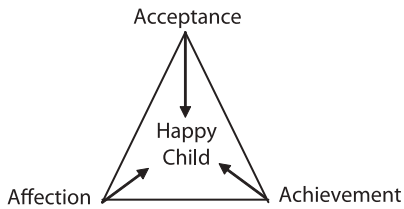
Fulfill the psychological needs of children -

Another important subject in guiding children is to fulfill the psychological needs of children and make them happy. Every child has psychological needs which in English it is called "three A's" for happiness.

A-Acceptance

A- Affection

A- Achievement



Acceptance-The characteristics and virtues of all children are not same. If anybody looks beautiful, then everybody accepts him with pleasure. Here acceptance means accept the child as it is whether the child looks good or bad, disabled or normal, more or less intelligent, boy or girl etc.

Affection- Every child needs affection, attachment and love. If taking care, nurture properly, giving him time, teach something etc. is done with love then the feelings of trust and security comes in him. Then he is not afraid of his environment.

Achievement- Every child wants success. If he can do any work he becomes happy. For that if good work and areas of good work are praised he can detect the powerful characteristics of himself or can understand what he can do. This encouragement gives him experience of success and the child becomes satisfied and happy.

Task 1- List the result of praise and punishment in the development of a child.
Task 2- Change some of the negative sentences into positive sentences. Read out in the class.

Sample Question

Multiple Choice Question

1. What is oxytosin?

   a) Cell
   b) Hormone
   c) Antibody
   d) Miconium of a newborn.

2. Due to long illness of father, the children-

   i. Cannot develop normally
   ii. Become afraid and frustrated
   iii. Are deprived of affection.

Which of the following is correct ?

   a) i and ii
   b) ii and iii
   c) i and iii
   d) i, ii and iii

Answer the question no. 3 and 4 by reading the stimulant of the following:

China and Mahima are two sisters. China is occupied with various household chores and cannot properly care for her seven-month-old child. In contrast, her sister Mahima manages all the household tasks efficiently and takes proper care of her two-year-old child, including feeding and bathing him on time.

3. What kind of feelings might develop in China's child?

   a) Disrespect
   b) Will be confident
   c) Will feel safe
   d) Will become dependent

4. As a result of Mohima's role in the case study, her child

   i. Become self-confident
   ii. Feel secure
   iii. Become dependent on others

Which one is correct of the following ?

   a) i and ii
   b) i and iii
   c) ii and iii
   d) i, ii and iii

Creative Question

1. Eight year old Sezan always sits to read with self interest. After finishing study he puts books in a bag himself. Father thanks him after watching this. One day in school his mother sees that he quarrels with a friend. After returning home she wants to know the causes of quarrel and direct him not to do so. She never talks loudly with others in front of Sezan and does not behave un-respectfully with others.

   a. In which age the life of a child does not have any experience?
   b. Write the meaning of say 'yes' to the child.
   c. What type of influences will be on Sezan for the behavior of father?
   d. Do you think that the parents of Sezan are guiding him properly? Justify your answer.

2. Azad Rahman and Chaya Hossain often retort for trivial subject. Once in this moment their 4 year child Enan expressed his desire to play with mother. Not getting any response from mother he insists his father to go outside for walking. Father snubs him and says to sit quietly. By watching this, his grandmother called him near her to tell a story. This type of event occurs very often in the family of Enan. For this type of reason a quite good relation develops with grandmother of Enan.

   a. Which one is important for good health and living of a child?
   b. Write down in detail the benefits of colostrums.
   c. Explain- what is the role of grandmother in that family for the development of Enan.
   d. Family environment of Enan is an obstacle for proper development.- Analyze it.

Short Answer Questions

1. What kind of impact does parental illness have on a child?
2. Why is it important to give a child adequate time?
3. How can one provide quality time to a child?
4. What are the ways to keep a child mentally happy?

Chapter Eight
Psycho-social Problems of Adolescence- Remedies and Prevention

Lesson 1 & 2- Psycho-social Problems During the Period of Adolescence

Ridita is a girl of 18 years old. Ridita is the only child of parents and she is meritorious and gifted child. Everybody from parents to relatives is expecting great success of her. Parents fulfill all needs of their only child which makes all types of opportunities to become best. Now Ridita is more tensed.Will she be able to fulfill the dream of her parents? Will she be able to bring success in the next admission test? She does not like anything, she becomes angry and feels tired of simple matter. Recently she cannot sleep at night, she feels restless for acute headache.

The above incident tells about the physical and mental problems of an adolescent girl. The scenario of psycho social problem arises through these problems. Do you know the meaning of psychosocial problem? Let us start to know in detail about the problem.

Majority adolescent boys and girls pass their age without any big problem. But some of them not only harm their life but their problems become the causes of all of problems of their family members, neighborhood and classmates. All these problems indirectly influence all in the society. These problems are psychosocial problems. Among the psychosocial problems of adolescence are different types of criminality, drug addiction, depression, flee away from school etc. The student who leaves from school before final examination, he not only spoils the life of himself, he also becomes the burden for the society.

Two types of psychosocial problems are seen during the period of adolescence. One is introvert and another is extrovert. The introvert boys and girls suffer from various types of mental and emotional complexes, e.g. frustration, anxiety etc. These types of problems are less expressed from outside. In real sense perhaps on seeing them you may think as if he is in a normal condition. But he suffers badly inside. This types of emotional problems later turn into different physical problems, e.g. from frustration and depression there may arise apathy in taking food and sleeping problems.

In case of extrovert the problems of problematic boys and girls are expressed from their behaviors. The psychosocial problems of extrovert are drug addiction, prone to different types of crime. Usually want of family bondage or excessive indulgence of family brings problems of extrovert. On the other hand, over protection of parents is identified as main cause of problem of introvert. Repressions for everything, the child always under surveillance are the characteristics of over protective parents. Problems of both extrovert and introvert are interrelated to each other e.g. many criminal suffers from depression, again frustrated adolescent becomes addicted.

Juvenile delinquency -

An important phase of human development is the period of adolescence. This time the physical and mental changes become rapid. Boys and girls of adolescence period have to adjust with their changes. Adolescence period is the time of reaching towards adulthood. Usually adolescent period is from the age of 11 to 18 years.

If any adolescent engaged in unlawful work is called juvenile delinquent. According to the child law of 2013 in the case of juvenile delinquency, if anyone up to 18 does antisocial activities they have to be presented before court for correction. Juvenile delinquent is who does not obey existing social system and behave against lawful behavior from immature age. If those activities which are punishable crime for adult, are done by anyone up to 18 years is juvenile delinquency. If juvenile delinquency is proved there is no system of punishment. They are kept in the correctional center to correct behaviour.

The crime of aged are planned but the crime of adolescent is unplanned and more than count. Those types of delinquency which are found in our country are flee from school, bad behavior to girls, theft, hijacking, murder, dacoits, attacking others, taking drug etc.

Psychologists identify juvenile delinquent in some different ways. Any type of unacceptable work if not punishable in the eyes of law is also juvenile delinquency. e.g. unlawfully possessed asset of anybody, make loss of anybodys properties, create dangerous situation for the life of others etc. Flee away by throwing stone to any car, set fire without any cause, spoil anything in the purpose of only amusement, any kind of unlawful behavior are considered as juvenile delinquency.

Many children are engaged in criminal activities before adolescence period. They usually commit criminal activities continuously from the age of 7/8 years. e.g. attacking each other, spoil things of others, theft etc. The causes of these types of crimes are mental problems or disaster of a family. It was proved from the research of juvenile delinquency that those who are habituated in criminal activities from early age continue the criminal activities in adulthood as well. More suggestions of researcher about them are-

- The numbers of boys are more than girls among these criminals.
- Among them more families are poor or broken family that means divorce of parents or living separated.
- The rearing practices of parents of delinquent are not proper because want of discipline, avoidance of parents towards them exists in these families.
- Heredity is also considered as responsible for these types of crimes, that means the father and other members of the family are also criminal.
- Many times the criminal cannot be free from criminal world, for that crime becomes permanent.

Those who are engaged in criminal activities before adolescence period among them some symptoms are seen from their early age. They are inattentive in school than their peers, their IQ is less and there is no friendship with peers. These types of symptoms increase the potentialities of a younger child to become juvenile delinquent.

There is another type of criminal who comes to the criminal world at the age of adolescence. They become criminal for the pressure of peer group. These criminality is not so severe. They do criminal work with the group of same age.

The results of research about them are —

- Parents of this type of adolescents are not so aware to guide their child.
- They do crime to stay with group.
- The rate of crime is more in the middle period of adolescence.
- It goes away after late adolescence.

Remedies and Prevention (Curative and Preventive Services) -

For any kind of problem prevention is better than cure. To solve when some problems arises is called remedies or cure. A preventive measure is taking measures before the creation of the problem.

In our country there are correctional institutions to cure juvenile delinquency. In these institutions according to the rate of criminal job, time span is determined. That criminal is kept in the correctional institution for the specific time. There is arrangement for vocational training along with general education in the correctional institutions, e.g. work of sewing, wooden work, automobile work etc. The objectives of these training are - after finishing their correctional times when they return home they can be self dependent, can earn for living. During staying in the institution they have to obey some rules and regulations. The executive of the institution evaluates after observation of the criminal boys and girls and makes arrangement for them to leave the institution.

To prevent juvenile delinquency, what to do -

- Children of every family should have a strong bondage with parents.
- Among each member of the family there must be created interrelated good relationship among the members of the family. There will be no distance of relationship between them.
- Break up of the fanily should be presented. Understanding between mother and father should be developed.



Preventive measures

- Must arrange training about child raising methods.
- Try to solve if any anomalies created in the school. By the joint efforts of family and school authority any problem of student will be easy to solve.

To free from juvenile delinquency the adolescent has to do something. At first the boys and girls of adolescent period have to refrain from giving encouragement to their friends group in criminal activities. Secondly, they have to select group of good friends for mixing. Those who break the rules and regulations should be known as bad friends.

Parents have to keep special eye for the child so that the child cannot be attached to any criminal activities. Always they should present the bad effects of criminal world in front of the children so that they can understand its severity and abstain from these types of activities. If the relation between parents and children are like friends, then the problems of adolescence decrease.

Task 1- What are the causes of juvenile delinquency existing in our country?
Task 2- List what to do for prevention and remedies of this crime.

Lesson 3 – Frustration and Depression

Shapna wakes up from sleep at late mid night. But still lies on the bed. She becomes disturbed when anybody calls her and shows tantrum. Shapna, a student of class nine does not go to school for few days. Whole day she stays at her room, does not keep contact with friends. She does not get any joy from any work. There is no eagerness to watch television serial. The characteristics of Shapna were not like these. The cheerful Shapna has changed.





Depression of adolescence period

Different events in our daily life bring mental disturbances. It is natural to dislike any work. But when this condition of mind continues for some weeks and it influences the body then it also becomes the cause of anxiety. Depression is one kind of mental condition where there are unhappiness of mind and feelings of monotony. As a result the interest of common daily activities is lost, and he/she suffers from frustration, apathy for taking food, disturbances in sleeping etc. For the event mentioned upward the symptoms of depression is clearly seen in Shapna. If the depression is severe the following symptoms can be found -

- Most of the time of the day becoming mentally disturbed or feelings of irritation.
- Interest decreases in any delightful work.
- Loss of body weight or loss of body strength.
- Disturbances in sleeping and duration of sleeping is not maintained. Awaking again and again, sleeplessness or waking up at mid night etc.
- Want of attention, if tension is more, inability to remember anything.
- Think about harm of own, plan for suicide.

Depression is seen more among girls than boys. It was seen in research that depression of adolescence period has relation with the mental condition of early life. The family where the relation between parents and child has no strong bondage in early age, deprivation of love and affection in child rearing practices and negative mental feelings develop due to the death of mother or father in the family, the boys, and the girls of these types of families are affected and there are probabilities of frustration and depression among them.

The causes of frustration and depression

- Excessive strictness in child rearing practices may bring depression. The independent entity of an individual never developes in them. They themselves cannot take decision, lose confidence. Boys and girls of these types of families become frustrated, think themselves criminals.
- Marital maladjustment of parents in the family and divorce creates depression among children. Financial crisis of family brings depression among boys and girls during adolescence period.
- Deteriorate the relation with peer group, misunderstanding with intimate friend, rejected by friend and broken friendships create depression.
- Unsuccessful in study, unsuccessful in love affairs, excessive mental stress brings depression.

Remedies and prevention (curative and preventive measures)

In depression boys and girls feel themselves very lonely and helpless. They cry in small reason, lose their skills of works and if severe then think about suicide. This type of depression can create very dangerous end.

To prevent depression and in remedies which is to be done are-

- Learn to evaluate any situation positively.
- Learn to search the good areas of any events.
- Be patient to accept the complex situation. Express your own thinking and feelings to parents or any one dependable.
- Keep busy yourself in hobbies, amusement, creative works and sports and games.
- Give company in the depression of others, be sympathetic to him. Create situation where he can express his personal feelings to others.

Task 1- Mention the causes of depression, along with suggest curative measures.

Lesson 4- Mental Stress (Pressure)

In daily life due to various reasons our mind is filled with sadness. Sometimes rude talk of others or ill behaviour makes us feeling hurt in mind. If own desire or needs are not fulfilled it creates sadness in mind. Again any bad news and events are the causes of our sadness in mind. These sadness of mind creates mental stress. Mental stress is one of the painful and uneasy emotional conditions which create conflict and frustration in our mind. So we become restless and excited and the internal balance of the body is destabilized, we feel mental stress. Sometimes this stress becomes severe and sometimes mild. Mental stress can be positive or negative.

Positive stress - In everyday life we have to face many types of mental stress. If it is under control or can be controlled then this stress in many times develop our work ability and brings success. e.g. - during examination mental stress increases the attention of study. Again interview for job or new job, responsibility to arrange different activities or functions create positive mental pressure.

Negative stress - Some stress in human mind may create negative stress. So, negative reaction arises in mind. This is negative stress. We cannot control this stress easily. In our healthy normal life it creates obstacles or lack of rhythm.

Negative stress creates various physical reactions among us, as-

- Palpitation, shivering hands and legs, dryness of tongue, restlessness, feeling excitement, disturbances in behaviour etc. create various reactions.
- Long-term and severe mental pressure influences badly in the body. e.g. - it creates heart disease, high blood pressure, memory loss, lack of appetite and sleeplessness etc.

Mental pressure or stress is often visible in our life. It is understood easily from the following two events:-

Teacher observed that Mina is seated in the class room with sadness. When teacher wanted to know the cause, Mina, started crying. She informs that her

younger brother is ill. Doctor visited him but his fever is not cured. She is very much concerned about her brother. So she cannot give attention in her study.

Rafique is the student of class nine. His father is dead. There is hardship in the family. So he works in a bookshop along with his studies. He has desire for studies. Due to his financial hardship he always thinks how he can carry on his studies.

The ability to bear the mental pressure is not same for all. Again the reaction to pressure is not same for all. During pressure many of them remain steady and quiet, many of them become restless and excited. Personality of a person, age, mental form, feelings of respect etc. are intimately related with mental pressure.

Causes of mental stress - Mental stress may be created for various reasons.

- Any unexpected event or bad news.
- Family disturbances, poverty, deprivation, sorrows and pains, want of security etc.
- Social torture, social discrimination, deterioration of morality.
- Non fulfillment of own desire.
- Continuous pressure of work.
- Lack of adequate preparation at the time of examination.
- Always in great fear or anxiety.



Meena is in frustration

Ways to protect oneself from mental stress -

- Mental stress must be protected in any painful situation or in accident.
- Must keep patience. Patience is a great virtue of human.
- If any family matter is the cause of mental stress, it must be faced by consultation with all family members.

- If mind is saddened by the discriminating behaviour of any person, must try to convince by speaking with him about your condition of mind.
- Study quite well timely so that you will not become frustrated after failing in the examination.
- Finish all the works timely by time planning or work planning. So that it will not create mental stress and success will come in life.
- If any pain, fear or anxiety arises in mind you have to talk with faithful dependable friends, relatives and teacher to free from that.
- Must be careful in selecting friends. Friendship must be with good and honest man.
- If anybody makes disturbance or speak illogically you have to face him strongly.

Task- If any matter or event creates mental stress, what you will do.

Sample Question

Multiple Choice Question

1. Which one is the psychosocial problem of adolescent?
   a) Apathy to food
   b) Depression
   c) Disturbance in sleeping
   d) Fatigue

Answer to the question no. 2 and 3 by reading the following paragraph.

Rakib and Sayan are two friends and students of Class 9. Rakib is often inattentive in class and gives more importance to his friends' opinions than to his parents. On the other hand, Sayan lost his father two years ago. Whenever he worries about whether he can continue his studies, he experiences restlessness and heart palpitations.

2. Which of the following is manifested in Sayan?
   a) Depression b) Sadness
   c)Mental stress d) Juvenile delinquency

3. Which of the following can help Rakib overcome his current situation?
   i. Choosing good friends
   ii. Encouragement to do good deeds
   iii. Building strong relationships with family members

Creative Questions

Emon and Leon are cousins. Emon dislikes studying, often leaves school before the break, and eats other students' tiffin. Leon, on the other hand, is attentive in class. His mother wants him to be first in the exams. Before the results, Leon feels anxious, fearing his mother will be disappointed if he cannot fulfill her expectations.

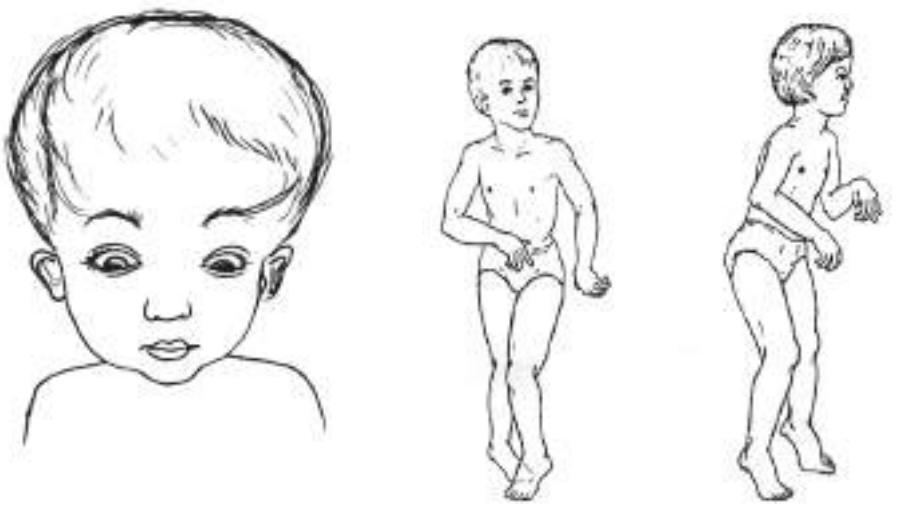
a. What is meant by negative pressure?
b. Explain why adolescents often show a lack of attachment to food.
c. What type of offence is evident in Emon's behavior? Explain.
d. Do you agree that environmental influences are responsible for Leon's condition? Give your opinion.

Short Answer Questions

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1. What is the impact of positive pressure on individuals?
2. Why is prevention considered better than solving problems?
3. Juvenile crime often stems from a sense of failure-explain.

Chapter Nine
Retarded Child



Lesson 1- Retarded Child

It is expected for all of us to have a healthy child. Such a child is found in families whose physical structure is not normal, has no hand and feet, does not hear, so cannot talk. Many of them do not see anything by their eyes or see less. Due to low intelligence, cannot behave socially and cannot exchange feelings rightly. They are retarded children. They are one of our society, so it is necessary to know about them. If there is any concept about retarded child it would create for all to show the positive attitude towards them and the retarded will not think himself separated from others or will not feel helpless.

Causes of retardation: There are different causes to become a retarded child. e.g. – (1) Hazards of prenatal period (2) Hazards of delivery time (3) Various influences of postnatal period.

1. Hazards of prenatal period-

In prenatal period the physical and mental condition of mother and environment of womb influence the developmental pattern of a child. During this period the normal development can be hampered for various reasons and a retarded child can be born. The causes are-

Diseases of mother- If mother suffers from german measles, chicken pox, mumps, tuberculosis, malaria, rubella virus, aids etc, within first three months of pregnancy their influence on the embryo becomes harmful. As a result the child may become physically deformed and mentally retarded. Besides these the physical condition like diabetes, high blood pressure, problems of kidney, problems of thyroid gland of mother may affect the prenatal child and may become retarded.

Malnutrition of mother - If pregnant mother suffers long time from anemia and does not get adequate nutritious food then the embryonic structure may become deformed, the development of brain is hampered and the child becomes retarded.

Medicine of mother- If mother takes medicine without consultation with doctors it becomes harmful for the embryo. There are many medicines which block to create limbs of embryo and the child may bear with having defective limbs or any type of retardation.

Age of mother- Whether the age of mother is less or more at the moment of pregnancy both are hazardous for the embryo. The development of sex organ is not completed in immature age so there is possibility to give birth to a defective baby of immature mother. Again normal functions of glands decrease in aged mother. Woman who give birth to her first child after the age of 35 the probability is much more to have a retarded child.

Repeated convulsion - If mother is attacked by repeated convulsive disease, the child of mother's womb does not get adequate oxygen and it harms the brain of the fetus. So the child may be retarded.

Marriage with relatives - Marriage with cousins with whom has blood relation there may be possibilities to become a retarded child

Affect of radiation - If x-ray or any way radiation enteres into the body of mother during first three months of pregnancy the nervous system of embryo is affected, so the child becomes mentally retarded.

Rh factor in blood of parents - If the blood group of mother is Rh positive and blood group of father is Rh negative then the blood group of fetus may be Rh positive or negative. If there are no similarities between the Rh elements of mother with embryo then it is called Rh imbalance or Rh incompatibility. Due to this a dead baby may be born. If the fetus is alive, it will born with paralysis or born with defect of brain.

2. **Length of gestation period (hazards of delivery time)-**
   - If the length of gestation time is long, if the umbilical cord is twisted in the neck of the fetus, if unable to take breath immediately after birth and inadequate oxygen etc. can affect the brain cell and the child becomes intellectually disabled.
   - Any type of head injury during delivery time e.g. any type of fall down, pressure on the head may be the cause of retardation.
3. **Various influences of postnatal period --**
   - If the newborn is attacked by jaundice or if the amount of bilirubin abnormally increases in blood, the brain cell may be affected and the child becomes mentally retarded.
   - If the child suddenly falls down, gets injury of head or the victim of physical or mental torture, so there may be probabilities to become physical and mental retardation.
   - Poisonous elements of environment e.g.- chemicals to kill insects, fluoride, water mixed with arsenic etc. if enteres into the body of a child, there may develop poisonous action, the child may become retarded.
   - For normal growth and development of child different types of nutritious foods are necessary for the child. Intake of inadequate nutritious elements, the normal growth and development is hampered and the child may become mentally and physically retarded.

Task- Write how you will create awareness among people of your locality to prevent retardation of postnatal period of children.

Lesson 2- Identification of retardation

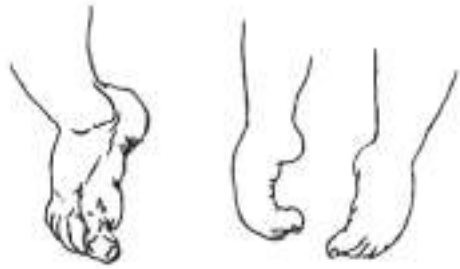
If retardation can be identified immediately after birth of a child then it can be possible to reduce retardation by taking proper precaution measures or it is possible to save the child from severe retardation. In babyhood if any symptoms mentioned in the following are seen then you have to understand that there are possibilities of retardation in the child. To become certain about the matter you must take suggestions from doctor.

Identification of Physical retardation - Many of the physical retardation can be understood by seeing the child after birth. Some physical retardation are expressed with the development of a child.

Cleft lip - In this case the upper lip is not formed properly; there remains a gap in the lip. So it creates problems of taking food and speaking.



Cleft lip



telepage

Cleft palate - The bone of palate of upper side of the mouth and muscle do not form properly. It creates problems in taking food, speaking and hearing.

Telepage - One or both the legs are bended inside or behind.

Spina bifita - The bone of spinal cord is not attached properly. As a result spinal fluid comes out and swells in back side and it looks like a tumor or bag. It creates problem to walk.

Cerebral pulsy- Many times during birth the newborn child seems slack or tardy. With age the child cannot move his hands and legs like other children. To rise the head, to sit etc. become slow. It becomes uncomfortable to suck or swallow milk.

Absence of different limbs of the body or deformed structure- The child is born without limbs or incomplete limbs of the body, that means no hands or legs, no finger or incomplete growth of finger. The physical shape of the body may deform.

Identification of intellectual disability (mentally retarded) - Intellectually disabled is one type of inability and the nature of this inability is permanent. There is no treatment for this type of retardation. But behavior of children can be improved by proper nurturing and learning. So we should arrange proper care and learning by identifying it quickly and show sympathetic behavior towards the child. But all the intellectually disabled are not same.

Intellectually retarded child can be identied by seeing some of the characteristics of the following-

- The development of walking, movement, sitting, speaking etc are less compared to his age.

- The Child cannot give attention in any matter.
- Can not understand any directives easily. Same directions have to be given repeatedly.
- The child cannot take any learning easily. Even learning of toilet training cannot take easily.
- Cannot do any kind of sharp work. Shows unwanted behavior.
- Cannot mix with peers. Cannot show social behavior properly.
- Faints frequently and shows convulsion.

Intellectual disability can be identified easily by seeing some diseases related intimately with retardation.

Microcephaly - The size of the head is abnormally small. They are severely retarded.

Hydrocephaly- Liquid gathered inside the head so the size of the head becomes abnormally big. They are also severely retarded.

Down's syndrome- Round face, sharp eyes and eyelids become thick, the child is weak and slack or loose at the moment of birth. Head, feet and shoulder become short. To turn turtle, to sit and to walk are delayed and they are intellectually retarded.

Cretinism- The physical and mental development is delayed. The production of thyroid hormone is less in the body of child. For this reason which symptoms are seen- The child develops slowly, forehead is small, faces and hands are swollen and intellectual retardation remains.

Task- Write about the necessity of quick identification of retardation.

Lesson 3- Identification of Visual Retardation and Hearing Retardation and Prevention of Retardation.

If the following condition of eye and ear are seen you have to go to doctor. Identify the types of retardation and you have to take consultation.

Identification of visual retardation-

- Red and swelling of eyelids. Dry plaster in the corner of the eyes.

- Liquid secrets from eye or eyes.
- Frequently rubbing and shrunk eyes.
- Make error to know the alphabet and see alphabet reverse.
- Irregular gap seen during writing, cannot keep the lines straight.
- Problems arise to see near and far.

Identification of hearing retardation-

- Problems of deformed ear and defect in ear, diseases of ear etc.
- Pronunciation is not clear, difficulties to pronounce the alphabet of consonant or talk less.
- Try to hear anything by keeping hand on ear, hearing radio and television increasing the volume or hears by going closer.
- Ask any question repeatedly and for one question answer differently.
- Exchange feelings without speaking but through movement of hand and face or exchange feelings through sign language.

Prevent retardation- Preventing retardation is very important matter. Awareness is needed for all so that the retarded child cannot be born and after birth the child should not be the victim of retardation. For this what you have to do is –

Taking adequate nutritious food during pregnancy-The mother has to take adequate nutritious food during pregnancy. In many cases due to malnourishment a child is born before full trimester or the child is born with low birth weight. These types of children can become mentally and physically retarded. To prevent retardation nutritious food is more important for first few months of pregnancy. Taking iodized salt during pregnancy prevents the mental and hearing retardation of a child.

Careful to take medicine- By taking medicine during pregnancy by consultation with doctor, prohibition from drug and cigarette, the birth defect and mental retardation can be prevented.

Taking preventive vaccine- To prevent mental retardation, mother should take preventive vaccine of rubella virus or german measles before pregnancy. To be saved from tetanus all the women of 15-49 years of age should take TT vaccine.

Give adequate nutritious food to the child and the adolescent- Eye defect is seen among the children due to deficiency of vitamin or rich food. Defect can be prevented if children take deep green leafy vegetables and yellow fruits. Immediately after birth the child should be given the first milk (colostrums) of mother because this milk contains yellow color colostrums which increases the ability to prevent diseases-

Preserve healthy environment- One of the causes of severe retardation is dense population and unhealthy sewerage system. So good provisions of healthy environment should be maintained.

Prevent pregnancy at late age- One of the causes of mental retardation is pregnancy at late age. So pregnancy at late age should be discouraged.

Prevent Marriage among blood relation- All kinds of retardation can be prevented if marriage among blood relation is stopped.

Take quick measures in injury and contaminated diseases- Injury in ears, eyes, head and contaminated diseases of the child should be prevented as soon as possible and consultation with doctor should be taken.

Careful to use chemicals- One of the reasons of health problem is the use of those chemicals which are used to kill insects. Many people of the society, without conception about different hazards and prior warning, directly use chemicals to kill, insects in the field. As a result many of them become the victim of visual retardation and subject to paralysis.

Hazardous working place- Many children of our country work in a hazardous environment, though it is prohibited in labor law. But due to poverty children are engaged in hazardous work. As a result they are burnt by fire, lose limbs and become blind. Due to injury of backbone or head injury etc. the child may become the victim of retardation. In our country many children at the time of harvesting get wounds in eyes by shooting paddy and become retarded.

Task- Discuss about your duty to increase social awareness to prevent retardation.

Sample Question

Multiple Choice Questions

1. Structural defects in a fetus can occur if the mother suffers from —
   a) Anemia b) Kidney problems
   b) High blood pressure d) Frequent seizures

2. Which disease harm the embryo during prenatal period?
   a) Influenza b) Common fever
   c) Chiken pox d) Rheumatic fever

Answer to the question no. 3 and 4 by reading the following paragraph:

Rimi gave birth to her child 12 hours after her labor pain started. The baby could not breathe immediately after birth but started breathing after some time. Though the baby survived, he later developed an intellectual disability. Sonia, a neighbor, noticed that her child's head is much smaller compared to the rest of the body. This causes her great concern.

3. What type of disability is seen in Sonia's child?
   a) Cretinism b) Down syndrome
   c) Microcephaly d) Hydrocephaly
4. Which one is the reason of retardation of the child of Rimi?
   i. Gestation period was lengthy for the child
   ii. Damaged the cell of the brain of the child.
   iii. Pressure on the head during birth

Which one is correct of the following?

a. i and ii b. i and iii
c. ii and iii d. i, ii and iii

Creative Question

At the age of 35, Shimu became pregnant for the first time. During her pregnancy, she developed an aversion to food and could not consume the necessary nutrients. She also experienced occasional seizures. Later, it was observed that her daughter did not enjoy playing with other children and could not comprehend lessons at school.

a. What is meant by a disabled child?
b. Frequent seizures in a pregnant mother are a symptom of which disease? Explain.
c. What kind of child is Shimu's daughter? Explain.
d. Explain how prevention, rather than cure, can help mothers like Shimu give birth to healthy children.

Short Answer Questions

1. What is the effect of the element RH in the blood of parents?
2. Why is visual impairment considered a permanent disability in a child?
3. What are the symptoms of cretinism?
4. What is Down syndrome?

Part – C
Food and Meal Management





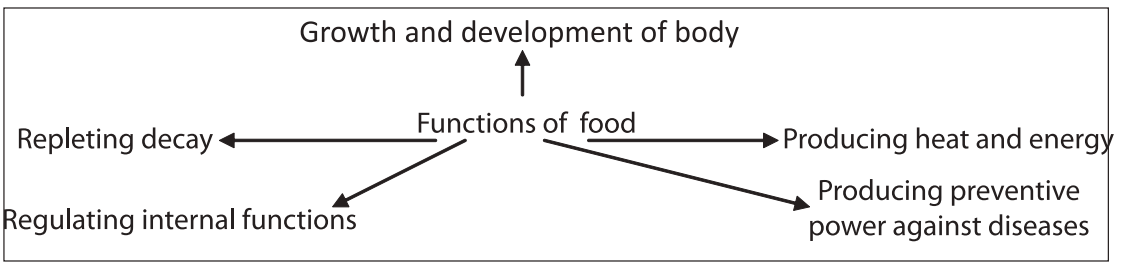
After studying this section we will be able to

- explain the functions of food;
- know the structure, source and functions of various nutrients of food and classify them;
- define different diseases which occur from lack of nutrients;
- have a conception of digestion of food;
- know the need of food and importance of nutrients in adolescent period;
- describe a disciplined life;
- advise proper lifestyle to patients suffering from different diseases, such as diabetes, heart disease, high blood pressure, etc.;
- describe the purpose of recipe in preparing food;
- explain various ways of serving food.

Chapter Ten
Functions of Food and Nutrients

Lesson - 1: Functions of Food

To survive in life, food is inevitable. Various nutrients which we get from foods perform different functions in our body. The work that are completed in our body as a result of food intake are shown through the chart-



Functions of Food

The functions of food are discussed in detail below-

1. **Build Body and Help to Grow:** Protein in food builds up our body. Nutrients are the vital elements of our biological structure. A child grows up from a single cell in a mother's womb. By receiving nutrients from the mother this single cell gradually grows up and divides to form two cells. Innumerable cells are developed by this process and later on a whole of a human child is born this way. Thus while being in mother's womb a child needs foods for nutrients. Foods help us to grow by building our body. Different nutrients present in food perform the job.

2. **Prevent Decays:** Every single moment we are going through decaying. To prevent and repair this decay, is a major function of food. Old cells die and some of the nutrients pass out from our body. The rest of the nutrients take part in producing new cells. New nutrients which we get from food, unite and help them in this function. We can understand this fact from a simple example. If we use the same pair of shoes regularly then they are eroded but our feet are not. This is because every moment new cells are produced in place of old decayed cells. When we get hurt or become ill new cells are produced in our body and our wounds get healed this way.

3. **Produce Heat and Energy:** For example, a car needs fuel, such as petrol or gas, to run its engine. This fuel burns to produce energy so that it can run. We can compare our body with an engine. The nutrients of food burn as fuel in our cells and produce energy. This energy keeps us moving and helps us doing our actions properly. Heat which is produced in our body gives us the power to work. Heat is necessary for blood circulation, respiration, digestion, defecation and some other vital functions of life. Loss of energy occurs even when we are asleep. Energy is required to maintain normal body temperature, build up cells, produce fluids in the body, produce milk in lactating breast feeding mothers and for many more internal works. Moreover, we need energy for moving around, playing, interacting with others and many more external functions.
4. **Regulate Internal Functions:** Several chemical reactions take place in our body for which we must have food. When we take food it burns to produce energy. This energy is used for muscle movements, new cell and fluid production, fluid ejection and many more. Some nutrients are very important considering these chemical reactions. These are vitamins, minerals, proteins and water. Proteins and minerals take part in producing several enzymes and hormones in our body. Our internal reactions and processes are controlled by these enzymes and hormones. Thus, we can say, we cannot deny the necessity of food for our internal functions and processes.
5. **Produce Preventive Power to Fight Against Diseases:** Everyday we are attacked by different microorganisms or contagious agents. Our body's natural defence system give us protection against this attack. Our defence mechanism is built up by taking in different nutritious foods. Proteins, vitamins and minerals play the vital parts in developing our own immune system. Food keeps us healthy. On the other hand, our body becomes malnourished if we do not take enough food for longer period. Our body loses its natural power to fight against diseases and different symptoms of various diseases expose. We get ill very often. When any contagious agents attack us some of our cells die and sometimes even tissues are affected. Tissue replaces this loss by building up new cells in our body and to do this job it needs energy, proteins and other nutrients.

From the above discussion it can be said that food not only fulfils our hunger but performs many other functions in our body that are of foremost importance. So to be healthy we must take foods in adequate amounts.

Task: Describe different functions of various foods in our body.

Lesson – 2: Nutrients of Food

When food splits up different types of bio-chemical ingredients are found. These ingredients keep us healthy and active by performing various functions in our body. They are called nutrients. We use these nutrients for our different purposes. Nutrients are of six types. These are-

(1) Proteins,	(2) Carbohydrates,	(3) Fats,	(4) Vitamins,	(5) Minerals	(6) Water

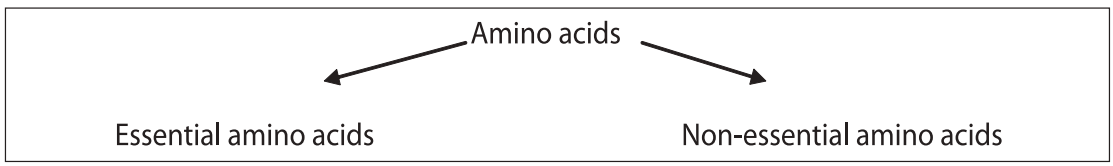
So we can say that we can have six types of nutrients from our foods. These nutrients are very necessary for building up our body, guarding it and producing heat. These six nutrients perform more than one function in our body. We shall now discuss about these nutrients.

Proteins

The word 'Protein' is derived from the Greek word 'Proteos' meaning 'to take the first place'. Proteins play a significant role in all activities of living organisms. We cannot even imagine a living being without proteins. They are essential for both animals and plants. For this reason protein is considered as main element of food.

Formation of Proteins: Proteins are complex organic compounds which contain carbon, hydrogen, oxygen and nitrogen. Certain proteins contain sulphur, phosphorus, iron, iodine, copper and other inorganic elements. On hydrolysis protein first gives out smaller units called amino acids and then carbon, hydrogen and other basic elements.

Amino acids: On hydrolysis large molecules of protein give out smaller units of amino acids. Amino acids contain a carboxyl group (-CooH) and an amino group (-NH_2). They are thus known as the amino acids. Amino acids are of two types.



a. **Essential Amino Acids:** Some of the amino acids are not produced in our body and we must meet their requirements through our food. These amino acids are known as essential amino acids.

b. **Non-essential Amino Acids:** Some amino acids are manufactured in our body from available chemicals. So we do not have to meet their requirements

through our food. These amino acids are termed as non-essential amino acids.

Classification:

a. On the basis of sources: Proteins are divided into two groups. These are:

1. **Animal Protein:** Proteins which we get from animal sources are termed as animal protein, e.g. fish protein, meat protein, egg protein, etc.
2. **Vegetable Protein:** Vegetables are the sources of this kind of protein. Nuts, soybean, etc. are some of its sources.

b. On the basis of presence of essential amino acids: Proteins are classified into three groups based on the presence of essential amino acids in them. These are:

1. **Complete Proteins:** A complete protein food contains all essential amino acids in proper proportion to promote growth, maintenance and repair. Examples of complete protein foods are milk, egg and fish.
2. **Partially Incomplete Proteins:** Partially incomplete proteins lack some essential amino acids and so they help to maintain our body but growth is not promoted. Vegetable proteins such as rice, pulse, flour, nut, potato etc. are examples of this group. Lentil lacks methionine, rice lacks in lysine, etc.
3. **Incomplete Proteins:** Incomplete proteins lack all the essential amino acids. Thus they neither help maintenance nor growth. Zein of maize is an example of this type of protein.

Sources of proteins-

Animal proteins: fish, meat, egg, milk, cheese, posset, etc.

Vegetable proteins: lentil, soybean, nuts, rice, wheat, etc.



Protein foods

Functions of Proteins:

1. **Build body and help to grow:** The most important function of protein is to build up our cells and help us to grow. Muscles and other tissues, bones, cartilage, hair, nails and skin contain fairly high percentage of protein.

2. **Replete decays:** Every moment our old cells are dying and new cells are formed. Protein builds up new cells and replenishes the decay of cells. Protein also heals our wound.

3. **Produce heat:** Proteins produce heat when our body meets the scarcity of fats and carbohydrates. 1gm of protein can produce 4 kcal of energy.

4. **Give immune power against diseases:** Different types of external organisms enter our body and become the cause of diseases. Proteins produce antibodies which fight against these organisms and give us preventive power against diseases.

5. **Develop mental ability:** Protein is necessary for mental growth. Mental power or the development of brain retards if necessary protein is not available during the development period.

6. **Control internal functions:** Enzymes and hormones are made up of proteins and they play vital roles in regulating the internal functions of our body.

7. **Transport important elements in our body:** Hemoglobin, a blood protein, carries atmospheric oxygen to different parts of our body.

8. **Regulate water balance:** Plasma is another kind of blood protein that regulates water balance in our body.

Symptoms of Protein Deficiency:

In children –

Children face various symptoms due to deficiency of proteins. Some of them are as follows –

● Retarded growth of body ● Weight loss ● Cracks in the skin ● Discoloration of hair ● Mental irritation	● Mental retardation ● Reduced secretions of enzymes ● Indigestion ● Reduced resistance to infection.

These symptoms are found in the pre-kwashiorkor state.



A marasmus affected child



A kwashiorkor affected child

If these conditions persist for long symptoms such as swelling of face, hands and feet occur and this condition is known as kwashiorkor. Children aged between 1 to 4 are mostly affected by this disease condition.

Marasmus occurs when the diet is low in both protein and calories. The body looks shrunken. The child has an emaciated look and wasting of muscles occurs.

In adults –

- Ascites of hands and feet
- Anaemia
- Reduced prevention power against diseases.

Task - Describe the necessity of proteins in our body.

Lesson – 3: Carbohydrates

Carbohydrates occupy the major portion of our daily diet. Foods containing carbohydrates are cheaper than other foods. They are the main sources of heat and energy for our body.

Formation of Carbohydrates: Carbohydrates are compounds which contain carbon, hydrogen and oxygen as their basic elements. Carbohydrates are called 'Hydrates of Carbon' since they carry hydrogen and oxygen in the ratio of 2:1 respectively just as water does. Thus we can say that any compound containing hydrogen and oxygen in the ratio of 2:1 can be termed as carbohydrate.

Classification - Carbohydrates are classified, based on the number of saccharide groups in them:

1. Monosaccharides	2. Disaccharides	3. Polysaccharides

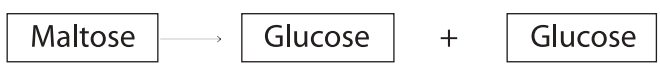
1. **Monosaccharides:** Carbohydrates formed by a single simple carbohydrate molecule are termed as monosaccharides. On hydrolysis or by digestion, monosaccharides cannot be simplified as they are the simple form of carbohydrates. In human nutrition only hexoses are of importance. The three monosaccharides of hexose group are glucose, fructose and galactose.
    a. **Glucose:** The most common simple carbohydrate is glucose. It is present in fruits, cereals and honey.
    b. **Fructose:** Fructose known as fruit sugar is found in honey, ripe fruits and in very few vegetables.
    c. **Galactose:** Galactose is not present in nature. It is present only in milk sugar lactose; on hydrolysis lactose yields galactose and glucose.
2. **Disaccharides:** They are complex sugars with two saccharide groups and are formed by the condensation of two monosaccharides. Commonly found disaccharides are sucrose, lactose and maltose.
    a. **Sucrose:** Sucrose, otherwise known as invert sugar, is present in sugarcane, beetroot and in many fruits and vegetables, and honey. Either by hydrolysis or by enzyme action it is simplified into one molecule of glucose and fructose.



    b. **Lactose:** Lactose is also known as milk sugar and contains glucose and galactose.



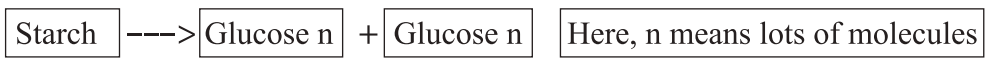
    c. **Maltose:** Maltose or malt sugar is a disaccharide which contains two molecules of glucose.Starch is converted to maltose before breaking down into glucose.



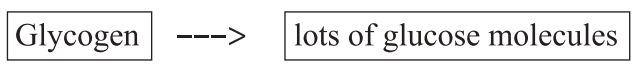
3. Polysaccharides

On hydrolysis polysaccharides are simplified into large complex molecules of monosaccharides. Several hundreds of glucose units are linked together in polysaccharides. Starch, glycogen and cellulose are the common forms of polysaccharides.

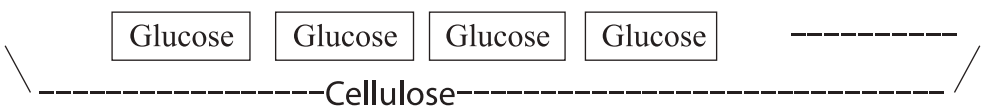
a. Starch: Starch is the main source of nourishment for human race. Plants store carbohydrates in the form of starch. All starches are broken down into glucose in the digestive system. Rice, wheat, potato, tapioca, cassava, etc. contain considerable amount of starch. By hydrolysis with different enzymes they produce glucose in the body. It is not available in animals.



b. Glycogen: Glycogen can be described as the animal starch as it is in this form animals store carbohydrate in the body. It is not found in plants. When we fast for long or do continuous hard labor glycogen is broken down into glucose to meet the immediate need of energy for the body.



c. Cellulose: More than 3,000 glucose units are there in cellulose. It is found only in plants and not of human utilization. Our body cannot split cellulose due to the absence of necessary enzyme. It has an important role in defecation. Cereals, such as rice, wheat, barley, chick-pea, etc. and the outer most cover of vegetables contain cellulose.



Sources of Carbohydrates:

The following foods are arranged according to the amount of carbohydrates in them (from larger amount to smaller amount) –

- Sugar, candies, chocolates, sweetmeats.

- Sago, arrowroot.
- Rice, maize, barley, wheat.
- Potatoes.
- Dry fruits, e.g. dates, raisin, etc.
- Lentil, soybean, nuts.



Carbohydrate Foods

- Fresh fruits, e.g. grape, banana, apple, mango, jackfruit, pineapple, etc.
- Green vegetables, e.g. spinach, cabbage, kitchen-vegetable, pumpkin etc.

One should meet 50 to 60 percent of total calories from carbohydrate foods.

Functions of Carbohydrates:

1. The most important function of carbohydrate is to supply energy or fuel for the body. Thus it is called as body fuel. 4 kcal energy is produced by 1 gm of carbohydrate.
2. Carbohydrates prevent ketosis by sparing fats from extreme burning.
3. If carbohydrate supply is enough in the diet, protein is spared for important functions of it. This effect exerted by carbohydrate is called protein-sparing effect.
4. In the presence of carbohydrate a certain kind of organism produces vitamin 'K' and vitamin 'B' in the intestine.
5. Cellulose prevents constipation. Liver is protected against bacterial toxins by producing glucuronic acid or acetyl groups from carbohydrates. Thus carbohydrates have protective and detoxifying action in liver.
6. Nervous tissues use glucose as the sole element for their energy.
7. Helps to consume protein, vitamins and minerals.
8. Prevents foods containing partially incomplete protein to produce heat, as a result protein is not consumed. It is called protein sparing action.

Symptoms of Carbohydrate Deficiency:

1. Production of heat and energy reduces when carbohydrate becomes deficient in our body.
2. Constipation becomes a common problem when we avoid cellulose in our diet.

Task: Which type of carbohydrates is more useful for us and why?

Lesson - 4: Lipids

Among the six nutrients lipid or fat produces the largest amounts of energy in our body. Nearly all natural foods contain lipid. Fats are esters of fatty acids with glycerol. True fat has one molecule of organic ester of glycerol and three molecules of fatty acids.

Classification of fats:

a. Fats are classified, based on their nature:

1. **Solid Fats:** Fats that remain solid at room temperature and in normal pressure are termed as solid fats, e.g. animal fat, butter etc.
2. **Liquid Fats:** Liquid fats remain liquid at room temperature and in normal pressure, e.g. soybean-oil, mustard-oil, etc.

b. According to their sources fats are classified into two groups:

1. **Plant Lipids**: Fats we get from plant sources are known as plant lipids, e.g. coconut-oil, mustard-oil etc.
2. **Animal Lipids**: Animal lipids are available in animals, e.g. ghee, butter, fish-oil, etc.

c. Fats are grouped into three, based on their sources:

1. **First Category Lipids:** Soybean-oil, ghee, butter, mustard-oil, cod liver-oil, shirk-oil, etc. contain 90-100% lipid.
2. **Second Category Lipids:** In these sources lipid content is 40-50%. Almond, peanut, cashew nut, walnut, coconut, etc. belong to this group.
3. **Third Category Lipids:** Here available lipid counts for 15-20%. Milk, egg, fish, meat, liver, etc. are the best sources of this kind of lipid. 20-25% calories should come from fats in our daily diet.

Functions of Lipids:

The main function of lipid is to supply heat and energy for the body.1 gm of lipid yields 9 kcal of energy. Lipid is stored as fuel in the body and burnt for energy whenever needed.

1. Cholesterol and phospholipids are two general elements of cell walls.
2. Fats are the carriers of fat-soluble vitamins A, D, E and K.
3. Adipose tissue, where fat is stored, serves as an insulation material in injury. Vital organs of the body are thus protected.
4. Lipid keeps our bodies warm by preventing the wastage of heat.
5. Essential fatty acids help to maintain tissues, their normal structure and efficiency. Thus we are protected from any kind of skin diseases.

Deficiency of Fats:

1. Fat-soluble vitamins cannot function without the presence of fats.
2. Skin becomes dry and itching . During infancy a deficiency of essential fatty acids results in eczema.

Lesson - 5 : Vitamins

Research results showed that natural foods contain some chemical compounds other than carbohydrates, proteins and fats and their absence results in various diseases such as beriberi, nyctalopia, ricket, anaemia, etc. These diseases can be cured by taking adequate amount of some special substances known as vitamins. Vitamins can be defined as complex organic compounds needed in small quantities by us but necessary for the growth and maintenance of good health in human beings. If vitamins are not present in sufficient quantities in the diet, vitamin deficiency diseases occur. Other nutrients depend on vitamins for their vital roles in our body.

Classification: Vitamins may be classified broadly into two groups, based on their solubility:




Fruits and Vetgetable

1. **Fat-soluble Vitamins:** Fat-soluble vitamins are soluble in fats and fat solvents but insoluble in water. Four of them are: vitamin A, D, E, and K.
2. **Water-soluble Vitamins:** Water-soluble vitamins are soluble in water but insoluble in fats or fat solvents. Vitamin B complex and vitamin C belong to this category.

Functions of Vitamins:

- Vitamins keep us healthy and active by increasing our preventive power against diseases.
- Help us to grow. Vitamins are vital elements for proper growth of a zygote.
- Has a role in reproductive function.
- Maintain activities of nerves and brains.
- Keep our eyes and skin in their perfect condition.
- Build blood in our body.
- Help other nutrients to perform their works properly.

Task: Describe the functions of fats in our body.

Lesson – 6: Vitamin 'A' and 'D'

Vitamin 'A'

Vitamin A is a fat soluble vitamin. Retinol is the generally accepted chemical name for vitamin A. It is colorless and stable to heat but unstable to ultraviolet rays.

Functions of Vitamin A:

● Vitamin A plays important role in the maintenance of normal vision in dim light. ● It is essential for normal bone formation. ● It also helps in the integrity of the epithelium, especially the mucous membranes.	● Vitamin A keeps our glands normal and active. ● Vitamin A is also known as anti-infective vitamin as it provides resistance power to the body. ● Vitamin A plays an important role in maintaining the structure of myelin sheath.

Sources of Vitamin A

1. **Animal Sources:** Preformed vitamin A (retinol) is supplied by foods of animal origin; they are egg, liver, fish liver oil, kidneys, butter, milk and the fat of muscle meats which is very rich in the vitamin. Milk especially colostrums contain a lot of vitamin A.
2. **Plant Sources:** All pigmented (particularly yellow) vegetables and fruits (e.g., sweet potatoes, carrots, pumpkins, papayas, tomatoes, apricots, and peaches) and the leafy green vegetables which supply provitamin A (carotene) in the diet. Cereals also contain carotene.

Deficiency Symptoms -

1. Night blindness (nyctalopia) is one of the earliest signals of vitamin A deficiency which is impairment of dark adaptation.
2. Thickening and loss of transparency of the bulbar conjunctiva with yellowish pigmentation known as Xerophthalmia.
3. Defective vision due to keratinization of epithelium of cornea occurs which is termed as Keratomalacia.
4. Skin becomes rough and dry and papules of varying sizes are observed.



Different diseases occurred from vitamin A deficiency

5. Anti-infective power is reduced.
6. Clinical manifestations of vitamin A deficiency in children are retardation of growth and lowered resistance to infection.

Vitamin 'D'

Vitamin D is otherwise known as 'sunshine vitamin' as it can be synthesized from sunlight by our body. Its chemical name is calciferol. It is also referred as Rickets Preventive Vitamin since it prevents rickets. It is a fat soluble vitamin and insoluble in water. It is stable to heat. It is a group of different sterol compounds with antiarchitic properties.

Functions of Vitamin D:

- It promotes the absorption of calcium and phosphorus from the small intestine.
- It helps in the development and growth of bone.
- It also maintains the concentration of calcium and phosphorus in the blood.
- Helps in the functions of parathyroid hormone.

Sources of Vitamin D:

- Fish liver oils, liver, milk and milk products, egg yolk, etc. are the best sources of vitamin D.
- Sunlight forms D_3 from 7-dehydrocholesterol in the skin.

Deficiency of vitamin D:

1. Rickets: The name ricket is given to vitamin D deficiency. It is a disease of infancy and childhood. The symptoms are:

- Bones are soft and growth is retarded.
- Bow legs and knock knees occur due to its deficiency.
- Chest gives pigeon breast appearance.
- Formation of teeth delay.
- Children cannot walk properly.



Deformed leg bones of a rickets affected child.

2. Osteomalacia: Osteomalacia occurs among adults. It is often known as 'adult rickets'. Osteomalacia is most common among pregnant women and

lactating mothers. Symptoms are-

- Depletion of calcium and phosphorus occurs which results in softening and tenderness in the bones.
- Legs become weaker and unable to bear the weight of the body.
- Pain in waist and legs.
- Due to the deformity of the pelvis, normal delivery of the baby becomes difficult.

Task- What kind of problems occur due to vitamin A and D deficiency?

Lesson – 7 : Vitamin E and K

Vitamin E

Vitamin E refers to a group of compounds known as tocopherols. Tocopherols are soluble in fat solvents and insoluble in water.

Sources of Vitamin E:

Cereal germ oils i.e. wheat germ oil and corn germ oil are the richest natural sources. Vegetable oils and fats are good sources. Cereals and animal foods such as liver, egg yolk, milk are fair sources of tocopherol. Vegetables and fruits are poor sources.

Functions of Vitamin E:

- Vitamin E prevents peroxidation of polyunsaturated fatty acids in tissues and cell membranes.
- It plays vital role in the protection of cell membranes.
- It protects fatty acids of the body from oxidization.
- It protects red blood cells from haemolysis by oxidising agents.
- Vitamin E is essential for normal reproduction in man.
- Prevents oxidation of vitamin A and carotene.
- It offers protection to liver injury caused by carbontetrachloride poisoning.
- It prevents cataracts.

Deficiency of vitamin E:

- Reproductive failure.
- Muscular dystrophy and paralysis are the other symptoms of deficiency of vitamin E.
- Resorption of foetus.

Task: Write down the functions of vitamin E in our body.

Vitamin K

Vitamin K is chemically known as phytyl naphthoquinones. It is otherwise known as antihemorrhagic vitamin. It is yellowish in color, soluble in fat but insoluble in water. It is stable to heat, wind and moisture but is easily oxidized by light.

Sources - The best sources of vitamin K are the green leafy vegetables e.g. alfalfa, spinach, cabbage, kale etc. Good sources are cauliflower, soybean, wheat bran, wheat germ etc. Carrots and potatoes are fair sources. Animal sources are sea fishes, egg yolk, meat, liver, cheese, milk all of which are considered as poor sources of vitamin K.

Functions of Vitamin K:

1. Vitamin K is essential for the formation of prothrombin which helps normalize clotting of blood.
2. It is essential for regulating the normal bile flow.

Deficiency of Vitamin K:

● Low prothrombin level in blood. ● Lack of bile in the intestine.	● Increased clotting time of blood.

Task: What are the problems that we face due to the deficiency of vitamin K?

Lesson – 8: Vitamin B-complex B_1 and B_2

Vitamin B is not a single vitamin. Nearly 15 different vitamins are collectively known as vitamin B-complex. The most important among them are-

Vitamin B-complex	
● Thiamine or B_1 ● Riboflavin or B_2 ● Niacin ● Pyridoxine or B_6	● Folic acid group ● Vitamin B_{12}

Vitamin B_1

Vitamin B_1 is chemically known as Thiamine. It is readily soluble in water and is destroyed even at room temperature in an alkaline medium. It is easily washed away with water and destroyed by cooking for longer period.

Functions of Vitamin B_1 :	
● Main function if thiamine is to help absorb energy from carbohondrate rich foods. ● Helps to keep normal appetite.	● Maintains the nerves in healthy condition. ● Regulates normal actions of heart.

Sources of Vitamin B_1 :

Plant Sources: Raw milled rice, coarse flour, legumes (chick pea, pigeon pea), nuts (peanut, cashew nut), soybean, potatoes, etc.

Animal Sources: liver, meat, fish, egg, milk, etc.

Effects of Deficiency:

a. In minor deficiency-
- Physical and mental depression
- Irritability
- Insomnia
- Loss of appetite
- Loss of weight and fatigue
- Palpitation.

b. Severe deficiency of thiamine causes beriberi. Two forms of beriberi occurs in human beings. They are wet beriberi and dry beriberi.

Symptoms of beriberi are-

- Numbness of the hands and legs.
- Weakness of heart.
- Oedema of legs and between cardiac muscle fibres is observed in wet beriberi.
- Nervous system is affected and results in paralysis
- Anaemia occurs.
- If wet beriberi is untreated it leads to death within hours.



Beriberi

The disease is common among adults and infants.

Task: What problems arise in our body from vitamin B_1 deficiency?

Vitamin B_2

Riboflavin is the chemical name given to Vitamin B_2. It is a light yellowish compound which is stable to heat and acid medium but easily destroyed in alkaline medium.

Functions of Vitamin B_2 :

- It yields energy by taking part in carbohydrate, fatty acid and amino acid metabolism and helps in utilizing that energy.
- Riboflavin is essential for the health of skin and mucous membranes.
- For normal vision riboflavin is essential.
- Proper digestion of food depends on this vitamin.

Sources of Vitamin B_2 :

a. **Animal sources:** Milk, liver, cheese, egg, fish, meat and kidneys.

b. **Plant sources:** Green leafy vegetables, legumes, oilseeds, nuts, milled cereals and cereal products.

Effects of Deficiency-

Riboflavin deficiency symptoms are generally known as ariboflavinosis. This includes

- Retarded growth
- Angular stomatitis with cheilosis
- Papilae of the tongue are peeled off and the tongue Angular stomatitis shows a 'magenta' or red tint on the surface. This is referred to as glossitis.
- Extreme hair fall occurs.
- Vascularisation of the cornea, burning and watering of the eyes, abnormal pigmentation of the iris and blurred vision may occur in riboflavin deficiency.



Angular stomatitis



Glossitis

Task: Describe the symptoms that occur in vitamin B_2 deficiency.

Lesson - 9 : Vitamin C

Vitamin C is called ascorbic acid due to its antiascorbutic properties. It is soluble in water and destroyed by heat. It is also called anti-scurvy vitamin since it prevents scurvy.

Sources of Vitamin C:

Plant Sources: Amla, guava, lemon, tomato, orange, cabbage, spinach, etc.

Animal Sources: Vitamin C is hardly found in animal, we can get it from mother's milk.

Functions of Vitamin C:

- Vitamin C gives us preventive power against diseases.
- It is essential for the formation of collagen present in the tissues.
- Ascorbic acid is also necessary for the formation of osteoblasts.
- It is essential for cholesterol metabolism.
- It is essential for rapid healing of wounds.
- Ascorbic acid reduces the ferric iron to ferrous iron and iron is absorbed only in this form.
- It prevents the oxidation of vitamin A, E and B complexes.

Deficiency Results:

Prolonged deficiency of vitamin C produces scurvy. Its symptoms are –

- Swollen gums.
- Spongy bleeding gums.
- Loose teeth.
- Anaemia.
- Seperation of ribs through beading is also observed.
- Swollen joints.
- Susceptibility to infection.
- Delayed healing of wounds.


Swollen gums in scurvy


Skin change in scurvy

Task: What are the deficiency symptoms of vitamin C in our body?

Lesson – 10: Minerals

Minerals are second to proteins in building the body. In an adult 4 percent of the body weight is from minerals. There are 24 minerals in the body. These include calcium, phosphorus, potassium, sodium, chlorine, magnesium, iron, manganese, copper, iodine, zinc, aluminium, nickel etc. Each one of these has some role in maintaining the structure and function of vital organs of our body. According to their need in our body these minerals are divided into two groups: Major Minerals and Trace Elements.

1. **Major Minerals:** Calcium, phosphorus, sodium, potassium, magnesium, sulfur are considered as major minerals.
2. **Trace Elements:** Iron, iodine, chlorine, zinc, manganese, copper, cobalt, molybdenum, etc. are needed in small amounts by us. Although they perform very important functions in our body, they are termed as trace elements.

Functions of Minerals:

Work as building elements of body–

- As constituents of bones and teeth.
- Essential elements for hard tissues
- Essential elements for soft tissues.
- Necessary substances for body fluids.

Regulates internal functions -

- Control muscle irritability and coagulation of blood.
- Carry oxygen to different parts of the body.
- Help in enzyme actions.

We shall discuss about calcium, phosphorus, iron, iodine, zinc, sodium and potassium.

Calcium

The most abundant mineral element in the body is calcium. Nearly 99 percent of the calcium in the body is present in skeleton. The remaining part of calcium is present in blood, body fluids and soft tissues.

Sources:

a. **Animal sources:** Milk and milk products are the best sources of calcium. Bones and small fish eaten along with bones are excellent sources of calcium.

b. **Plant sources:** Green leafy vegetables, ladies fingers, cabbage, peas, soybean, beans, potatoes, lentil and dried fruits are rich in calcium.

Functions of Calcium:

● Calcium is essential for the formation of bones and teeth. ● It helps in the coagulation of blood.	● The mineral has been shown to activate certain enzymes.

Deficiency Syndromes:



Rickets



X-ray figure of the legs of a rickety child



Calcium deficiency Osteomalasia

- Deformation of bones results from calcium deficiency.
- Pitting of teeth occurs.
- Physical weakness is common.
- Lack of calcium leads to impaired growth of children.
- Calcium deficiency for prolonged period causes rickets.
- Osteomalacia in adults is common.
- Coagulation of blood is delayed.

Phosphorus

No other mineral takes part in a number of functions as phosphorus in different parts of our body. Phosphorus is present both in organic and inorganic forms in our body to perform various functions.

Sources:

Animal Sources: Animal foods like milk, meat, fish, poultry and eggs are excellent sources of phosphorus.

Plant Sources: Raw milled rice, lentil, parboiled rice, legumes, carrots, etc. are good sources of phosphorus.

Functions of Phosphorus:

- Phosphorus along with calcium takes an important role in the calcification of bones.
- It also plays an essential part in carbohydrate and fat metabolism.
- It is an essential constituent in protein synthesis.
- Phosphorus compounds control the storage and release of energy through ATP, ADP system.
- Phosphorus keeps up the balance of body fluids.
- It helps in enzyme actions.
- It keeps our nerve cells healthy.
- It builds up our body cells and help in their development.

Deficiency: Deficiency of phosphorus is a very rare condition.

Task: What are the symptoms of calcium deficiency in our body?

Lesson - 11 : Iron and Iodine

Iron

Iron is an essential trace element for human being. It is a component of the red blood cells. Of the 3 to 5 gms of iron present in our body more than half 65% of it is present in hemoglobin. The rest of it is stored in the liver, spleen, bone marrow and 5% in muscles.

Sources of Iron:

Animal sources: Liver, kidney, heart, lean meat, egg yolk are the best sources of iron.

Vegetable sources: Green leafy vegetables, whole cereals, apple, molasses, dried fruits etc. are good sources. Milk is a poor source of iron.

Functions of Iron:

- The most important function of iron is to form a constituent of hemoglobin.
- Respiratory enzymes and certain flavin enzymes contain iron in them.
- Iron is essential for the respiration of all living cells.

Deficiency Disorders: Anaemia is a condition where the hemoglobin level is lowered in the blood. Shortage of iron in the diet is the most common cause of anaemia. Symptoms of anaemia are as follows:

- Anorexia, impaired development are common in children.
- Pallor of the skin and tissues.
- Fatigue.
- Inactiveness.
- Difficulties in respiration.

Task- Write down the iron deficiency symptoms in our body.

Iodine

The total content of iodine in human body is 12-15 mg. The significance of iodine as an essential trace element lies in its role in thyroxine production. Iodine is the main component of thyroxine. Two-thirds of total iodine remain in the thyroid gland.

Sources of Iodine: The best sources of iodine are sea foods, common salt and vegetables, meat etc.

Functions of Iodine: Thyroxine is the hormone produced by the thyroid gland and iodine is the main component of thyroxine. Thyroxine plays important roles in –

- Normal physical and skeletal development of the child during growing period.
- Carbohydrate metabolism.
- The development of brain and nerves.

Deficiency Disorders: Iodine deficiency in food results in –

1. **Goiter:** If sufficient iodine is not taken in the diet, thyroxine is not produced in the thyroid gland. Thyroid gland then becomes more active to produce the needed amount of thyroxine and enlargement of the thyroid takes place. The gland becomes visible from a distance. Mental and physical retardation of growth, contraction of muscles, weakness of nerves are common symptoms of goiter.

2. **Hypothyroidism:** Hypothyroidism results when thyroxine hormone is not produced in necessary amounts. Lethargy, dry skin, irritability to cold, constipation etc. are some of the symptoms of hypothyroidism. Autism results in small children.
3. **Cretinism:** During the growth period if severe deficiency occurs it results in retarded growth and the condition is known as cretinism.



Goiter



Cretinism

Task- Write down the deficiency symptoms of iodine.

Lesson – 12: Water

Man cannot live without water. Man can live without having food for weeks but cannot live for more than a single day without taking water. About 55%-75% per cent of the total body weight of a person is water. Water is present both inside and outside the tissues. Water is lost through urine, skin, lungs and faceal matter. Our body cannot store water and that is the reason we have to take pure water everyday. Physical activities, kind of foods taken daily etc. are important key factors of deciding how much water is to be taken. Water intake and loss must be balanced. 1 litre of water is ingested through food and the rest as drinking water. 2.5 to 3 litres of water are lost from our body per day. A normal healthy person needs to take 6 to 8 glasses of water daily. Water requirements of a person increases with –

- Too hot weather when increased sweating occurs.
- Fever that increases the need of water.
- Diarrhoea and vomiting.
- Increased physical work.

- Extreme physical exercise.
- Having bulk foods.
- Lactating mother nursing her child.
- Air travelling when 1.5 liter of water is lost during the travel.
- Certain medicines.

Sources of Water: Natural drinking water, coconut water, milk, fruit juices, soups etc. Other sources include various juicy fruits, e.g. water melon.

Functions of Water:

- Every single cell of the body needs water for its normal functions.
- Water helps in digestion and absorption of food.
- It is essential to regulate the excretion through kidneys, lungs and skin.
- Water plays important part in maintaining the normal temperature of the body.
- It acts as a vehicle for nutrient transport.
- Prevents constipation.

Deficiency Disorders: Severe water depletion is known as dehydration. Dehydration occurs due to –

- Extreme hot weather, humidity, extreme sweating from physical exercise or high fever.
- Not taking enough water or scarcity of water in foods.
- Diarrhoea.
- Extreme vomiting.

Symptoms of dehydration are-

- Headache
- Weakness
- Dryness of the skin and lips
- Dark color of urine

Dehydration can lead to severe fatal condition. Thus enough water must be taken in dehydration.

Task - How much water do we need daily? In what conditions do water requirements increase?

Sample Question

Multiple Choices Questions

1. Which one of these help in oxygen transportation?
   a. Enzyme b. Hormone
   c. Hemoglobin d. Antibody
2. Which of the food elements protects us against different microbial attacks?
   a. Protein b. Carbohydrate
   c. Fat d. Water

Read the incentive below and answer the question no. 3 and 4:

Nasima Khatun always cuts vegetables into small pieces. Then she washes them thoroughly with water and cooks them. While cutting vegetables, she slightly injures her finger, and the bleeding does not stop easily.

3. Which vitamin is deficient in Nasima Khatun's body?
   a) Vitamin A b) Vitamin B
   c) Vitamin E d) Vitamin K

4. Nasima's family members may suffer from:
   i. Eye problems
   ii. Untimely tooth loss
   iii. Frequent colds and coughs

Which one of the following is correct?

a) i and ii b) i and iii
c) ii and iii d) i, ii and iii

Creative Questions

1. Sana is 5 years old. She appears smaller than other children her age. Lately, she becomes irritated very easily, and her hair is gradually turning pale. Sana's younger sister Rima avoids eating small fish and vegetables. Although she can see clearly in daylight, she struggles to see in dim light at night.

a. What is Class 1 protein?
b. What type of amino acids must be obtained from food? Explain.
c. Which vitamin is Rima lacking? Explain.
d. Analyze how Sana's physical condition can be improved.

2. Monira, who lives in the northern region, has recently been experiencing memory loss. She feels constantly weak and has a slight swelling in the lower part of her throat. Meanwhile, Monira's 3-year-old daughter, Rupa, avoids eating foods made from vegetables, fruits, or milk. She is underdeveloped and still cannot walk properly.

a. What is starch?
b. Explain the reason behind bone weakness in adults.
c. Which mineral salt is deficient in Monira's body? Explain.
d. "Rupa's health can be improved through dietary changes." — Analyze this statement.

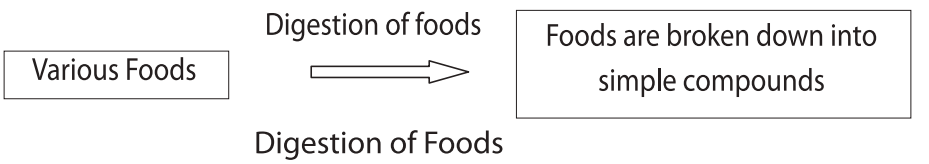
Short Answer Questions

1. Explain the role of essential nutrients in physical growth.
2. How does the body fulfill its energy needs when food intake is absent for an extended period?
3. The phrase "The requirement is small, but the function is not" applies to which food component? Explain.

Chapter Eleven
Digestion of Foods and Planning of Meals

Lesson – 1: Digestion of Foods

We take food from different sources to live. These foods do not function directly in the body. This is because all the foods are large molecules of complex structures. A very few of them, e.g. glucose and minerals act directly in the body. Most of the foods are broken down into simpler forms to be absorbed by the body. For example, starch is the main component of rice. Heat and energy are produced from starch when it is broken down into glucose and absorbed in the body. Proteins are broken down into amino acids and fats are broken down into fatty acids and glycerol in the same manner. These new compounds are then absorbed in the body.

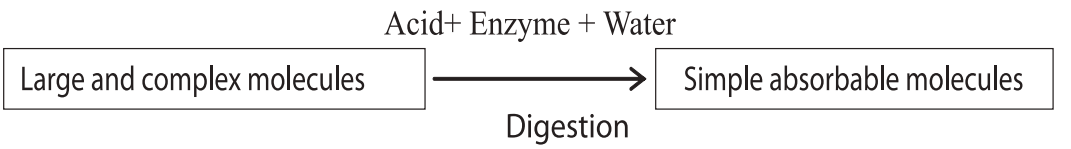


Our digestive system breaks down foods into simple forms. The body absorbs simple smaller compounds of foods after digestion.

Digestion

Large molecules of nutrients are broken down into small particles and absorbed in the blood. Several reactions proceeded forward by the action of acids and enzymes forms simple small molecules of nutrients from the big ones. The whole process is termed as digestion.

Thus it can be said, “The process by which large complex food particles are broken down into absorbable simple small molecules is called digestion”.



After digestion carbohydrates and proteins are broken down into glucoses and amino acids respectively. Fats are simplified to fatty acids and glycerol in the same way. All the foods transform into simple compounds and then nourish the body. Digestive system is involved in digesting foods.

Digestive System

Digestion does not occur in a single organ. Several organs are involved in this process. Teeth chew the foods to form small and soft compounds. Oesophagus passes this soft food towards the stomach. Digestion begins here.Foods are partially digested in the stomach and enter into the small intestine. Here rest of the digestion takes place. Digested simple particles enter into the large intestine where they are absorbed for our nourishment. The rest indigested foods are then extracted out from the body.Different parts of our body take part in making food absorbable for the body. "The organs by which foods are ingested, digested, absorbed and extracted out from the body are collectively known as Digestive System". Human digestive system consists of an alimentary canal and alimentary glands.

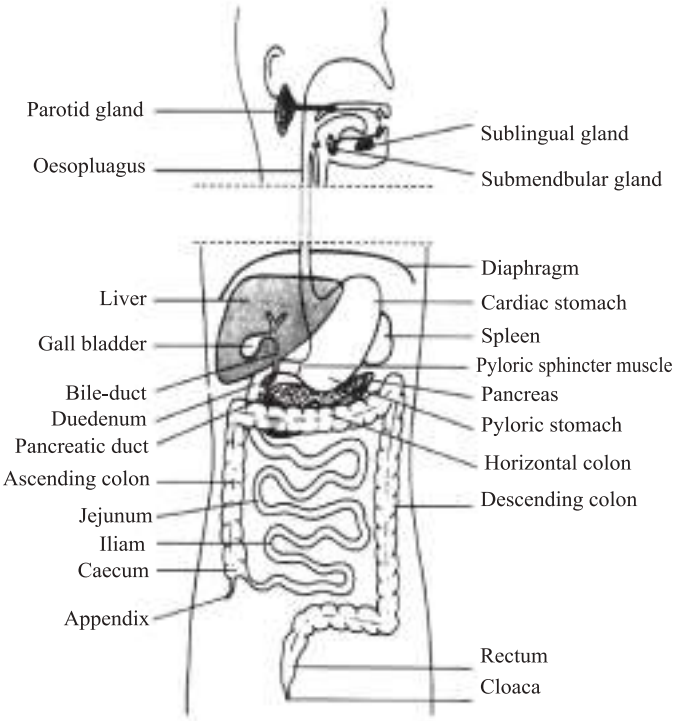
Alimentary canal + Alimentary glands
→ Digestive system ←

A canal entering from buccal cavity into rectum is called as the alimentary canal. The various parts of the alimentary canal are as follows:

Different parts of alimentary canal	
a. Buccal cavity b. Pharynx c. Oesophagus	d. Stomach e. Small Intestine f. Large Intestine

Alimentary glands

The Salivary glands, liver and pancreas are included in the digestive glands. Below, the different parts of the digestive system are shown through an image.



Digestive System

Task: Draw a picture of our digestive system and identify the different parts of it.

Lesson - 2: Digestion of Carbohydrates, Proteins and Fats

Different foods are digested in different parts of the digestive system. Here foods are broken down into simple forms, absorbed and enter into the main blood stream to reach various parts of the body. Necessary enzymes for digestion are present in salivary glands, digestive juices, pancreatic juices and succusentericus. Bile also has a role in digestion.

Different foods get digested by the help of various enzymes in different ways and at different forces. Carbohydrates and fats need the maximum time to get digested. Twelve to fourteen hours are needed for foods to reach rectum from buccal cavity. Digestion of different foods are described below.

Digestion of Carbohydrates: Carbohydrate is the main source of energy. We get 60%-80% of our total calorie needs from carbohydrates. Carbohydrates supply the necessary heat and energy for our importatnt activities. Rice, bread, sugar, molasses, honey, fruits etc. are the main sources of carbohydrates. These foods turn into simple forms by digestion and produce energy. Monosaccharides do not need digestion. They are readily absorbed in the blood stream. Disaccharides are broken down into two monosachharides. Polysachharides are first broken down into disaccharides and later into monosaccharides.

Carbohydrates are digested in different parts of the digestive system to form absorbable compounds which are then absorbed in the body.

Digestion of Fats: Fat is known as the source of reserved energy. That is because fat supplies most of the needed heat and energy other than any nutrients. Edible oil, ghee, butter, meat fat, oily fishes, egg yolk, milk butter etc. are the best sources of fats. Fats are simplified into glycerol and fatty acids. Fats are not completely digested in the stomach since it lacks bile salt.

Digestion of Proteins: Protein is the most important among all other nutrients. Every plant and animal cell contains protein. Functions of proteins are to build, replenish the decay, develop and protect the body. It is the most complex organic substance. Protein is of no use unless it is broken down into its structural unit, amino acids through digestion.

After digestion of proteins absorbable amino acids are formed and they are carried to the tissues or to the liver.

Task: What are the derived products of carbohydrates, proteins and fats after digestion takes place?

Lesson – 3: Planning Meals for Adolescents

Adolescence is a period of rapid growth after infancy. As per WHO this period remains through 10-19 years of age and children of this age are called adolescents. The rate of growth reaches its peak between eleven and thirteen years for the girl and between twelve and fifteen years for the boy.

During this period the need of proteins, vitamins and mineral salts along with energy increases since the rate of growth remains high.Since the period of

adolescence is accompanied with considerable stress due to physiological and psychological changes energy expense is increased. The development of muscles, teeth, bones, blood etc. leads to extreme need of nutrients.

Importance of a Healthy Diet in Adolescence:

- The rate of growth reaches its peak in this period and to maintain the rate adolescents should be provided with enough calories or energy dense foods and protein foods.
- During this period normal physical activities, loads of study, participation in sports increase the need of energy than any other period of life. Thus boys and girls need foods rich in carbohydrates and fats to meet up this increased requirements.
- Vitamins and minerals play important roles in preventing diseases in this period.
- Adolescents should take necessary amounts of calcium and vitamin D for the proper development of teeth and bones.
- Pubertal growth of girls demands more iron and folic acid than boys since every month they lose a considerable amount of blood and these two elements are needed to replenish the loss and creating blood.
- Adolescents need foods rich in vitamins – A, B, and C for their healthy complexion and eyes.

The Nutritional Requirements During Adolescence:

- **Need of Calories:** The rate of development increases and so do the need of calories. Boys need more calories than girls.
- **Protein:** To maintain the normal rate of growth sufficient amount of protein is very important. 12%-15% of total calorie needs should be met by protein foods. Girls of 10-12 years of age need protein a little more than boys of this age.
- **Mineral Salts:** During this period need of calcium increases due to the increased development of bones. To assure this developmental growth of bones 150 mgm of calcium must be stored in the body daily. If the body lacks calcium in this period, chances of osteoporosis increases in the later period of life. Increased demand of iron is observed for hemoglobin synthesis. Adolescent girls need more iron due to their

monthly loss during menstruation period. The requirement of zinc also increases. Anyone can suffer from decreased rate of normal physical development in absence of zinc.

- **Vitamins:** Increased demand of energy leads to increased need of thiamine, riboflavin and niacin. The requirements of folic acid, vitamin B_{12} and vitamin B_6 are also increased since they are needed in tissue synthesis. Menstruation causes increased need of vitamin B_{12} in girls. Both the boys and girls require vitamin D for their normal development of bones. In this stage the wellness and normal growth of reproductive system very much depend on vitamin A, E, and C.

Thus we can see that adolescents need the six basic nutrients in sufficient amounts daily for their normal weight, height, health, study and sports. Boys and girls should take foods from basic food groups to meet the up excess need of calories and nutrients.

We must keep in mind the following points while preparing a food list for adolescents. These are:

- Adolescents must be given three large meals and snacks two times a day. In this period boys and girls spend most of their times at school. Beside studying they do sports and for this reason they lose more energy than any other age groups. They should be given one nutritious meal for school and one for home. Thus they will be able to protect themselves from diseases.
- There must be three large meals and foods from basic food groups must be included in these meals.
- To meet the calorie needs adolescents should have sufficient amounts of cereals and cereal products daily.
- Proteins from both the animal and plant sources must be included in daily diet. Animal protein is a must diet for at least once in a day.
- Various seasonal and colorful vegetables and fresh citrus fruits must be included for adolescents while planning their daily diet.
- Adolescents should take enough water. 6-8 glasses of water for a whole day can keep anyone healthy. In this period all kinds of soft drinks, sweets, oily foods must be omitted from daily diet. These foods contain more calories and that is harmful for adolescents who do less industrious works or take part in sports. Otherwise they will gain weight and face many undesirable health problems.

- Most of the adolescents enjoy fast foods. But these foods help to gain weights and overweight leads to health risks. So these foods must be taken on a special day or a special occasion.
- Adolescents themselves must be alert for taking healthy diets. All those delicious foods that may increase health risks must be avoided and must build up habits of taking nutritious foods that help to gain health.

A sample diet for a day for adolescents

Foods from different food groups	One serving	Male (serving number)	Female (serving number)
Cereal and cereal products	½ cup of rice, one chapatti, one piece of bread	8-9	6-8
Protein foods	One egg, one piece of fish or meat, one cup of cooked semi thick lentil, ½ cup of cooked thick lentil, ½ cup of cooked pulses, 1/3 cup of nuts.	3-5	3-4
Vegetables	1 cup salad of green vegetables, ½ cup of cooked vegetables, ½ cup of cooked spinach, 1 potato.	4-5	3-4
Fruits	1 medium sized banana, guava, mango, orange, ½ cup of sliced fruits	3-4	3-4
Milk and milk products	1 cup of milk or yoghurt, ½ cup of curd.	2-4	2-4
Oil and ghee	Vegetable oil, ghee, sugar, molasses and sweet deserts.	Less calorie	Less calorie

Sugar, molasses, sweet deserts and salted foods should be taken in minimal amounts to keep fit. We must remember that foods prepared at home and seasonal fruits and vegetables are more nutritious than fast foods or street foods. Thus adolescents must be careful of taking more of foods made at home.

Task - Make a diet chart for yourself for a single day.

Sample Question

Multiple Choices Questions

1. Which one of the following is a digestive gland?
   a. Pharynx
   b. Stomach
   c. Pancreas
   d. Large intestine

2. Which of the following food is necessary for the formation of teeth and bones of adolescents?

a) Cheese b) Lemon

c) Potato d) Nuts

Read the following description and answer the question no. 3 and 4:

Tasneem is 12 years old. Her mother often packs foods like chickpeas, paneer, kebabs, and tikkis in her tiffin. At home, she ensures that dry fruits, liver, and green vegetables are available.

3. Which nutrient will Tasneem obtain from the foods available at home?

a) Iron b) Iodine

c) Calcium d) Phosphorus

4. The reason Tasneem's mother includes these foods in her tiffin is:

i. To support physical growth

ii. To replenish lost nutrients

iii. To generate energy

Which one of the following is correct?

a. i and ii c. i and iii

b. ii and iii d. i, ii and iii

Creative Questions

Shampa and Litu are two siblings.They both read in school. Nearly every day when the school breaks Litu takes burger, sandwich, drinks, etc. Mom noticed that day by day Litu was getting fat; on the other hand Shampa was gaining less height than her age. When mom talked to a nutritionist he advised her to give Shampa necessary foods for her growth and help Litu to build up the right kind of food habit.

a. What is the particular age of adolescent?

b. Why is the digestion of food necessary for us?

c. What kind of foods are needed for Shampa? Describe in your own words.

d. Analyze the role of mom in building up Litu's right choice of foods.

Short Answer Questions

1. Why do the nutritional requirements of boys and girls differ duringadolescence?
2. Describe the digestion process of ghee.
3. How are food particles broken down into simple molecules?

Chapter Twelve
Disciplined Lifestyle and Meal Planning

Lesson – 1: Disciplined Living

Health is the key to success and happiness for every human being. Living a disciplined life is the key factor of maintaining good health.

Importance of Disciplined Living

With the advancement of science, urbanization has been widened and we are experiencing so many changes in our life style. We are trying hard to establish ourselves in a machine dependent competitive life and by doing so we are making our normal lives more complex. This is leading us to various health risks. Changes have brought with them undisciplined life full of risks in place of previously disciplined life.

Taking fast foods every now and then, having soft drinks in place of water, smoking, avoiding health rules, going to bed late , waking up late in the morning, following no routine, watching television for long, being busy with computer games, always going through mental stress, neglecting physical works or exercises, ignoring religious activities etc. are the bars of a disciplined life.These are the factors that affect numerous health problems, weight gaining, and various diseases such as diabetes, high blood pressure, heart diseases etc. The rate of these diseases is increasing quite high in our country these days. Health related research reports show that people who lives a reluctant life without maintaining discipline easily gets affected by diabetes, high blood pressure, heart diseases etc. at an early age and as a result working efficiency decreases, gets old early, moreover lifespan cuts short due to long term effect of the complexity of these diseases. Thus it can be said that there is no substitute of living disciplined life.

Ways of living a disciplined life

1. **Following healthy food habit:** To live a disciplined life one should follow a healthy food habit. Having a balanced diet, following a specific time for meals, taking limited food and water, omitting unhealthy foods from diet, maintaining the rules of healthy diets, being alert of unwanted weight gain, leaving away all kinds of harmful superstitions related to food etc. can help us to follow a healthy food habit and that can lead us to a disciplined living. Maintaining a proper healthy food habit from an early age is foremost importance for any person.

2. **Doing physical works or exercises regularly:** To live a disciplined and long life it is necessary to do physical works or exercises regularly. The habit of doing one's own household works such as washing clothes, cleaning rooms, dusting furniture etc. and participating in sports keep one healthy. People who do not do own works nor take part in games must do physical exercises regularly. Regular physical activities or exercises help to maintain normal weight and keep the body fit.
3. **Maintaining a specific time for going to bed and waking up in the morning:** To enjoy good health we need to go to bed at a specific time and also wake up at the same time every day. Research reports have proved that people who goes to bed late and does not follow any time table for sleeping develop a tendency of gaining on weights and suffer from various health problems. 6-8 hours of sleep is obvious for good health. Going to bed late must be avoided. A regular habit of sleeping early at night and waking up early every day should be practiced.
4. **Controlling mental stresses:** Mental stress are at the highest peak due to uncontrolled and complex life style which is the infringement to health and the main cause of high blood pressure and different complex mental diseases. Living easy, simple, disciplined life helps to get rid of mental stress and there is no substitute of that. We have to be calm in distress and face the problems of life with intelligence. To do the right job at the right time in the right way, control hyper tension and keep calm in any unfavorable situation help us to control our mental stress to an extent and by this way we can prevent many mental disorders.
5. **Planning of time and getting used to it:** Disciplined living demands well planning of time and getting used to it.To get the best out of time one needs to utilize his time properly from the childhood or else suffers from the negative result of being ignorant to time. Living disciplined life becomes easy by planning the time accurately and practicing it.
6. **Giving up smoking:** Disciplined living demands a healthy body. We all know that smoking is injurious to health. Demand of several nutrients is high in smokers and some of the nutrients cannot function perfectly or get destroyed. Smokers live under the risk of easily getting affected by various diseases. Smokers do not only harm themselves while smoking, they harm

people living around them. Thus it can be said that never can a smoker preserve health nor live a disciplined life. So we should quit smoking.

7. **Following the religious and social bindings:** Disciplined living becomes easy if we can follow the rules of religion and society from the very beginning of our lives. For example limited intake of food, avoiding over eating, restraining from drinking alcohol, building up safe and healthy relationships with others etc. help us to establish a happy disciplined life.
8. **Establishing self-discipline and maintaining it:** An easy life is achieved by establishing self-discipline and maintaining it from the childhood. It is of foremost importance to adjust with a healthy life style to keep us fit and healthy.

The above mentioned eight factors play important roles in living a disciplined life. These must be followed from the early childhood to achieve a disciplined and healthy life. We should always remember that there is no substitute of disciplined living for a healthy and disease free life.

Effects of living a non-disciplined life: Risks of various health problems increase with a non-disciplined life –

- Increased weight, diabetes, high blood pressure, heart diseases, stroke etc. become common.
- Short life span.
- Decreased power of activities.
- Increased possibilities of attack of non-curable diseases.

The above stated problems are very common in our country at present. Now we shall know about diabetes, heart disease and high blood pressure.

Task: Describe how you can maintain your life in a disciplined way.

Lesson – 2: Diabetes

Diabetes is a chronic metabolic disorder. The body lacks a hormone named insulin and this insufficiency prevents the body from using energy from carbohydrate. Thus the amount of glucose increases in the blood stream. Diabetes is neither a communicable disease nor fully curable. But it can be suppressed by following the rules of treatment. Diabetes cannot be controlled without limited intake of foods and disciplined living. Anyone at any age can be affected by this disease. But the chances are high at following circumstances –

- Genetic factors contribute if the patient's one of the parents or any close relatives suffer from diabetes.
- Over weight is a predisposing factor in diabetes.
- Reluctance to physical work or exercise leads to diabetes.
- Unruly lifestyle develops diabetes.

Ways of controlling diabetes-

Diabetes cannot be fully cured but it can be kept under control. There are four important rules to be followed while controlling diabetes –

- Proper diet
- Physical work
- Medicines
- Learning about the disease.

Discipline must be maintained in every step of the above mentioned rules. Then diabetes can be kept under control.

A. Diet in diabetes: Blood glucose level increases in diabetes. This glucose comes from food. For this reason rules in food intake should be maintained strictly. There are no changes in demands of nutrients before or after diabetes occurs. But following a planned diet can help to control diabetes and keep the body fit.

Rules of choosing foods –

- **Can be taken as desired:** Fibrous foods do not increase glucose in blood. Thus these can be taken as much as one desires. Spinach, vegetables like eggplant, bitter gourd, cauliflower, cucumber, cabbage, ladies fingers, lettuce, etc. and fruits like green mango, pumpkin, green tomato, berry, lemon etc. can be taken in large amounts.
- **Must be taken in limited amount:** Some foods increase glucose level in blood slowly. If these foods were taken in larger amounts they could negatively affect blood sugar level. So these foods must be taken in limited amount. These include rice, breads, perched rice, puffed rice, biscuits, potatoes, sweet potatoes, milk, curd, cheese, meat, fish, egg, pulses, nuts, sweet fruits e.g. banana, ripe mango, ripe papaya, etc. raw milled rice and wheat flour are preferable to pearled rice and white flour respectively.These do not increase the blood sugar level fast.

- **Foods to be omitted:** Sugar, molasses, juices, soft drinks, sweetmeats, pastries, cakes etc. increase blood glucose level fast and for this reason these foods must be omitted from the diet.
- Weight must be reduced to normal if overweight. Normal weight is preferable to underweight. Preferred normal weight should be maintained for all time.
- There must be a specific time for meals and the amounts of foods must also be specific. Skipping meal is harmful and at the same time overeating at one meal and eating less at the next meal is also injurious to health.

Thus we can say that diabetes is mostly controlled by disciplined food intake.

B. Physical works or exercise: Physical works or exercise hold a very important role in controlling diabetes. These help in the secretion and functions of insulin that controls diabetes.

C. Medicines: All diabetic patients need to follow a controlled diet, physical exercises and discipline. But in severe cases diabetic patients must take medicines or insulin.A diabetic patient should continue his regular diet, physical exercise along with prescribed oral medicines or insulin. Medicines alone cannot control diabetes and moreover it can bring risks for life.

D. Learning about disease: Being incurable diabetes is a disease which remains for the whole life. For this reason learning about the disease by the patients and their relatives are of foremost importance. There are no alternatives for that.

Following discipline in living: The most important thing in the life of a diabetic patient is his disciplined living. One must ponder on the following points to establish discipline in his life –

- Having a regular balanced diet in limited amount and follow the rules related to foods.
- Doing physical works or exercise regularly.
- Following doctor's advice while taking oral medicine or insulin.
- Keeping clean in every sphere of life.
- Taking regular and good care of legs.
- Continuing the treatment for diabetes.
- Checking the blood sugar level regularly and keeping a record of it.
- Quitting smoking and drinking alcohol.
- Trying one's best to follow a disciplined life.
- Having necessary knowledge about the treatment of diabetes.
- Taking advices from the doctor during any critical physical occurrences.

Task -Describe the ways of disciplined living for controlling diabetes.

Lesson – 3: Heart Disease

The number of heart patients is increasing day by day in our country. The main causes of heart diseases are living an indisciplined life, having foods rich in saturated fats, taking foods more than the requirements, not going through any physical works or exercise, genetic factors, metabolic disorders etc. Only a discipline life can help anyone out in heart diseases.Here are some important points to ponder on while following a disciplined living –

● Having a regular balanced diet in limited amount and follow the rules related to foods. ● Doing physical works or exercise regularly. ● Following doctor's advice and prescription while taking treatment. ● Measuring blood pressure regularly.	● Following a specific time for going to bed and waking up from bed. ● Sleeping for 6-8 hours. ● Controlling mental stress, excitements and anger. ● Keeping clean in every sphere of life. ● Quitting smoking and drinking alcohol. ● Trying one's best to follow a disciplined life. ● Taking advice from the doctor during any critical physical occurrences.

Diet in Heart Diseases:

A balanced diet with an adequate amount of energy is prescribed for patient of heart disease. Intake of sugar, salt and fat must be limited and large amount of fibrous foods must be included in the diet. Moreover the following points should be remembered –

- Raw milled rice and wheat flour are good for health but the amount should be limited.
- Fibrous foods like spinach, vegetables etc. and citrus fruits such as lemon, orange, pineapple etc. must be included in diet.
- Colorful vegetables like spinach, carrots, cucumber, beetroot, etc. must be taken regularly. A habit of taking seasonal fresh fruits helps a lot in heart diseases.
- Pulses and nuts must be taken in limited amount.
- Fish, lean meat, chicken, eggs should be included in the diet in necessary amounts.
- Skimmed milk and yoghurt are good for heart diseases.

- Excess use of salt in cooking and having extra salt during meals are forbidden.

Foods that should be omitted are –

- Butter, ghee, dalda, cream sauce, coconut, all kinds of oily fat foods.
- Ice-cream, sweet deserts, etc.
- Meat rich in fats, liver, chicken or duck.
- Cooking salt, salted preserves such as cheese, pickles, sauce, soya sauce, chips, chanachur, salted nuts, salted fishes, canned fish etc.
- Fast foods e.g. fried chicken, pizza, nuggets etc.
- Bakery products such as biscuits, pastry, cake etc.
- Soft drinks, energy drink, dark coffee etc.
- Salt and salad dressing in salad are forbidden.
- Chinese salt must be omitted.

Task: Which points related to diet must be remembered by heart patients while following a disciplined living?

Lession - 4 : High Blood Pressure

Hypertension:

High blood pressure is commonly known as hypertension. Indisciplined life, genetic factors, overweight, metabolic disorders etc. cause hypertension. Medicines along with a balanced diet and regular physical exercise can help control hypertension. Reducing extra weights by regular physical works or exercise is the best thing in hypertension one can follow.

The most important thing is disciplined living when affected by high blood pressure. The followings are very important for a discipline life –

- Having a regular balanced diet in limited amount and follow the rules related to foods.
- Doing physical works or exercises regularly.
- Following doctor's advice and prescription while taking treatment.
- Measuring blood pressure regularly.
- Following a specific time for going to bed and waking up.
- Sleeping for 6-8 hours.
- Controlling mental stresses, excitements and anger.
- Keeping clean in every sphere of life.
- Quitting smoking and drinking alcohol.
- Trying one's best to follow a disciplined life.
- Taking advice from the doctor during any critical physical occurrences or extreme variances in blood pressure.

Planning Diet in Hypertension

- Fibrous foods like spinach, vegetables etc. and citrus fruits such as lemon, orange, pineapple etc. must be included in diet.
- Coconut water is effective in hypertension.
- Rice, bread and foods made of rice and flour must be taken in limited amounts. Raw milled rice and wheat flour are better than pearled rice and white flour respectively.
- Fish, lean meat, egg can be taken in necessary amounts.
- Hypertension patients can have pulses and nuts.
- Skimmed milk and yoghurt is good for high blood pressure.
- Excess use of salt in cooking and having extra salt during meals are forbidden.
- Excess of calories should not be taken.

Foods to be omitted –

- Salty foods e.g. cheese, pickles, sauce, chips, chanachur etc.
- Any salted preserves such as canned fishes, salted ilish etc.
- Butter, ghee, dalda, coconut, oily foods.
- Meats rich in fats and foods prepared from it.
- Fast foods e.g. fried chicken, pizza, nuggets etc.
- Bakery foods such as biscuits, pastry, cream cake etc.
- Soft drinks, energy drinks, dark coffee etc.
- Salt and salad dressings should be omitted from salad.
- Soya sauce, Chinese salt and tasting salt are forbidden.

Living a normal healthy life is possible if blood pressure is controlled. When blood pressure exceeds kidney failure, brain stroke, risks of heart diseases and other physical complexes become common occurrences.

Task: Which points are to ponder on while living a disciplined life for controlling hypertension?

Sample Question

Multiple Choices Questions

1. Which disease is caused by an increase in blood glucose levels?
   a) Heart disease b) Diabetes
   c) High blood pressure d) Jaundice

2. Why is controlling mental stress necessary?

a) People living around do not mind for anything.

b) We can control ourselves while moving forward in our lives.

c) We can protect ourselves from various infectious diseases.

d) Save from hypertension and several other mental disorders.

Read the following description and answer the questions no. 3 and 4:

Mrs. Jharna is 50 years old. Her regular diet includes fatty fish, meat, and eggs. Recently, she has been experiencing various health issues. Her daughter Emma, who weighs 80 kg, stays up late watching TV and skips proper breakfast. She prefers soft drinks and sweets.

3. Which disease is Emma more likely to develop?
   a) Diabetes b) Heart disease
   c) High blood pressure d) Jaundice

4. What are the reasons behind Mrs. Jharna's Problems?

i. Excess of fats in foods

ii. Excess intake of protein

iii. Taking carbohydrate more than required.

Which one of the following is correct?

a. i and ii b. i and iii

c. ii and iii d. i, ii and iii

Creative Questions

Mrs. Sheela is 45 years old. A housemaid handles all the cooking, cleaning, and household chores. For breakfast, she consumes parathas, meat, eggs, and sweets. She then reads the newspaper, takes a bath, eats lunch, and sleeps for two hours. She eats fish and meat without rice in the afternoon and evening. At night, she eats and goes to bed while watching TV. Within a few days, she gains significant weight and falls ill.

a. What is the key to maintaining good health?

b. Why is a systematic lifestyle important for staying healthy?

c. What kind of diet should Mrs. Sheela follow? Describe.

d. Do you agree with the statement: "If Mrs. Sheela does not change her lifestyle, her physical complications will not improve"? Analyze.

Short Answer Questions

1. Which foods can be eaten in unlimited quantities? Why?
2. Why is it important to control high blood pressure?
3. Explain why smoking is harmful to health.

Chapter Thirteen
Preparing and Serving of Food

Meal is planned to meet the daily requirements of foods and nutrients of our family. Foods must be prepared properly to make the plan a success. There is a specific process of presenting foods that makes them more lucrative. This method is known as food serving. To make foods tasty and have the best out of them one must cook and serve foods following scientific ways.

Lesson – 1 : Menu Planning

To satisfy hunger is not the only purpose of having foods. The main purpose is to get the best out of foods to keep one active, fill up the decays, keep the development process going and prevent diseases. For this reason we need a balanced diet that is rich in necessary foods. A balanced and nutritious diet can give us required energy in every steps of life and keep us healthy. That is why food planning should be done according to age (child, adolescent, old), physical activities, etc. One of the ways of planning foods is preparing a menu.

We should have a menu for every meal. While planning a menu, choice of foods, needs and ages of the family members and cooking methods should be kept in mind.

Menu planning is needed not only in our daily meals but also in preparing complementary feed for children, therapeutic diet, in ceremonies like wedding or birthday parties, entertaining guests at home etc. Different food related matters are taken into consideration while planning a menu. Menu planning thus means preparing a chart of foods. A predefined written chart of foods to be served is known as menu. Menu planning helps us to make our diets balanced, attractive and nutritious.

Points to remember while planning a menu

- **Age:** People of different ages make up a family. The requirement of food is different at every age. Milk is needed by kids. On the other hand the old and the adult need vitamin enriched foods. Foods rich in calorie and protein are needed more by pregnant and lactating mothers than the normal mothers.
- **Labour:** The need of calorie is affected by the types of labour. So the rate of physical activity of all the family members should be kept in mind while coordinating foods rich in calorie e.g. people who go for hard work must

have foods rich in carbohydrate and fat. Less carbohydrate and fat should be taken by people who do less activity or do intellectual works or by older people who do less physical activities.

- **Income:** To include healthy foods in a menu depends largely on the budget. A whole month's meals are managed by adjusting with the restricted income of the family. It is logical to plan a menu of balanced diet including foods from inexpensive sources. We cannot curtail the necessary nutrients of a balanced diet to make it cheap. So there should be a coordination of expensive foods and inexpensive but at the same time healthy items of food.
- **Weather and seasons:** There are abundance of seasonal fruits and vegetables in our country. These are nutritious, tasty and easily available. Including seasonal foods in menu brings a variation in taste and reduces the price of foods.
- **Gender:** There is a marked difference between the requirements of foods of boys and girls. Girls carry less volume, weight and muscles in their bodies than boys. For this reason girls require not as much of calorie and other nutrients as boys.
- **Occasions:** a daily food list should be made according to the number of family members, income of the family, choice of foods etc. Menu is an important factor in any kind of occasions, no matter how small or big it is. This is because it provides us with a chance to change the ordinary daily food list. We can have different menus for different occasions such as wedding ceremony, birthday party, milad, eid etc.
- **Creating variations:** The menu can be made an attractive one by including foods of various colors, shapes, types and cooking methods. All the white or same colored foods in a menu can make it dull. The same way all the soft or dry foods must not be included in the same menu at the same time.

  Foods of different colors: Tomato, carrot, banana, pea, milk, yoghurt, rice, red pillow etc.

  Foods of different shapes: Singara, sandwich, bread, cake, nimki, etc.

  Foods of different types: Soup, kheer, custard, pudding, papad, chips, etc.
- **Amount of one serving:** The total amount of foods included in the menu depends on how many people are going to have them. Every food included in the menu should be served to everyone at least at one serving e.g. one serving of cooked spinach = 1/3 cup.

One serving of milk and milk products

Fresh milk –	1 cup
Yoghurt –	½ cup
Ice cream –	½ cup
Sweet juicy drop –	1

One serving of foods rich in protein

Boneless fish –	30 gm
Boneless meat –	30 gm
Pulses –	25 gm
Egg–	1

One serving of fruits and vegetables

Cooked spinach –	1/3 cup
Cooked vegetables –	½ cup
Salad –	½ cup
Fruits (medium size) –	1

One serving of cereal foods

Rice –	1 cup
Wheat flour bread –	2
Bread –	2 pieces
Potato –	180 gm

Moreover the types of one serving, use of accurate recipe, availability of necessary kitchen utensils, an efficient cook, use of left over foods must be given consideration while planning a menu.

Sample: One day menu for a family

Number of serving: 05

Time	Inexpensive foods	Expensive foods
Breakfast	Wheat flour bread, fried vegetables, banana, tea	Paratha, fried egg, apple, coffee
Lunch	Normal rice, pulses, spinach, small fish, lemon, green chilli.	Pearled rice, big fish curry, salad
Supper	Parched rice, tea	Fruit juice/ coffee, cake
Dinner	Rice, egg curry, pulses, smashed potato	Rice, chicken curry, potato chop, salad.

Lesson – 2: Importance of Recipe

Menu is planned for preparing a balanced diet. A perfect cooking method makes this diet tasty, attractive and satiated. Although cooking seems to be an easy operation, fault can occur at any time. The same food can be delicious on one occasion and not so tasty on other occasion. But if we prepare a food using the same cooking method with the same amount of ingredients every time the quality of food remains the same. This is the first cause of using recipe. Recipe is a written descriptive instruction which lets us know about the right amount of ingredients and the proper cooking method while preparing a dish. Thus it can be said that recipe is an instruction studded with a list of necessary ingredients, their needed amounts and specific way of cooking for a particular food.

Every cooked food has its own ingredients, amounts of ingredients and cooking method e.g. pudding, potato chop, kebab, etc.

A recipe contains the following information related to cooking of foods -

• The name of the food	• Used ingredients
• Amount of the ingredients	• Type of cuts for meat or vegetables
• Successive steps of cooking	• Required temperature in cooking
• Needed time	• Serving number
• Ways of serving	

Functions of recipe:

- Recipe prevents waste of ingredients since all of those are weighed before cooking.
- A standard recipe contains serving numbers of foods. For this reason the number of people can be assumed much before the food is prepared. This also makes the serving process easy.
- Any new method of cooking becomes easy to use when a recipe is followed. A recipe along with a menu does half of the job of an efficient cook.
- Testing the quality and amount of food becomes easier for the cook if recipe is followed properly.

Things to be remembered while using recipe:

- Recipe should be understood properly by the cook before following it.
- Given amounts of ingredients must be used.
- No ingredient should be omitted.
- The techniques and methods must be followed as stated in the recipe.
- Foods should be served as instructed (hot, cold, liquid, solid).
- The precise cooking method must be followed.
- Recipe becomes easy to understand when we have the primary knowledge of amount and weight of food, needed cooking utensils, cooking method, ingredients and food exchange list.

Task: Describe the importance of recipe in food preparation.

Lesson – 3 : Preparing Foods :

After planning the menu comes the preparing of food. Some points should be kept in mind before preparing food –

- We should select a food according to menu.
- Raw items must be collected before preparing the foods in the menu.
- The right recipe must be chosen for a specific food. We can take help from experts for this cause.
- Raw items such as meat, fish, vegetables, must be cut and cleaned properly.

- Choosing the right cooking method is necessary.
- Some basic rules to be followed are cooking foods covered, using mild heat, etc.
- Preparations for serving are taken at the same time of cooking.
- Foods must be served hot just after cooking is completed.

We shall now discuss the preparation of pudding and vegetarian.

A sample recipe –

Sample – 1 : Pudding

Ingredients	Quantity	Serving Number
Egg	3	500 gm 4 servings
Milk	500 gm (thick)	
Sugar	3 table spoon	
Vanilla essence	4 drops	

Preparation:

- Caramel is made in cooking pot.
- Eggs, milk and sugar are nicely mixed in a separate pot.
- When the pot becomes cool a mixture of milk and egg is poured in that pot.
- The pot is then covered with a lid and placed on a big sauce pan. 1/3 of the pot should be under the boiled water of the pan.
- Then it is boiled for 1 hour at medium heat.
- Pudding is coagulated and then frozen.
- Pudding is separated from the pot by using a knife when it is frozen. Pudding is then put on a serving dish.

Serving Number: The pudding weighs about 500 gm. 1serving of pudding means ½ cup or 125 gm. Thus 4 people can enjoy this pudding or the serving number of this pudding is 4.

Sample – 2: Vegetarian

Ingredients	Quantity	Serving Number
Pumpkin	200 gm	1 kg
Brinjal	100 gm	10 serving
Pointed gourd	200 gm	
Papaya	200 gm	
Potato	300 gm	
Smashed ginger	1 tea spoon	
Cut pieces of garlic	½ tea spoon	
Turmeric powder	½ tea spoon	
Chilli powder	½ tea spoon	
Coriander powder	1 tea spoon	
Cumin powder	½ tea spoon	
Onion crush	½ cup	
Salt	2 tea spoon	
Sugar	As desired	
Green chilli	¼ tea spoon	
Cassia leaf	2	
Oil	100 gm	
Panchforon	As desired	

Preparation:

- All the vegetables should be washed with water before cutting them.
- Vegetables must be cut in large pieces.
- Crushed onion, smashed condiments and powders are tanned in oil.
- All the vegetables except brinjal and pumpkin must be stirred with salt. After 3-4 minutes of stirring 1 cup of hot water must be poured on that and the pot should be covered with a lid.
- When water boils up brinjal and pumpkin are included and kept covered in low heat.
- Vegetables get boiled after 10-15 minutes. Then green chilli, sugar and other spices are added in it.
- Cooking is completed when water dries.

Serving Number: This vegetarian dish weighs about 1 kg. 1serving of vegetarian means ½ cup. The food is made for 10 persons. At least one serving is available for per person that meets the least nutritional requirements of a person.

Lesson – 4 : Serving Foods

Taking food becomes a course of satiation and enjoyment when served properly with care. Food serving is considered as a technique by which we can create a pleasant environment of having foods.

When a distinct food, prepared following a menu, is served in front of people by a special way is known as food serving.

The purpose of taking food is accomplished through a perfect serving. Serving must be striking and faultless at various occasions. Family traditions, social rituals are related to food serving. Food serving is affected by nations, society and surroundings.

Decorating Tables:

Usually foods are served on tables. This is known as table decoration. We decorate tables to make our meals easy and joyous. When necessary crockery and cutleries are set on tables in perfect order it increases our delight of having foods.

Steps of decorating tables are as followed –

- Covering the table and placing mats.
- Using different decorative items like flowers, napkin holders etc. Arrangement of chairs according to the number of people is also important.
- Dishes are set differently on tables following different occasions.
- The place of eating or the table should be well decorated, calm and pleasing. Clean and clear environments are needed for this purpose.

Serving foods on different occasions:

Meals arranged on several occasions are termed as feast. Feasts are held on national days, yearly banquets, wedding ceremonies, etc. Foods served at hotels and restaurants are also known as feasts. Some important factors of arranging feasts are given below –

- Chairs and tables are set according to ranks and status.
- A set of units of every course is served for every single person.
- During a feast host holds on the opposite seat of the chief guest.

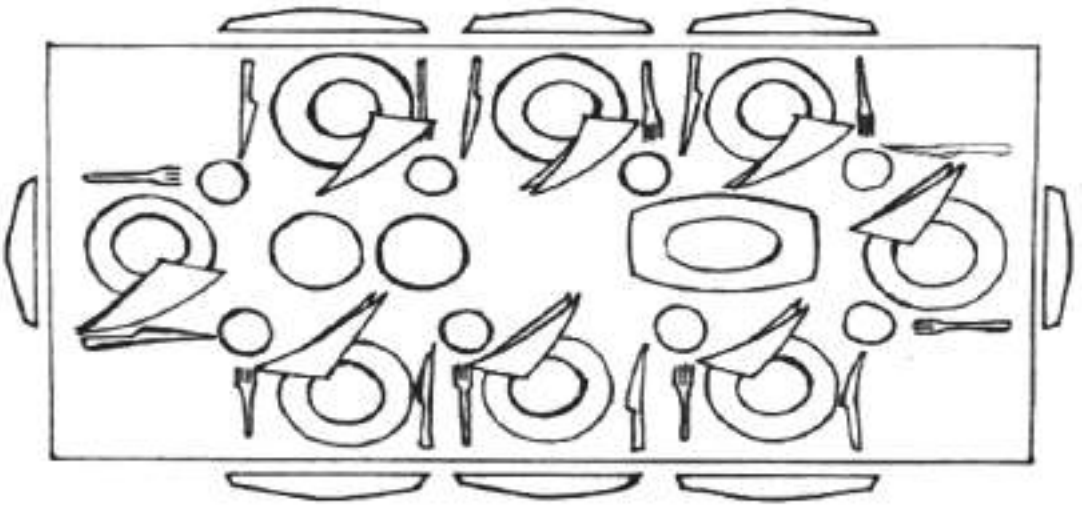


Figure: Table arrangement in a feast.

- All the foods are not served at the same time during a feast. Feast starts from the main course and ends at desserts (a fruit, sweets, drinks, etc.)
- Flowers arrangements and lighting may be done to make the place more pleasant.
- Foods are served and serving dishes, glasses and plates are put away using the right hand when serving starts from the right. When foods are served from the left, left hand is used as the same manner.

Lesson – 5 : Buffet Service

Buffet service is preferred when there is a large number of people, space is limited and there is no invited chief guest. In this case ceremonies are occasional e.g. birthday, akika, marriage anniversary etc.

Ways of buffet service:

- Same foods are served at different tables at places like lawns, verandas, open gardens, hall rooms, etc.
- Necessary plates, glasses, cups and other utensils are placed on a table.

- Foods are displayed on the both sides of the table at the same manner. Guests can serve themselves with foods as they desire from any sides of the table and enjoy their foods with chitchats.

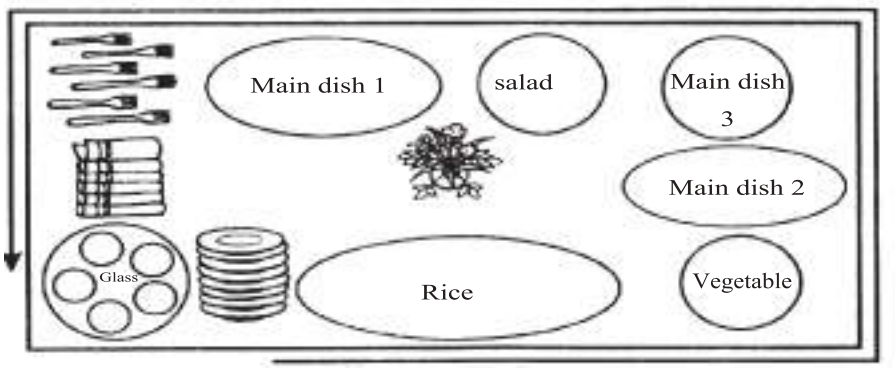


Figure: Serving foods in buffet system.

Task: According to your views which of the food service goes best with our era and why?

Lesson – 6 : Packet Service

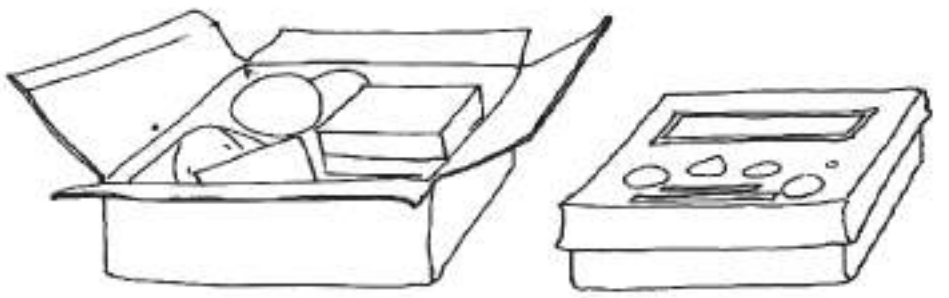


Figure: Samples of packet service

Foods served in packets are known as packet service of foods. Packet service is in high demands these days due to shortage of time, lack of efficient labors, etc. Moreover packet service helps us to avoid extra loads of cleaning. Packet service is preferred in milad, seminar, iftar party, college functions etc. Foods served in packets must be balanced, attractive, tasty and easy to carry. To get the best of packet service some points should be remembered which are stated below –

- Foods served in packets must be dry and light.
- Foods must be selected from the four basic groups while planning a menu for packet service.
- Foods in packets become nutritious when plant and animal foods are aggregated.
- Pithha, seasonal fruits, etc. can be included to skip monotony.
- Foods must be solid and not liquid or semi liquid or else packet will get wet.
- A packet of school lunch must contain delicious and nutritious foods and meet 1/3 -1/4 of daily requirements of calorie and protein.
- A sample menu of packet service:
  - Samosa, laddu/sandesh, cheese, apple/banana.
  - Dalpuri, kebab, sandesh, salad.
  - Sandwich, salad (cucumber, carrot), any dry sweets.
  - Vegetable pakoda, sweets, banana.

Task: Plan a menu for packet service and evaluate it.

Sample Question

Multiple Choices Questions

1. What is written in a standard recipe?

a) Name of the foods
b) Ingredients
c) Serving number
d) Cooking method

2. By following recipe –

i. We can bring variations in foods.
ii. All the ingredients are not included.
iii. We can maintain the serving numbers.

Which one of the following is correct?

a) i and ii
b) i and iii
c) ii and iii
d) i, ii and iii

Answer the question number 3 and 4 from the following chart:

Sample-1 : Pudding

Ingredients	Quantity	Serving Number
Egg	6	
Milk	1 Kg	
Sugar	6 table spoon	
Vanilla essence	8 drops	

3. What is the serving number?

a) 4 b) 6

c) 8 d) 10

4. If five persons are entertained with this pudding –

i. There may be wastage of money.

ii. There may be left over.

iii. A serving problem may arise.

Which one of the following is correct?

a) i and ii b) i and iii

c) ii and iii d) i, ii and iii

Creative Questions

1. Mrs. Rabeya Begum invited so many people in her small flat on the occasion of her daughter's birthday. From cooking to serving foods on table, she herself did all the works. Just before serving the foods she discovered that one important dish was not prepared. She was embarrassed when she could not make rooms for all the guests at meal at the same time.

   a. What is recipe?

   b. What is meant by serving of foods?

   c. Describe the cause of skipping of one important dish?

   d. Variation in serving could have saved her from the embarrassment – analyze it.

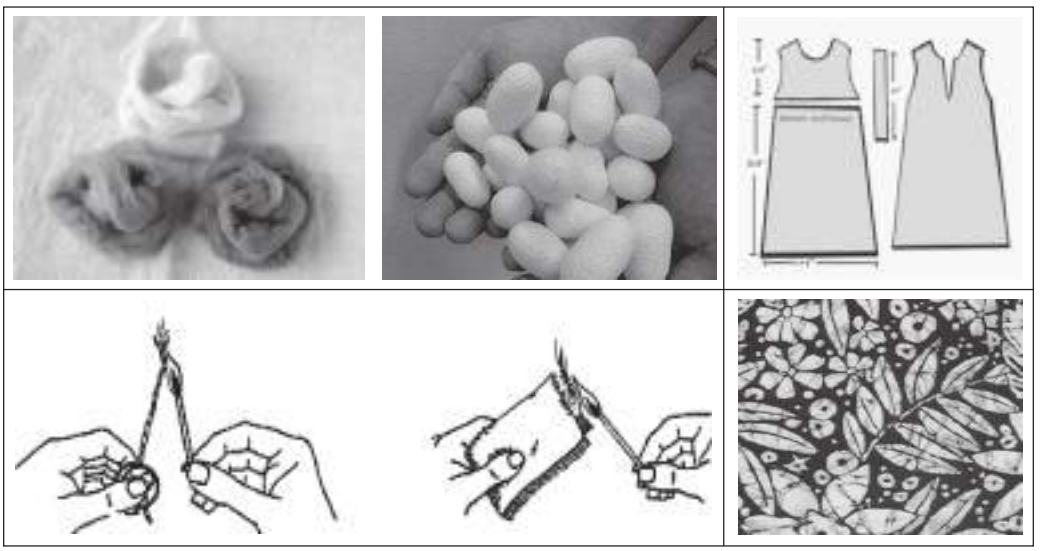
2. Mrs. Mala is a housewife who belongs to a middle class family. She lives with her two school going children, husband and aged parents. Her children like meat the most. She is forced to cook meat for them almost every day. Her mom is feeling chest pains for some days. Doctor advised her to take good care of her mom's diet.
   a. What is a menu?
   b. What is the purpose of eating? Describe in your own words.
   c. What is the reason behind the sickness of Mrs. Mala's mom? Describe in your own words.
   d. A perfect planning of menu is of foremost importance for the wellness of Mrs. Mala's family members. - Give your opinions on this matter.

Short Answer Questions

1. What is meant by "serving size"?
2. What factors should be considered in menu planning?
3. Who requires a higher intake of carbohydrates and fats?

Part-D

Clothing and Textile Fibre



After studying this part we will be able –

- to explain the classification and characteristics of fibre ;
- to explain the process of fibre identification;
- to explain how to apply properly the art elements and art principles in selecting clothes;
- to explain the color cycle;
- to explain how to select the color of clothing according to the color complexion & body structure through the color cycle;
- to explain the importance of art principles related to line, texture & design in selecting clothing;
- to explain the classification and method of clothing printing;
- to encourage how to make clothing knowing the rules of drafting;
- to show how to make fatua & baby frock after preparing the drafting of them;
- to show how to make baby frocks with different designs;
- to describe different cleansing elements and incidental elements in using for washing clothing;
- to describe the methods of washing and preserving of different types of clothing;
- to select clothes according to personality.

Chapter Fourteen

Textile Fibres

The place of clothing is just after food among the basic human needs. There was no need of clothing for covering the shame of human being at the dawn of civilization. But with the changing of civilization, human being started to realize the necessity of clothing not only for protecting themselves from shame, cold and hot but also for different needs. A great variety of textile has been introduced due to the change of taste with the development of civilization. Human beings have discovered and are still discovering different kinds of fibres for their needs. Clothing is basically made from thread and this thread is made from yarn or fibres. Fibres are changed into thread through special process. But it is necessary to know that all kinds of fibres are not suitable of making clothing. This textile fibre may be natural or artificial. In ancient times the clothing material were cotton, wool, silk and linen fibres. But later on, many artificial fibres namely rayon, nylon, vinson, soron etc. have been discovered. Generally, the characteristics of every textile fibre are different. So if we want to use the specific textile fibre for any definite purpose, we have to detect that fibre.

Lesson – 1 : Useful Yarn for Making Textile

Normally, textiles are made from thread. So thread is considered as the smallest unit of textile. But this thread is comprised of a network of the fibres or yarn. Any kind of yarn can be called fibre but in textile industry only the textile fibre is called the yarn or fibre. In another way, it can be said that the basic smallest unit of clothing is called textile fibre. The word 'Textile' has been derived form the latin word 'Texo'. The word 'Texo' means to weave. So the fibre of clothing is called textile fibre.

Generally, there are a number of special characteristics of yarn for which any fibre will be called textile fibre. Among those characteristics some are principal and some are secondary. The main or principal qualities are length, width, ratio, tenacity of fibre, flexibility, uniformity, cohesiveness etc. On the other hand, the secondary and subordinate characteristics are resilience, luster, elasticity, absorbance, heat conductivity etc. The characteristics of textile fibre are given below :

Chief Qualities

1. **Length - width ratio**- The length of the yarn should be more than its breadth. This feature is noticeable in most of the natural yarns. In fact, the more the breadth of fibre the more the fibre will be flexible and smooth.

2. **Tenacity of the fibre**-Textile fibre should have enough strength. If the fibre does not have enough strength, it is not possible to change it into thread or cloth. In fact, the strength of a fibre depends on the pull or tug it can endure.

3. **Flexibility** – The 3rd principal characteristic of textile fibre is flexibility. As we fold thread and cloth, so the fibre used in textile must be flexible. In fact, it is possible to twist thread by textile fibre on account of its flexibility.

4. **Cohesiveness**- The small fibres are joined together because of this characteristic. As a result, the thread produced from yarn is used in textile industry.

Secondary Qualities

1. **Resilience** – The power for which the fibre will come back to its previous position form being folding, twisting or shrinking is called resilience. A fibre should have this quality for the clothes from the prevention of shrinking. The clothes which will have good elasticity they will have good resilience also.

2. **Luster-** Brightness, smoothness and splendid appearance of a fibre together are called luster. Luster is a necessary quality for textile fibre. Silk fibre is regarded as queen of fibre because of its natural brightness . Now-a- days brightness is added to different kinds of fibre through the process of finishing..

3. **Absorbance** – The yarn that has the power of good absorption can retain colour and finish easily. The cloth of this fibre can be washed easily and so it is useful to wear. Those textiles which have the less absorption power can be dry quickly after washing.

4. **Elasticity**- The textile fibre should have the power of elasticity. It means that if it is pulled , it will be longer and when it will be free from pressure it will come back to its previous position.

5. **Uniformity-** The best yarn for making thread is the one that can have the same length and width, smoothness and can be easily twisted. It is not easy to get natural fibre with uniformity like the artificial fibre. But the standard of the yarn with this feature is good and the thread will be equal and smooth.

6. **Heat conductivity-** The best yarn is the flax fibre which can withstand heat. Being a good conductor of heat cotton fabric is very comfortable for much using in summer. Protein fibre is not good conductor of heat. For this reason silk and woolen fabrics are more suitable for winter season.

Task - Make two charts by mentioning the chief and secondary characteristics of the textile fibre

Lesson – 2 : Classification of Fibre

From many years ago textile fibre is classified in different ways. With the progress of science the classification has been changed. At the early age the classification was simple and easy. For example, animal, plants, mineral etc. The classification of previous time has been obsolete as a result of inventing natural fibre. Later on, it is seen that the classification is done keeping the fibre of the same qualities in one group. As a result, people are able to get entire knowledge about the characteristics, the rules of use and care of the fibres of the same group.

According to the source, yarn is classified in to two groups –

(1) Natural fibre and (2) Artificial fibre.

(1) Natural fibres : Natural fibres may be further classified as follows:

(A) Vegetable fibres - Vegetable fibres are obtained form plants which are made of cellulose. They are called cellulose fibre also as they are based on cellulose. They are of different kinds –

- **Seed fibres** – The fibres around the seed are called seed fibres, e.g.- Cotton, Kapok etc.
- **Bast fibres** –This fibre is obtained from the trunk of a tree, e.g –Jute, Flax, Rami, Shan etc.
- **Leaf fibres-** They are called vascular fibre also. It is obtained from leaf, bulb and branches.

- **Nut husk fibres** – It is obtained from nut husk.

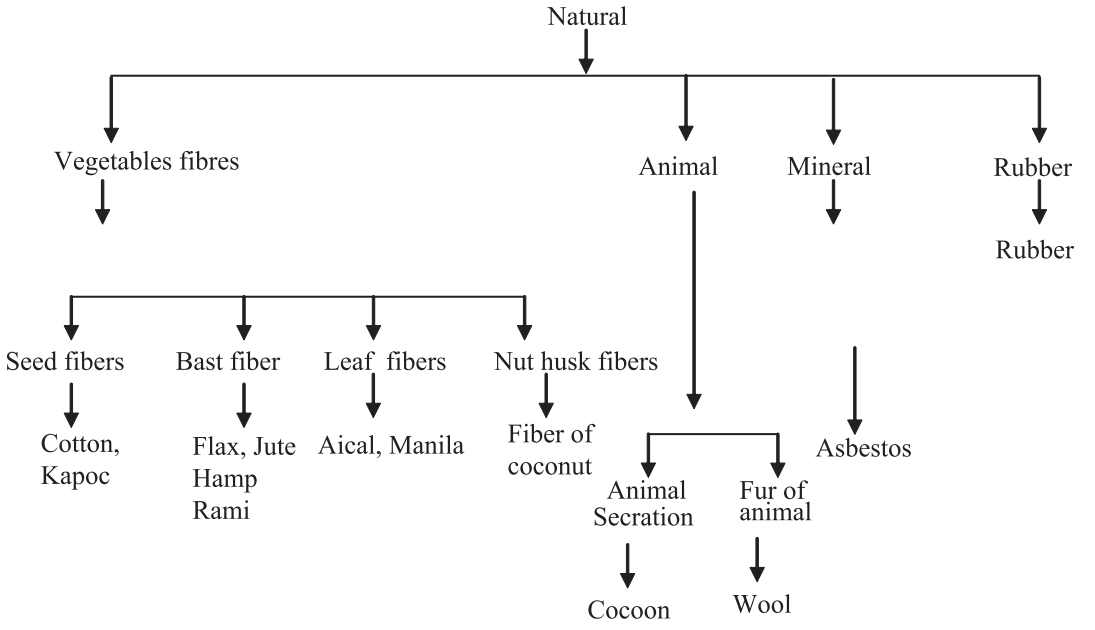
(B) Animal fibres- It is obtained from animals or insects. Protein is the main element of this fibre. So it is regarded as Protein fibre also. For example-

- **Animal hair fibres** – It is collected from the hair or fur of various types of sheep such as Alpaca, Mohair, Angora etc.
- **Animal secretion fibres** – It is obtained from the cocoon of the silk worm by removing sericin , a kind of gelatine which is used as silk fibre.

(C) Mineral fibres- Mineral fibre is a kind of fibre which is accumulated in the layers of hard rock under the soil. It is regarded as Asbestos textile fibre. They are complex seliket of iron and like other metals such as sodium, aluminum or magnesium. This type of fibre is preventive of acid, rust and fibre.

(D) Natural rubber- Different types of fibre and thread are made of natural rubber through the special process of contraction.

Classification of Natural fibre



2. Artificial fibre – Those fibres are called artificial fibres which are not grown in nature but human beings have produced them through the mixture of different elements on chemical elements. The artificial fibres are produced in the factories step by step through the chemical process. The raw material of

these fibres may be natural or chemically processed. The fibres are man made. So, the length and width of the fibres can be determined during the production. The artificial fibres are divided into six classes according to the source and chemical structure. For example –

A) Cellulosic Fibre – The cellulose obtained from pulp of trees and cotton bitters is chemically processed to produce cellulose fibre. e.g. Cupramonium Rayon, Viscose Rayon etc.

B) Changed Cellulosic Fibre- This fibre is produced form the cellulose obtained from nature but mix with chemical material with the changing structure of cellulose. In this case cellulose will not be in the pure condition. e.g.Acetate, Tri-Acetate etc.

C) Synthetic Fibre – It is produced from coal, water and air by a process called polymerization. Its basic elements are carbon, hydrogen oxygen and nitrogen, e.g. nylon, polyester, vinion, orion, soron.

D) Protin Fibre- The protin obtained from paddy, wheat etc. and milk is chemically processed to produce protin fibre. But commercially it is not profitable. e.g. aslon, casin etc.

E) Mineral Fibre- This fibre is produced through the process of different types of mineral things individually or in mixture. e.g. silka, limestone and glass fibre made of other mineral elements together.

F) Metalic Fibre – The fibre is called the Metalic fibre which is obtained from different types of metals like aluminium, silver, gold etc. through the process of purification. The artificial metallic fibre is produced following the various process of purification.

G) Other artificial Fibres- Elginet, Teflon are also man made fibre. This fibre obtained from the sea duck-weed is dissolved in water so the importance of this type of fibre is comparatively less.

Though in ancient times people have to depend on the natural source and supply for the textile fibre but at the beginning of the 19th century man is able to invent artificial fibre. It is found that the invention of artificial fibre has been gradually increased from 1900 century. After 1930 the scientists have been successful in inventing more artificial fibres.

Task -Present the classification of natural and artificial fiber through poster.

Lesson – 3-4 : Uses of Different Types of Fibre

Uses of Cotton Fibre

Cotton fabric is much used in many ways. The price of this fibre is not so high. It can be bought easily. So the price of clothes, bedsheet, shari, lungi, napkin, mosquito net, quilt, sofa-cover, decorative things for rooms etc. made of cotton fibre is less costly. Moreover, its economic value is also high. As cotton fabric can be taken care easily. Its demand is so high to the consumers for its clothing qualities. It is not needed to take so much care in ironing the cotton clothes for its power of heat absorbance. It can be boiled with hot water easily if it is needed. Cotton textile is very comfortable, useable, hygienic and suitable for all seasons. Very thin clothes can also be made of this cotton fibre. In fact, now a days cotton textile is regarded as the king of fibre as it is so much comfortable.

Strong sunlight affects cotton fibre and change it into yellow colour. So excessive exposure to the ultra-violet ray of the sun damages the fabric. If kept in a humid condition, mildew may form on cotton fabrics. Hot water does not affect cotton fabric. So, it can be dipped into boiling water mixed with soda. Strong and thick acids affects cotton yarns. But mild acid does not affect it. Cotton fabric is not much affected by bleaching but bleaching reduces its longevity. The power to retain colour is better in cotton fabric. When dipped in water its strength increases. So, it is not damaged when washed roughly.

Uses of Flax fibre – Flax is a very strong fibre. Fine thread and smooth linen is made up of it which is very strong and cool. Linen fabric is heat conductive and comfortable. It feels cool on touch. It can be selected for table cover as it is attractive, sophisticated and it is hung beautifully. Soda, soap, bases do not affect linen. All kinds of bleaching powder may be used. It is not damaged in sunlight. It is very popular as clothes. It will not be dirty for structural reason. Linen fabric is more durable than cotton, so it is very economical. As linen fabric has a high luster, it has a great appeal.

Task- Write about the uses of cotton and flax fibre.

Uses of Silk – Silk is called the queen of fibre. This fibre is used for the luxurious and fashionable dresses due to its softness, smoothness and durability. It is lighter than cotton and linen clothes. Shirt, dresses for both boys and girls, and decorative clothes are made from this fibre due to its multifarious uses. Silk clothing is more comfortable than cotton clothing and remains warmer. Silk clothing is lightweight and takes less space for storing. It is very expensive. But if silk is mixed with rayon and nylon the price falls. It may last for a long time if used with care.

Task- Mention the uses of silk fibre.

Uses of wool fibre- Wool is a good conductor of heat. So when we wear woolen clothes we feel warm. Wool may be used for different purposes as warm clothes such as sweater, socks, coat, pant, jacket shawl, carpet and quilt etc. We should be very careful in washing and ironing it. Wool clothing is very costly. If it is used carefully, it will be long lasting.

Task- Mention the uses and wool fiber.

Uses of Rayon- Rayon is comparatively long lasting and cheap and can be bought at a variety of prices. It can be made attractive by adding various degrees of brightness. It is a popular fabric because it can be used in different circumstances, activities at different times. The carpet, curtain etc. made of this fibre bring newness for the room. Rayon textile is strong and bright. Different types of sophisticated clothes are made from rayon through the special process. It is easy to wash and take care of it. It tends to dry out quickly because of its less ability to absorb water.

Uses of Nylon fibre- Nylon cloths are used for various purposes as it is strong and light. Since nylon is elastic, long lasting and durable, under garments, mosquito net, bed sheet, furniture cover, ribbon, lace, thread fishing net, carpet, golf-bag etc. are made of nylon. Since it can be taken care of very easily and washed and dried quickly, it is mostly used in rainy season. Nylon fibre along with other fibres is needed for different types of clothes having various qualities. For example-nylon-cotton, nylon-wool, nylon-rayon etc. It does not get dust easily as dust retention power of nylon is less. It becomes soft when heat is applied. So, iron should be moderately warm in case of ironing.

Task- Mention the uses of nylon and rayons through poster.

Lesson – 5-6 : Identification of Fibre

There are different types of natural, artificial and mixed fibres in the market. It is difficult to identify properly the nature of textile fibre through any specific test. It is to be determined through more than one test. It is called fibre identification test through which the nature of fibre is identified. The tests which are taken to identify the fibre are divided into three groups such as –

A. Physical test – Physical tests can be done at home. We can not depend so much on these tests as they are non-technical . In most of the cases, we can simply guess the nature of fibre but we can not identify properly the nature of fibre through these tests.

The Physical tests are given below –

1. **Touch Test –** An experienced person can identify cloths made of different types of fibres touching it with his hands. It becomes possible because of his long times experience,e.g. if we rub the cotton clothes with hands, we will feel cool and softness, linen clothes are seemed to be much more cool and smooth than cotton clothes. But woolen clothes are hot and flexible and silk cloth seem hot and smooth. It is difficult to detect the mixed fibre cloths through this method.
2. **Eye test-**Eye observation is the easiest test among all the physical tests. We can get idea about the nature of fibre by watching the length and brightness etc.
3. **Folding Test –** We have to fold a cloth twice and press it with fingers. If it is linen fabric, the folding sign will be very clear on it and this sign will not disappear easily. There will be folding sign on cotton cloths also but this sign will not be so clear as on linen fabric. Silk and woolen cloths will not have wrinkles in this way. So, the difference can be identified among cotton, linen and silk and woolen clothes through this test.
4. **Test through opening twisted thread-** We have to open twisted thread getting some threads from a cloth. If the cloth is woolen, there will be seen natural twinkle or weav on the woolen thread. Besides, we can detect the

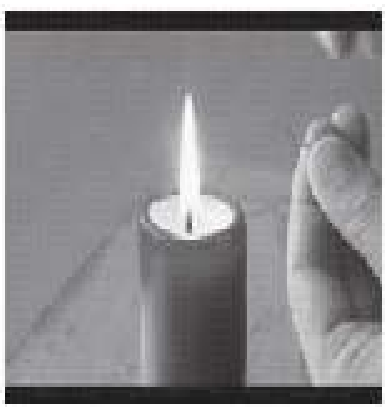
source of thread by testing the torn thread after tearing it. If the front part of a torn thread looks needlelike, it will be flax fibre. On the other hand, if the front part looks thick of a paint brush, it will be cotton fibre.

5. **Water test -** It is very easy to detect flax and nylon fibre with this test as linen has the high ability to absorb water. If a drop of water is put on a cloth and it sucks water and spreads all around it, we will get the point that the cloth is made of flax fibre. On the other hand, as the nylon fibre does not have the ability to absorb water, it will not retain water.

6. **Hot iron test -**It is easy to detect artificial fibres through this test. If we press a very hot iron on a cloth and if that clothe is acetate, nylon or dacron, it will fully melt. But if the cloth is cotton, flax, silk, woolen or rayon there will be red burn spot on that cloth.

7. **Level test -** A customer can get an idea about the cloth material looking at the level pasted on the cloth with so many information.

8. **Burn Test** - Burn test is a very good primary test. For this test- we have to open one or two twisted thread taking away from the cloth and burn it with fire and then we have to observe the burning sample and ash. We have to take the smell of the burning fibre also. Again we have to test taking warp yarn. If the clothe is not made of weaving, a piece of cloth is to be taken to use for the burn test.



Use of fiber in the burn test



Use of cloth in the burn test



Ash or left out in the burn test

The result sheet of fibre burn test

Fibre	Way of burning	Reaction in the flame	Reaction outside the flame	Smell	Ashore left out
Cotton and Flax	Burn with flame, will not shrink	Burn quickly, yellow bright flame is seen	Burning will be continuing after taking away from flame.	Spreading out smell like paper burning	Light as feather , soft gray colour residue remains
Wool, Silk	A cluster like curling hair is created	Burn slowly and make mild sound at the time of burning.	Normally put out itself	Spread out smell like hair or feather burn	Small black globule is created which is hard but easy to break.
Nylon fibre	Will be melted in the flame; will shrink	Burn slowly through melting	Put out itself	Smell like vegetables	Hard, strong gray or copper coloured globule is found which is not breakable.

Sample Question

Multiple Choice Questions

1. What are the main properties of textile fibers?

   a) Absorption b) Flexibility
   c) Shrinkage d) Brightness

Read the following passage and answer the question No-2 and 3

It started to rain while Mubin was being brought home from school. Both mother and son got wet. When they arrived home, his mother's clothes dried within half an hour. After two days, Mubin's school uniform was taken out for washing, and small black spots were found on it. As a result, the uniform became unwearable.

2. What fiber is Mubin's mother's dress made of ?

   a) Silk b) Cotton
   c) Rayon d) Nylon

3. What is the correct way to restore Mubin's uniform?

   i. Use bleaching

   ii. Rub during washing

   iii. Wash in strong acid

   Which of the following is correct?

   a) i and ii b) i and iii

   c) ii and iii d) I,ii and iii

Creative Question

Rima bought a very soft and comfortable dress from outside and hung it on the clothesline. The next day, when she took it in her hand, she found the dress wrinkled and unfit to wear. Rima's mother Neela and Jessica both work in an office. Neela buys clothes that are easy to wash and don't need ironing, whereas Jessica prioritizes comfort and convenience.

a. What is a seed fiber?

b. Who is called the Queen of Fibers? Explain.

c. What type of fabric did Rima use? Explain.

d. Which clothing choices—Neela's or Jessica's—are healthier? Discuss.

Short Answer Questions

1. Which fabric is used for making firefighter uniforms? Why?
2. Who is called the King of Fabrics? Explain.
3. Describe the most appropriate method for physical examination.

Chapter Fifteen
Art Elements and Art Principles of Textile

The role of dresses is undeniable in shaping up personality. Everyone should wear decent dresses with a view to be smart/manifest personality. Since dress selection is an important art, everyone should be careful in the preparation, selection and wearing of dresses. In this process, everything should be done in an articulated way.

Lesson 1-3 : Art elements of Textile

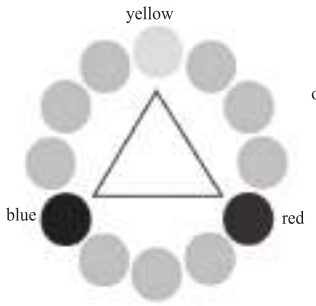
Dress making has been one of the artistic works for a long time. Like other industries some elements are used in creating this art. The remarkable artistic elements which are used in textile industry are as follows --- colour, dot, line, design and texture. The proper application of these artistic elements has a great impact on making useable, beautiful and attractive dresses.

Impact of colour on dresses- Everything around us has its own colour. The source of this colour may be natural or artificial. It is necessary to have some knowledge on the characteristics and impacts of different colours for proper selection of colours depending on place, time and person. We should have some ideas about the colour of colour cycle for using colour properly on clothing. Basically, colour is of three types- (i) primary or main colours (ii) secondary or mixed colours and (iii) marginal colours.

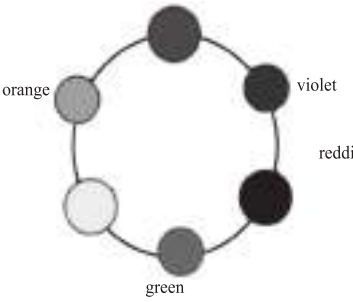
1. Primary or Main colour - Primary colours are red, yellow and blue. Basic or primary colours are pure because these are not made mixing with other colours but other colours are made up mixing with these main colours.

2. Secondary colour - By mixing two main or primary colours, the secondary colours are made. e.g. yellow + blue=Green, red + blue = violet, red + yellow = orange.

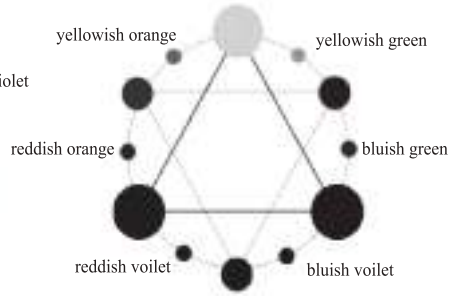
3. Marginal colour - If any secondary colour ,which is near to the basic colour, is mixed with it, it is to be made marginal colour . e. g yellow + green = yellowish green, Blue + green = bluish green, blue + violet = bluish violet, red+ violet = reddish violet , red+ orange = reddish orange, orange + yellow = yellowish orange.



Primary Colour



Secondary Colour



Marginal Colour

Task - Make a colour cycle mentioning primary, secondary and marginal colors.

Every colour has its some own characteristics. Among the primary colours red, yellow and all the colours made from their mixture are known as hot or bright colour. On the other hand, the colours made of blue and the mixture of blue are known as cold or mild colours. Usually, warm colours bring distant objects near to our vision, make the thing appear larger than what actually they are and make them prominent. In contrast, cool colours bring quiet feeling in the environment, creates an impression of distance by making the object smaller.

Task - Mention the characteristic of different types of colour.

The role of colour in dresses

Selecting suitable colours in dresses can manifest the personality appropriately. If proper colour is not selected, the colour of a person's dress diminishes one's beauty. In fact, it is the artifice of colour. As colour plays an important role, we should be careful in selecting the colour of dresses. The role of colour in dress has been described below:

1. To build up an elegant personality- Colours brings change in the appearance of a person. If appropriate colour is selected, it will make a simple ordinary person unusal. Proper selection of colour according to age, personality and occasion increases a person's self confidence and the beauty. On the other hand, if proper colour is not selected, the colour of a person's dress can spoil one's personality. So, we should be more careful in selecting the colour of dresses.

2. To give brightness to skin- Colour has a great impact on the skin, appearance and complexion. So we should select the colour of dresses in such a way that it will beautify the skin.

- If the skin is bright, it is better to wear light coloured dresses and it is compartivly better to wear deep coloured dresses for the gray coloured skin.

3. To change the physical structure - It is possible to present a person apparently as healthy or slim changing the colour of dresses. Hence, the colour of clothing should be selected considering the physical structure.

- Persons, who are tall and medium can select dresses of all colours regarding their age.
- The dress having two mixed colors will not be suitable for the persons a bit thin. In fact, light colored clothes are suitable for them.
- Bright coloured clothing could be selected for those who are thin. Such persons can wear a dress of contrast colour.

  People who are obese look more healthy, if they wear deep coloured dress. So, light coloured dress with other related accessories would be suitable for them.

4. To create prominence- Bright or deep colour can be selected in case of giving importance to dress colour.

- Use of deep colour design in a dress.
- It is also possible to enhance the attraction of dress by using contrast colour. Again, if any person does not want to express himself, he can select dull or light colour dress.

5. To keep uniformity in a dress- As colour is an inseparable part of design of a dress, so to show the person's physical structure, appearance and complexion beautifully, we have to maintain uniformity of colour on the dress. Different colours can be used on a dress. In this case, to keep the uniformity of dress-

- The use of two colours should not be the same rather one should be more than the other
- When light colour dress is selected, deep colour should be used on some small parts of it
- Besides, the colour suitable for a person, should be used on his dress to create dominance

Task- Which colour of dress will be suitable for you regarding your body structure - Explain.

Impact of lines on clothing- Line is an important element of art to increase the beauty of clothing. There is combinations of various lines on clothing. Use of lines on clothing can cause apparent changes in the physical structure of the person who wears it. Such as it couses a tall look, sometimes short look, sometimes bulky look and sometimes slim look. The minor drawbacks of physical feature can be hidden through the proper arrangement of lines and textile texture.

Lines are basically of two types- 1. Straight line and 2. Curved live. Again, the line is divided into six parts depending on its movement for example- 1. straight line, 2. horizontal line, 3. angular line, 4. curved line, 5. oblique line and 6. broken line.

Every line has its some own features which affect much on physical structure, height, face and neck. It is possible to express the personality beautifully concealing physical defect through the thoughtful selection and proper arrangement of these lines.

1) Straight line- It indicates honesty, courage, intensity and objective endeavors. Generally, this line increases the length of anything apparently. So, for bulky and short persons, use of vertical long lines is appropriate. It seems to increase the height of a person.


Straight line

2) Horizontal line- The feelings of rest and comfort come through these lines. The clothing of these lines is suitable for a tall and thin persons. It partly reduces appearance of thinness. Females with thin structure can wear Shari with horizontal stripes and wide border. While males with such structure could wear Punjabi with thin types of stripes.


Horizontal line

3) Curved lines- Curved lines indicate softness, smoothness and promptness. These lines reduce the length of the person who wears such type of clothes but it brings rhythm and creates gloominess when the curve is downward and upward carved lines indicate joy and delight.


Curved line

4) Oblique line- It indicates restraint. It is possible to bring tall and short look by various uses of these lines on clothes. If the oblique lines are upward , thin and near the person wearing the dress looks tall. On the other hand, if they are downward wide and a part, the person looks bulky and short.


Oblique line

5) Zigzag line- It plays dual roles. Due to these lines a person may look tall or short and bulky depending on the size and direction of the zigzag lines.


Zigzag line

Impact of dot on clothing- Dot is the building block of foundation of any art. Dot can be big, small, fat or thin. There is line on everything around us and thin line is created from dot. When a small dot gets motion, a line, size and texture can be formed from that. Again, texture can be created through a new feeling with the combination of so many small dots and it is called stippling. It is possible to bring rhythm in clothing with the repetition of dots.



Task- Make a chart on the impact of different types of lines on clothing.

Impact of texture on the designs of clothing- The role of clothing is very important to increase the beauty of human body. That presents someone negatively suppressing personality and physical beauty, should be avoided in spite of its high cost and one should be careful about his/her own for proper.

- Everybody should select the dress according to his/her body or features.We should not select tight dress as giving importance on the structure of different parts and muscle of our body. Otherwise, the beauty is decreased.

- In selecting dresses need to consider our height and shape. For this reason short and obsesses people should attire in dresses with small prints. We could be attractive by wearing proper dresses and hide our physical imperfections. It helps flourish our personality.

- It is possible to cover the imperfections of one's body by using yoke on kameez, creases, freals, lace fixing, needle work, wide collar etc. It helps refinement of the body as well as increase of the beauty.

- Those who have short neck can wear dresses with 'V' or 'U'- neck dresses. Short-neck or high-neck are not suitable for them. On the other hand, V or U cut necks are suitable for them who have long or narrow neck.



Oval shape face



Round or square Shape face

- The structure of face is of different kinds, such as - tall, round, square, oval shape. Persons who have of square or round shape face can use

V and U cut necks which are suitable for them. Small cut necks are suitable for the tall face. If these types of persons wear high collared clothing, it will cover the thinness of their neck.

- Some people have lumpy flesh on neck and to hide it they use high necked clothing. But the best way to hide it is to keep the neckline of the clothing on the middle of this lump. This helps modify the structure of shoulders.
- One should select ornament by keeping similarity with the appearance or the body of a person. For example, long ear rings or long necklaces makes a long look longer. We should select ornaments that match with our look.

Task- Mention which type of structural and ornamented designs of clothes is suitable for which type of body structure.

Impact of texture on the designs of clothing: There are different types of texture in fabrics. Woolen clothe is soft, silk clothe looks bright, satin clothe looks glossy and cotton clothe is of strong nature. There are many types of texture in cotton, silk, wool andi, organdi etc. Each dress is of different feature due to its difference of texture for example-soft, medium, strong, heavy, glossy, dull etc. The texture can present a person in an expected way through its proper use.

i) Jersy, shiphons etc. are of soft natured clothe. The dresses of this type of cloth stick to the body and give a feel of comfort.

ii) Medium strong clothes, such as denim cloth do not stick to body and they are comfortable.

iii) Strong natured cloth such as tafeta makes the people looking obese apparently.

iv) Heavy cloth such as materials with woolen texture makes the body look fat apparently.

v) Dull textured clothes such as flannel, denims etc. retain light much so anything with this clothe looks small. This type of clothes are useful for the senior and obese people.

vi) Light reflects on glossy clothe, so people wearing this type of clothes such as satin, mercerized cotton etc. look bigger. The texture of the clothes having metal fibre work, glitters. This types of texture is suitable for tall, thin and tender age.

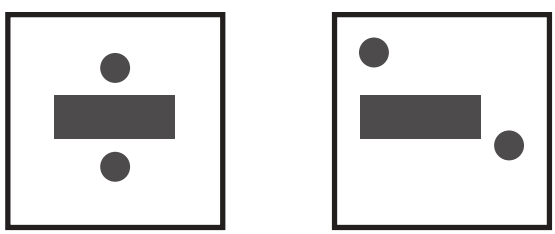
So,we have to select the texture of clothing according to season, body structure and age.

Task- Mention which type of cloth with what texture is needed for the family members and why.

Lesson – 4-5 : Artistic Principles of Textile

We should have the knowledge of basic principles of art to use the artistic elements in making designs of clothing. So to use the textile element in a proper way the principles which give us direction are called art principles. The principles such as artistic balance, ratio, dominance, rhythm and similarity play important role in making beautiful and attractive design. The Knowledge of the principle of designs is to be applied in every aspect of life. It is not possible to imagine the selection of design in clothing, making clothing, selection of secondary elements, etc. without art principles.

Balance on clothing- When things of the same weight are put on the two directions having same distance and keeping the centre stable is called balance. In fact, weight and strength of two sides remain same. In this case different elements are arranged in such a way that no part will be heavier or stronger than another. There are three types of balance (i) Formal or symmetric balance (ii) Informal or asymmetric balance (iii) Radial balance.



Formal Balance Informal Balance

1. Formal balance : In this case, both the sides of any design appear same either vertically or horizontally. This type of balance is most stable. Setting two same pockets or same plits on the same height to the two direction we can make formal or symmetric balance of clothing.

2. Informal balance: In this case though the things of the same weight are on both the sides, they will not be to the same distance or same height; this type of arrangement is very interesting but much more ability and thought is needed in keeping asymmetric balance, In this arrangement -

- A big thing can be kept on one side and few small things on the other side

- The more attractive thing can be kept near the centre and less attractive things are on the far away
- In some cases bright color or attractive trimmings can be used to decrease distance

Task- How can you bring balance in a dress– Describe ?

Rhythm in clothing- Rhythm can be made by the repeating use of artistic elements, such as color, line, dot, size, texture etc. If the rhythm in the design of clothing is maintained eye will be attracted from a line or color to another line or color. We can bring rhythm in clothing through four methods-

(i) Repetition - We can bring rhythm by using line, color or seem relevant elements repeatedly or by making the parallel lines of sewing, button, needle work lace etc. It is seen that the use of lines or size for three or more than three lines makes a design.



Repetition

(ii) Radiation- Rhythm can be made by using lines to the different direction from one centre. This kind of rhythm can be made through the neck line of clothing laces, sequence, needle work etc.



Radiation

(iii) Gradation- Rhythm can be made by changing the shade of color, changing line or sequence of size. If we make the change of color or line along the length not along the width, our eyes will be moved more.



Gradation

(iv) Continuity- Rhythm can be brought by using the moving lines of such simple line, corrugate line zigzag line etc. In this case, horizontal or angular lines can be used to break the sequence, for example- Use of pocket of horizontal lines in the fabric of vertical lines with creases.



Continuity

Preference on fabric- The part or fabric which attracts the attention is centre point of preference. To create preference deep or opposite colored belt, lace etc can be selected.



Preference on fabric

Similarity on fabrics : The relation among different parts and things of a clothing is called similarity. It is possible to keep similarity on fabrics through the proper use of color, line, size, texture etc. To maintain the similarity -



Similarity on fabrics

- The same figure or line is to be used, for example - square pocket can be added with square neck
- The colour of salwar will have the similarity with kameege and dupatta
- Design of clothing should be chosen by keeping similarity with the personality and occasion
- The accessories should have the similarity with the texture of textile

But excess similarity brings monotonous feeling many times. So we have to bring varieties reasonably.

Task - How will you maintain similarity in the selection of your dress for the class party of your school?

If the artistic principles is properly used in fabrics, it will beautify the personality of a person and will increase his confidence. So all of us should have some knowledge regarding the application of artistic principles in clothing.

Sample Question

Multiple Choice Questions

1. What is meant by a “curve”?

a) Flexibility b) Honesty
c) Courage d) Rest

2. When someone wears a heavy dress of satin texture, how dos she/he look like?

a) Tall b) Bulky
c) Sick d) Thin

Read the following passage and answer No. 3 and 4

Liton sets a black coloured needle work on the white coloured punjabi. So his punjabi looks very beautiful.

3. Which artistic principles has Liton is applied his clothing?

a) Balance b) Preference
c) Ratio d) Rhythm

4. Liton’s Punjabi-

i) is eye catching
ii) is attractive as a dress
iii) was designed considering the varieties of colour

Which one of the following is correct ?

a) i and ii b) i and iii
c) ii and iii d) i, ii & iii

Creative Questions-

1. Banna, a short girl of round shaping face, goes to market one day to buy dresses. She prefers two kameezes, one is of a designed kameezes of parallel lines and another one is of high neck kameez with big prints. But after thinking all, she buys a designed kameez of U-neck with vertical lines.

   A. Which is the root of any art ?

   B. What is meant by balance in clothing ?

   C. Why Banna does not buy the designed kameez with parallel lines ? Explain

   D. Do you think that Banna is right in selecting her dress ? Give reasons in support of your answer.

2. Saba and Sana are two sisters. Both of them are of bright complexion but they are quite opposite in physical structure and size. One day both of them go to a marriage ceremony wearing blue sarees. All the people in the party only praise the slim girl Saba.

   A. How many are the types of color?

   B. Why is care needed in selecting the colour of dress ? Explain.

   C. Explain why Saba is praised so much.

   D. The dress Sana wearing goes against her personality. Explain it.

Short Answer Questions

1. How can marginal colors be created?
2. Explain the effect of background on clothing.
3. What is meant by the proportion of clothing?

Chapter Sixteen
Printing and Colouring in Clothing

Printing and colouring is an important factor in clothing industry. When a clothe is made in a factory, it is called gray fabric. In fact, this type of dress will go straightly to the market rarely. It will go for marketing after printing and colouring through different methods. By this, the power of attraction and disposable utility of clothing increase. To express taste, different colours are reflected on the upper part of clothing. This process is called clothing printing. Through this method it will make the clothing very attractive by drawing design of different colours. Printing of clothing can be done through different methods, such as block, batic, screen, stencil and roller printing etc. On the other hand, by dipping in a colour solution the entire cloth can be dyed. The method of dyeing can be applied before making the clothe i.e. it can be applied in fibre or thread also. Again at many times if in the tie-dye method we tie a cloth tactfully and dip in to dye solution, a beautiful design will stand out on the clothing.



Block



Tie-dye



Batic

Lesson 1 : Variation in Printing Clothing

Printing is an important chapter in clothing industry. It is one of the best methods to make the clothing attractive. There are different methods in printing clothing. A printer chooses a definite method regarding his/her necessity, ability, and surroundings. The basic difference between dyeing clothing and printing clothing is that in the first one, the entire cloth to be dyeing equally in the same color and thickness of solution. On the other hand, in the printing

method, it is possible to make the clothing stood out by occurring the splendor of one as more than one colour on specific spots of the clothing. Then it will be dried by heat or steam and penetrated into the specific spot of the clothing and rest of the colour will be washed away.

Infact colours are the main ingredient of printing and colouring in clothing. To make the cloth attractive by using the colour- block, tie-dye, batic play important role in this regard.

Task - Mention the difference between textile dying and printing.

Lesson -2-3 : Block Printing

In the true sense, the principles or ingredients which had been adopted first in the history of textile printing was block. Still now, we print our wearing textile bed sheet, table cloth etc. through block printing along with the other printing methods. It is very much popular in our cottage industry.



Block making

Block making - The thickness used in the block printing should be 2"-4" or 5.08-10.16 cm. Otherwise they will not be sustainable. Though the shape of a block depends on the design, the length of it should not more than 12"-16" or 30.48-40.64 cm. In selecting wood for making block, importance can be given on babla, gub, rain tree etc. Potato, lady's finger etc. also can be used for immediate work in block printing.

The part of a design which will stand out on textile, that part will be kept high on the block and rest of the part will be cut away deeply. As a result, when printing will be given on textile dipping the block in a colour tray, at the time, only the designed part will stand out on textile. The design of more than one colour can be printed on the same textile. In this case, the work of the 2nd block will be started after completing the work of the specific block.



Prepared Block

Preparing of printing table and colour tray- It is convenient to use a strong table made of either stone, cement, iron, steel or of good wood. First of all, we have to spread blanket of several steps on the table and then brand-new cloth will be set up on the table with pin in



Color tray

such a way that the cloth will spread on the table very tightly and there will be no wrinkle on the cloth at the time of printing. A rubber cloth will be set up under a colour tray for printing colour and then a piece of foam measuring 3-4cm will be spread on the rubber cloth. Next a piece of woolen cloth or gunny will be spread on the foam and colour will be spread on the foam with the help of a brush. At the time of printing work, the block will be put on the woolen cloth or gunny for 2/3 times and then the printing will be set on the original textile. We have to wash block after completing the work.

Prussian - Different kinds of colour for block printing are available in the market. If this colour is properly spread on the block and then press on the cloth, it will be printing. But if we know the process of prussian, we can print the textile making the dye according to our own choice. Making of prussian paste and printing method are mentioned here -

Ingredients of paste	Percentage
Prussian dye	6%
Boiling hot water	20%
Urea sar	3%
Edible soda	3%
Washing soda	3%
Melted gum	62%
Resist salt	1%
Glycerin	2%



Block printing

Preparation of paste: To make paste one tola fine gum is to be mixed with ½ litre water before 24 hours of making paste. Then in a clean container of hot water dye urea sar, Edible soda, washing soda, resist salt are to be mixed and finally they are to be mixed with the prepared gum together (No need to use urea sar in rainy season).

Printing method - After preparing paste it will be filtered with filtration and mixed with glycerin. Then textile is to be printed with the mixture. It is better to work with this paste as early as possible. Because the quality of it is spoiled after 4 hours. After printing the textile is to be dried in shade and in the sun for some days. It is to be steamed, washed and bleached after doing block print in prussian dye. Water is to be boiled in a big pot for steaming. Now the textile is to be wrapped with gunny and strainer is to be set on that pot and put the textile on it and then cover it up for steaming.

Task - Show the method of block-printing on a table cloth in your classroom.

Sample Question

Multiple Choice Questions

1. Which one is the first used principles in the history of block printing ?

A. Screen B. Stencil
C. Block D. Roller

Read the following stimulant and answer question 2 and 3 :
Sumona selected 'Babla' wood which was 1″ thick for block printing for her Eid dress. She made the following mixture of clours. Then she started to print her dress as she desired. But the standard of the print was not up to her expectation.

Prussian colour	-	6%
Boiled hot water	-	10%
Melted gum	-	62%
Edible soda	-	3%

2. Where is the fault of the mixture ?

A. In the quantity of prussian colour B. In the quantity of boiled water
C. In the quality of melted gum D. In the quantity of edible soda.

3. What is the reason behind the failure of the expected standard of block ?

i. There is fault in the mixture of colours
ii. Fault in the selection of wood
iii. Fault in the making of the block.

Which one of the following is correct ?

A. i. & ii. B. i. & iii.
C. i & iii D. I, ii & iii.

Creative Questions

Raisa used Prussian blue block prints on fabric and brought it to the shop for sale. The cloth remained unsold. Homayra's shop is next to Raisa's. Homayra enhanced the fabric's appeal by adding multiple colors to specific areas in addition to block printing. Her fabric looked attractive and sold quickly.

a. What is the name of fabric produced in a factory?
b. Explain why dye preparation is an important step in block printing.
c. Explain why Raisa's cloth remained unsold.
d. Analyze the sales strategy used in Homayra's shop.

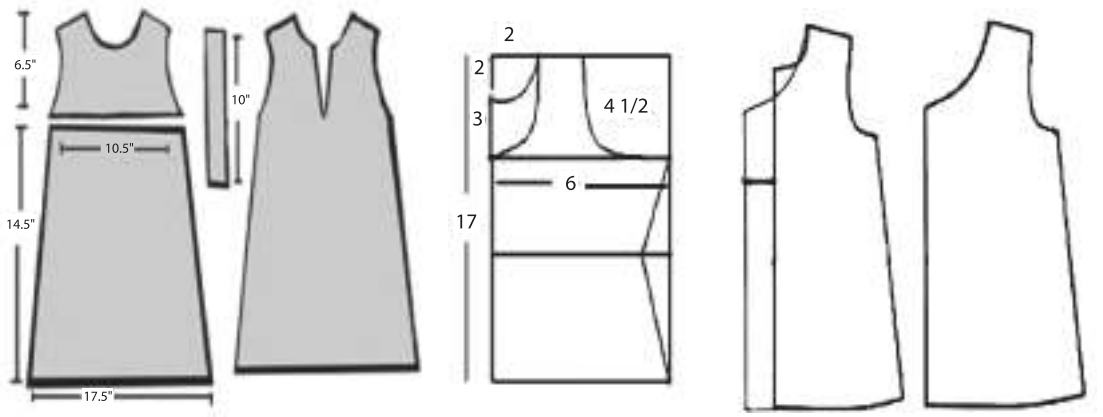
Short Answer Questions

1. List the characteristics of fabric manufactured in a factory.
2. In what ways can blocks be made?
3. Why is it important to be cautious while preparing color paste?

Chapter Seventeen
Drafting

First of all , a sample of a dress is drawn on a plain paper while making a dress. This is called main drawing or main draft. Next, based on the main drawing the final drawing which is drawn on brown paper according to the size of figure in a systematic way before cutting the piece of cloth is called pattern drafting. In making a pattern draft successfully some extra measurements are added to the main measurement for comfort and sewing.

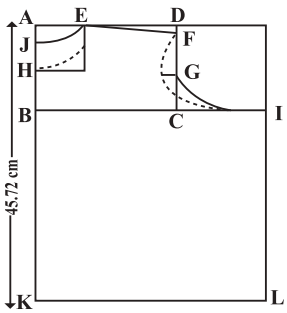
There are many advantages of drafting such as- a) in case of necessity, the design of a dress can be changed easily , b) it is possible to cut many dresses of the same size at the same time, c) it is possible to hinder wastage of fabric, d) it hinders the risk of faulty cutting , e) it takes less time in cutting the dress, f) it is possible to make with the cut pieces not only the dresses of small children but also the different types of necessary things of a house such as -napkin, handkerchief, table mat etc. g) It is easy to make dresses of varieties of design based on the main drafting.



Lesson 1-3 Children Dress - Drafting of Fatua.

Fatua is very comfortable as an indoor or outdoor dress for the summer season. For making a fatua of a child of 3 years, we have to plan for a main design first and then make a drafting on a paper. The things which are to be collected for drafting are as follows:

Brown paper, pencil, scale, rubber, yard -tape, pin etc. For making a fatua , convenient for a child of 3 years, One must know how to take body measurements to ensure a good fit. The main measurements of different parts of body and the method of making drafting are given below :

Required measurement	
Length-17″ or 43.18 c.m Bust -22″ or 55.88 c.m Shoulder -9″ or 22.46 c.m Sleeve length 3.5″ or 8.89 c.m End of sleeve 4″ or 10.16 c.m	 Drafting of the front & backside of a fatua.

The drafting of the front & back side of a fatua is to be done at the same time . First of all, a line of A- (11.43 + 1.27) =12.7 c.m is to be drawn taking half of the measurement of shoulder or adding 1.27 cm with the measurement of poot. Then a line of AB is to be drawn taking the 1/4 part measurement (13.97cm) of chest +5.08 cm loose + 1.27 cm sewing =20.32 cm. Rectangle A,B,C,D will be created on the BI line.

From A dot E dot is to be identified to distance 1/12 part of chest = 4.57 cm to fix up the width of neck. From A dot 2.54 cm down J dot is to be identified and then dot E & J will be added in a round way for the depth of back neck. Now, for making the shape of front neck, form A dot under the chest of 1/8 part= 6.98 c.m, H dot is to be identified and then dot E & H is to be added in a round way. Shape of the neck can be more deep according to our choice. Then From D dot E & F is to be added. For the Shape of armpit the middle point G of CF line is to be identified and then if we add G & I dot in a curved way, the shape of back armpit will be made. The front armit will be 1.27 cm more deep than the back armpit. 1.27 cm for hem stitch and 1.27 cm for sewing are to be added under the entire length. Now, A B line from A dot is to enlarged up to under 45.72 cm and A K line is to be drawn. Then IBKL rectiangle is to be drawn.

Drafting of hand - A -D = length of Sleeve 8.87 cm + edge -2.54 cm + sewing 1.27 cm = 12.7 cm.

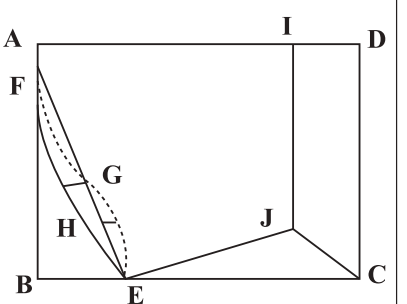
A-B = width of arm = 1/4 of chest = 13.97 c.m.

B-E =1/12 + 1.27 cm of chest =5.84 cm

I- D = edge 2.54 c.m

I-J= cuff 1/2 + 1.27 cm = 11.43 cm.

A-F =1.27 cm



Drafting of the arm of fatua

Now, EF dot is to be added in a triangle way, The middle point of this line is G. From E to F we have to make a shape setting a dot outside 1.27 cm of G dot. Now to make a shape of the front part of arm, taking the middle dot H of the line of G and E, at the middle of 0.635 cm of H a dot is to be identified and then we have to make a shape like the picture with EGF.

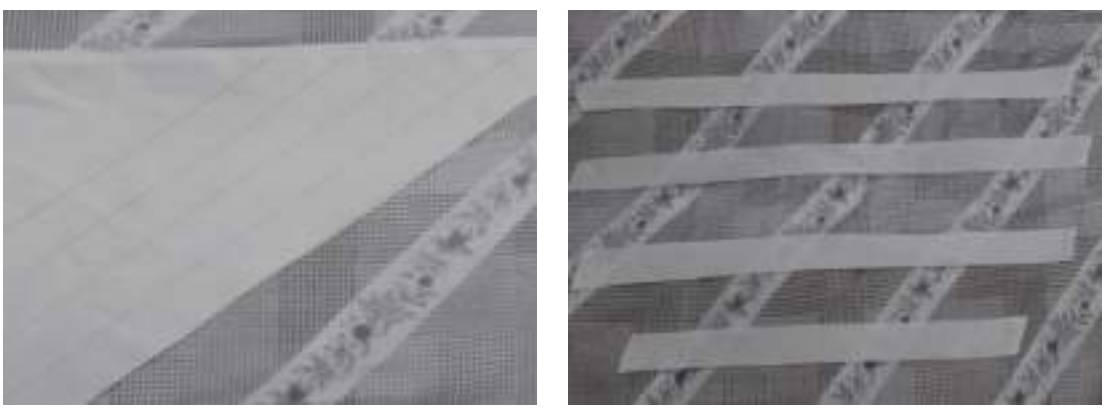
Task - Prepare the draft front part, back part and arm of fatua.

Preaparing of Fatua- If we want to make a fatua according to the drafting, first of all, we have to fix the quantity of cloth according to the plan, then it is to be sewed cutting according to the definite method. To make a fatua for a child of 3years old. 1 yard cloth, thread for sewing, needle, button, scissors, sewing machine etc. are to be kept near hand.

Cutting cloth- Cloth is to be folded following the proper method and then putting the drafting paper on it well set it with pin. Next, cloth is to be cut according to the design. After cutting, the back part is to be separated, then cutting the shape of front armpit and neck, we'll cut from the middle point of neck to the 7.62 cm under of it.

Again, the side long cloth is to be folded and setting of the drafting of arm we have to cut together now the front part of drafting of arm is to be shaped. Then the cloth of the front part of two arms is to be set together and again setting drafting the shape of the front arm is to be cut.

Now the neck piping and button border are to be made with cut piece. In this case contrasting colour cloth also can be used.



Method of preparing piping

Sewing- First of all, setting the front and back part together, the sewing of shoulder of the two sides is to be done. Next, arranging the border for button, the neck piping is to be set up. Then sewing the two sides, length is to be fixed up and folding the edge of length tucking is to be done. Sewing the two arms separately, they are to be connected with the body. Now, testing the fitting hem sewing is to be given at the end of length . Then loop and button are to be set in front of chest. At last, cutting the excess thread and ironing the sewing of fatua is to be ended.



Prepared Fatua

Task- Make a fatua according to the drafting.

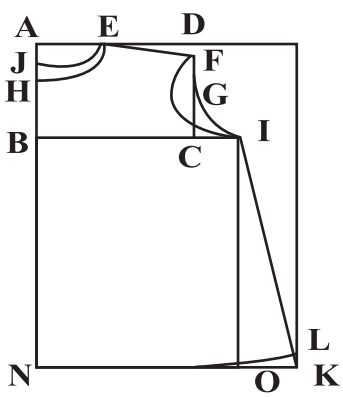
Lesson 4 Drafting of Baby Frock

Baby Frock is a suitable dress for children. This dress may be of different types. For example- A line shape frock, yoke frock, tunic etc. Here for making a frock of a baby of 3 years, we have to take the measurement of some parts of the body, the main measurement of those parts and drafting method of it are given below :-

Required measurement	
Length -	45.72 cm
Chest -	55.88 cm
Poot -	11.43 cm

Broom paper, pencil, scale, shape cut, rubber, yard, pin etc are to be collected. The drafting goes the back and front side of a baby frock is to be done at the same time.

First of all, adding 1.27 cm with the poot measurement AD line is to be drawn. Then adding 2.54 cm with ¼ part of the chest AB line is to be drawn. From B dot 6.35 cm for keeping loose and 1.27 cm for sewing are to be added with ¼ part of the chest and I dot is to be fixed up at the distance of 21.59 cm (13.97 cm + 6.35 cm + 1.27 cm). Now rectangle ABCD is to be created on the B I line adding B & I. Next 1.27 cm for hem stitch and



1.27 cm for sewing are to be added under the entire length (45.72 + 1.27 + 1.27) and from A dot A B line is to be extended down up to 48.26 cm AN dap line is to drawn. Now rectangle IBNO is to be drawn. For enclosure IJ is to be added crossing K dot from O dot to about 4 cm away and a long the OL line a shape is to be made with the shape cut like the picture beautifully. From A dot E dot is to be identified from the distance of 1/12 part of chest 4.6 cm to fix up the width of neck. From A dot 1.27 cm down J dot is to be identified and then dot E C J will be added in a round way for the depth of back neck. Now for making the shape of front neck, from A dot under the chest of 1/8 part, H dot is to be identified and then dot E & H is to be added in a round way. Shape of the neck can be more deep according to our choice. Then from D dot 1.27 cm down F dot is to be identified and dot E & F is to be added. For the shape of armpit the middle point of CF is to be identified and then if we add G & I dot in a curved way, the shape of back armpit will be made. The front armpit will be 1.27 cm more deep than the back armpit.

Task- Prepare a drafting of A line shape baby frock taking the measurement of the body of a child of 3 years old.

Cutting cloth and sewing - To cut a baby frock according to the above drafting, taking a cloth of 91.44 cm width and 50.8 cm length we'll fold it and put the drafting paper on that and set it with pin. Next, the cloth is to be cut according to the design. Now neck, arm piping and button border are to be made from the side and piece. The back side of this type of baby frock can remain full or half open.

In the case of sewing, first of all, setting the front and back part together. The sewing of shoulder of the two sides is to be done. Next setting the piping of neck and armpit, button border is to be sewed. At many times, the arrangement of button can be on the two shoulders also. Then sewing the two sides, length is to be fixed up and folding the edge of length tucking is to be done. Testing the fitting hem sewing is to be given down and required button is to be set. At last, frock sewing is to be completed after cutting the extra thread and completing ironing.



Different types of A line shape baby frock

Task- Make a baby frock acording to the drafting.

Sample Question

Multiple Choice Question

1. Which one is the suitable dress for summer season ?
   a. Shirt
   b. Fatua
   c. Panjabi
   d. Safari

2. What is the benefit of drafting ?
   a. Cloth will not shrink
   b. Fitting of the body is to be good.
   c. Sewing will be strong
   d. Design is to be good.

Read the following stimulant and answer question on 3 & 4 :

Julekha decides to give a baby frock to her friends daughter at her birthday. She sews the cloth after cutting it. When she goes to iron the clothes, she notices the sewing flipped.

3. Which part of the clothe Julekha should sew first to keep the sewing in right form ?
   a. To set the neck piping
   b. To join the lower part
   c. To sew the lower part
   d. To sew the front and back shoulder together.

4. What should Julekha do for making the frock in a right way/properly-

   i. To cut the front and back part of the frock together.

   ii. To follow the right steps of sewing

   iii. Not to buy inadequate cloth at the time of buying

Which one of the followings is right ?

a. i & ii
b. i & iii
c. ii & iii
d. i, ii & iii.

Creative Question

After training Rojina buys a cloth for making a fatua for her baby of a 3 years old. She cuts the cloth after taking the measurement of 1/3 part of shoulder and 1/2 part of chest.

After making the dress when she goes to put on the dress to her baby, she notices that the dress is not getting into her body. If she wants to alter the dress. in no way it is possible to do that.

a. Which type of paper are to be selected in drawing the sample of a dress ?

b. What is meant by ' patarn drafting' ?

c. How could Rojina make a dress suitable for the baby ? Explain it.

d. Do you think that Rojina had a fault in making the dress ? Evaluate it.

Short Answer Questions

1. Why is drafting important?
2. How should you prepare before cutting cloth?
3. How is fabric size determined for clothing?

Chapter Eighteen
Clothing Care & Tidiness In Clothing

Clothing and textiles tend to reflect the sense of beauty, taste and personality of a person. It is not likely that to buy clothe according to ones own will rather it becomes indispensable to take care of clothing for keeping it workable, useful and sustainable. New clothing also turns old and tattered for continuous use. These types of old and tattered clothing also can be renewed for using by the proper repairing of them. At many times, the fabric can loose its beauty because of stains on it. It is important that stains should be removed promptly from clothing through different methods.

It is necessary to take care of clothing properly for keeping the durability, beauty and usefulness. If we can take care of clothing following the proper procedures, the clothing will remain useable for a long time, remain beautiful and at the same time we will be able to save money. Clean and tidy dress keeps up mental as well as physical health.

Lesson 1- Washing Clothes

The care which garments require to keep looking their best is a major consideration in terms of time, money and energy. The most usual method in clothing care is washing. The main purpose of washing clothes are:

1) To wash the dirty clothes with soap or detergent to make them clean again.

2) To bring back the clothes to their original form using special elements.

Cleansing elements	Incidental elements
Soap : Soap is the best cleansing material. Most of the clothes of home are washed with it. Many kinds of soap are available in the market. The soap that contains too much caustic soda is not good for washing and cleaning clothes. To clean clothes, soap should have certain characteristics, such as-the soap will not be the yellow or deep in colour ; the soap will be hard so that if we press our finger on it, it will not create a hole; the surface of a soap should be smooth; if we observe a powdery substance on the body of the soap, we should be aware that it contains too much base and is very harmful to our clothing; soap holds dirt bringing out of the cloth; so if we wash it with water, soap with dirt will be washed away and the cloth will be clean.	Borax: The detergent named borax is not available in our country. At present borax is produced from sodium carbohydrate boric acid. Liquid borax contains base so it is effectively used to strengthen and brighten clothes, very often, this material is used for removing stain from clothes.

Washing soda : It is called sodium bicarbonate. It is easy to clean heavily imbedded dirt of greasy cloth with washing soda. Soda is used for heavily imbedded dirt and greasy cotton and lynen clothes to boil, to make germfree and as well as to remove bad smell from them. But it is not wise to use soda for all types of clothes. Silk and woolen clothes will be spoiled for too much base of soda.	**Starch:** Starch is obtained in great quantity from rice, potatoes and corn. By using starch, clothes get back their natural strength and brightness. Clothes do not get dirty easily when starch is used. **Gum Arabic:** Gum Arabic is used to strengthen and brighten silk clothes.
Soap powders: Nowadays, it is seen the extensive use of soap powders in our country. It is easy to wash clothes by taking required quantity of water with soap powder in a pot. Soap powder is found by different names in the market. But soap powder of different brand contains too much base. So we should use these by determining the identity of the fibres in the fabric.	Indigo: Clothes become yellowish after washing with soap. In order to get rid of their yellowish presence indigo is used to get a light blue white appearance. Ultramarine, Prussian and indigo blue are available in the market. Indigo, in both the forms liquid and powder, is available in the market.
Bran Water : Husk or bran water is also used as a cleansing material. Colourful and printed clothes such as chintz and cretonne are washed with bran water. Bran is also known as husk. If we take bran in a piece of rag and dip into water, we'll get bran water when the water turns into brown colour.Then it will be fit for using. Husk is also used for dry cleaning.	**Germ smoothing material:** The dresses of synthetic fiber become strengthened after using for some days. If cloth smoothing material is used, it will keep the clothes soft and smooth. But too much use of it decreases the water retain power.
Ammonia : It is one kind of bitter gas.Normally the pungent gas mixed in water is available in the market. Hard water that is used for cleaning white silk and woolen clothes is made softer by using ammonia. Coloured clothes are not washed in this type of soft water as it may cause the clothes to get discolored. Sometimes this may be used to clean stains on clothes.	**Germ destroying material:** After recovering from any contagious diseases, the used clothes are washed away with the germ destroying material to remove germ, such as-clorin, bleaching.
Rita : Since the ancient times, the fruit named Rita nut has been used as a cleansing material for silk and woolen clothing. This is the fruit of a kind of tree and is used for washing expensive and fine clothes. Rita nut contains a material named saponin. It is the saponin which remove the dirt from clothes. It increases brightness, smoothness and retains colour.	**Vinegar :** Vinegar is used in the cleansing material to get rid of the excessive blueness of clothes. Vinegar is also used to bring back the colour in discoloured clothes.
Synthetic detergents : Detergents is a non-base cleansing material. Silk, woolen clothes etc, can be easily cleaned with detergent. Coloured clothes do not lose their colour.	**Salt :** It is seen the various use of salt in turning raw/temporary colour into permanent colour. Salt may be used while washing coloured clothes. This will not affect the colour. It is also used to clean stains on clothes.

Task: Make a list of cleansing materials and incidental materials used at home.

Lesson-2: Preparation of Washing and Cleaning Clothiers

"Washing clothing" is a remarkable side of cleanliness of a family. Because the used clothe is to be washed everyday. Again, sometimes washing process continues weekly or seasonally. Washing clothe is a toilsome work. This work can be divided into several parts to complete it well, such as selection of dirty clothes -

We should select dirty clothes, bed-sheet, daily used clothes, small clothes into different groups based on dirt for the convenient of cleaning.

Again, the same cleansing material and washing method are not applicable for the clothes of different fibre such as cotton, lynen, silk, nylon, tetron etc. At the time of sorting, the clothes which belong to the same nature and washing method should be kept together. So before washing the clothes we should select and separate the clothes according to their fibre, colour size and dirt.

Repairing clothes

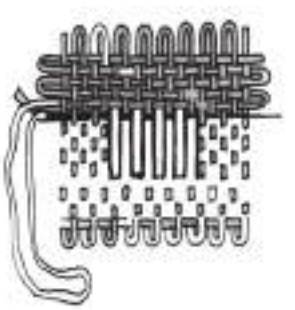
Before washing the clothes, if any clothes are torn these should be mended soon by darning or patching. Otherwise, they can be more torn at the time of washing. The dress becomes unfit for wearing if this tear gets bigger. Besides, buttons and other fasteners should be checked before washing to make sure they are secure and undamaged. As soon as there is any sign of loosening or breakage, they should be renewed. If there is any decorative buttons or clips they should be removed before washing so that it may not damage.

Pattern of Repairing

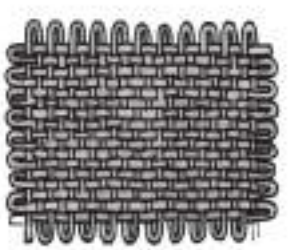
A) Darning: If a dress is torn by thrusting against with something pointed, that place is mended by passing thread in and out and in two directions, this knitting is called darning. For this, the needle and yarn are to be sleeted according to the yarn of clothes. The colour of yarn and fabric is to



1st step of darning



2nd step of darning



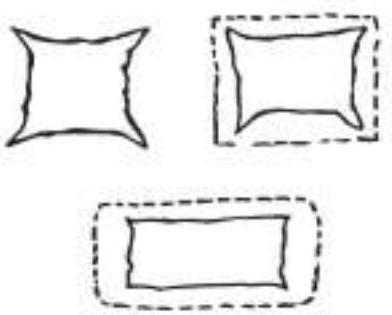
3rd step of darning

be the same. At the time of darning, the line should be drawn around the torn part. If it is sewed with the running stitch along the line, the yarn of clothe will not unfasten. For darning warp yarn and filling yarn are to be used gradually. In this case, it is convenient to use a frame.

B) Patching : If a dress or clothe is torn anywhere it is to be mended by sewing a small piece of cloth put on over a hole or a damaged or worn place, it is called patching. It is needed to patch if any part of clothing is perforated, burnt or worm-eaten. Patching is two types, such as-

(i) Normal Patching - Patching can be of round or square. The colour and texture of the piece of cloth used for patching is to be the same of clothing. That piece of cloth is to be bigger than the torn part of the clothe. The cut piece is to be washed and ironed before patching. The cut piece which will be used for patching is to be set on the torn place and confined there with hem stitch around folding the edge of the cut piece. Now, the clothe is to be turned and cut the torn place in a diagonal direction. Then folding the edge of the torn place it is to be set up with the cut piece by the hem stitch. Lastly, it will be set up on both the sides by ironing.

(ii) Designed Patching - If the cut piece of the same colour of the clothing is not available for normal patching or if it is seemed that it will look odd or the used clothing is so new that we don't want to spoil the beauty of it, we have to use it for many days, in this case it may be repaired by designed patching. First of all taking a cut piece of different colour and of different design is to be set up on the torn place and stick to it with button hole stitch. The torn part of the back side is to be sewed like the normal patching. It will not be comprehended if some more designs are set up keeping similarity on the entire clothing. It looks like appliqué design. Big sticker can be used as patching on the parts of boys and the dresses of children.



Normal Patching



Designed Patching

Removing Stains- It is important that stains to be removed promptly from clothing. Stains that are allowed to set are often impossible to remove. Before attempting to remove a stain, the identity of the fibre or fibres in the fabric must be determined, since different types of fibre call for different treatment. It is also necessary to identify the stain.

Selection of cleansing material - The care which garments require to keep looking their best is a major consideration in terms of time, money and energy. Some garments require more care than others. Each fabric has its special needs. So depending on the cloth, design and dirt of the clothes to be washed, we should select suitable cleaning elements. The temperature of water is also an important factor.

According to the material of clothes, we must either use hot, lukewarm or normal water. To increase the brightness of clothes we can use indigo, starch, gum etc. For example-it is possible to clean cotton and linen fabrics with normal soap and cool water. But silk and woolen fabrics are to be washed with detergent powder and luke warm water. Cloth is cleaned well if it is kept for half an hour after smearing with soap.

Soak in water - If too much dirty clothes (mosquito-net, screen, table-cloth etc.) are soaked in water for half an hour dirt from clothe will loose or get detached. Then if it is washed with soap water, it will be cleaned well and soap will be less consumed.

Washing clothes - Before washing, too much dirty part of clothing should be pretreated keeping for sometime with soap. The different places like shirt, collars, sleeves, cuffs, the backside of pant, edges of pyjamas and petty coats etc. attract too much dirt. If it is necessary, soft brash can be used. Then the entire clothe is to be washed gradually taking little water. But silk clothes will get damaged if it washed roughly. Silk clothes should be rinsed by hand.

Washing - After removing dirt from clothing it is to be washed again and again in the water of a big bucket on bowl to remove dirt and soap from it. The process of changing water again and again to remove dirt and soap is called washing.

To apply indigo and starch - Generally, it is needed to use starch for cotton and linen cloths. How much thick will be the starch ? It will depend on the nature of fabrics. It is needed slight starch for coarse clothe. Indigo is applied in white clothes . By using starch, clothes get back their natural strength and brightness. Clothes do not get dirty easily when starch is used. Indigo must be

taken in a small piece of cloth and mixed in water for white clothes which became yellowish after washing . In order to get rid of their yellowish presence indigo is used to get a light blue white appearance.

To Dry clothes - If the clothe is not dried properly after washing, the dazzling and scratching appearance will not come. White clothe will become more white if it is dried in the sun. Coloured and silk clothing must be always dried in the shade. The heavy strong part of clothing is to be dried keeping it up.

Ironing - There will be shrinking almost on all the clothes after washing. We iron the clothe to make it smooth and tidy. Before ironing, little water is to be spread on the starch cotton clothe for making it soft. The temperature of ironing is controlled according to the nature of cloths. For example silk and artificial fibre clothes are ironed at the lowest heat, woolen at the 300^{o}F heat, cotton at the 400^{o}F–450^{o}F heat, linen at the 475^{o}F-- 500^{o}F heat.

Airing - After ironing there is moisture in the clothing. It is not right to keep in a box or almireah with this condition. So, after ironing it should be kept in the open air to remove moisture. When the cloth will dry, it is to be stored in the proper place.

Lesson-3: Process of Washing Silk Clothes- Silk clothe can not stand against excess heat, base and rubbing. The silk clothes affected by sweating and dirt, should be washed soon. Because sweating acid makes the silk weak.

The noticeable aspects in washing this type of clothing are as follows-

- At the time of washing, silk and coloured silk clothes should be separated because the colour of coloured silk clothes may fade when kept in water for a long time and spoil the white silk clothes. So it is better to wash the white ones and the coloured ones separately.
- We should always use lukewarm water and mild soap while washing silk clothes. If we use soap that contains excessive base then the silk clothes will lose its brightness. We can use rita good soap or soap powder or detergent.
- We must soak the silk clothes in lukewarm water, mix any of the above-mentioned detergents. We will stir them a few times and then wash them.
- We have to wash the silk clothes taking a big bowl or bucket of water. We have to stir it for several times. In case of washing coloured silk, during the final stage, we should mix a table spoon of salt and vinegar in one gallon of

cold water. It will retain the brightness of coloured silk clothes. Silk clothes should be rinsed by hand.

- If the silk clothes are washed for many times, we may use arrowroot starch to maintain its firmness.
- Silk clothes must be dried always in the shade. Sun heat spoils the colour and brightness of silk clothes.
- Ironing should be done when the silk clothes are still moist. No need to spray water on silk clothes because there will be stain of water drops. It is better to retain the brightness of the silk clothe if it is ironed turning it back with mild heat. After ironing it should be kept in the open air to dry away wetness then it is to be stored in proper places.

Process of Washing Woolen Goods

Woolen clothes are obtained from animal fibres. Water , heat, base and friction make woolen fibre weak. So, for washing woolen clothes it is better to use lukewarm water and soap powder that contains fewer bases.

Process of Washing

- Before washing woolen clothes, according to need we should repair and remove the stains first. White and coloured clothes should be separated because they should be washed separately. Then the dirt should be dusted off brushing lightly. Man-made woolen fabrics are very flexible by nature. So we must be very careful when washing woolen clothes. We should draw the design of the woolen clothes on a piece of paper, before washing. After washing if we hang it, it will lose its original shape. So, it is better to keep it on surface until it is half dried. This helps to retain its original shape and design.



Drawing the design before washing woolen clothes.

- The woolen clothes should be carefully rinsed. Lukewarm water should be used in washing woolen clothes. It is suitable to use soap powder of that contains less base, such as jet powder. Rita can be also used in washing woolen clothes. Woolen clothes should not be kept in water for too long. If it is kept in water for a long time, it will become weak.

- The water should be changed a number of time. At the final stage, vinegar should be added to the water. This helps the coloured woolen clothes to retain their colour. At the final stage of washing of woolen clothe a few drops of citric acid or lemon juice should be mixed in water. It helps the white woolen clothes to retain their brightness.
- We should never wring the woolen clothes to take out water. A thick towel should be used to suck out the water. It should not be twisted by hands because it will affect woolen clothes.
- Woolen clothe should be dried in the mild sun ray or in the shed that contains light and air. Machine made wet woolen clothe should be dried on mat, spreading on plain land. At same time, the clothes should be turned upside down to make it dried quickly.
- A very hot iron should not be used. We should iron the woolen clothes when they are still moist. At the time of ironing soft wet cloth should be placed on the woolen clothes so that the fibre of clothes may not be affected and it will retain the brightness.After ironing it should be kept in the open air for some time to remove water vapour well. Then it should be kept in a proper place.

Lesson - 4: Dry Cleaning

Dry cleaning means the washing of clothes by some special chemical cleaning elements without water. There are some silk and woolen clothes which can shrink or colour may also fade if they are washed with water. For this reason, dry cleaning system is used for washing silk and woolen clothes. Dry cleaning system helps silk and woolen clothes to retain their original shape, form and brightness.

Used ingredients : Many kinds of chemical solvent are used for dry washing. These chemicals are fully waterless. Even if these contain a small amount of water, this water is sucked off by cotton or other absorbent material. Because if this type of chemical compound contains water the clothes can not be cleaned.

The ingredients should have the following characteristics :

- Certain chemical compounds have a dirty smell, so these should be avoided.
- There are certain chemicals that easily evaporate into the air, so they are expensive to use for dry cleaning. Certain chemicals do not evaporate so easily, so the clothes take long time to dry. So, the chemicals that evaporate in a moderate way are best for dry cleaning. It is also seen that one or two compounds may be good for day cleaning.

- Many types of cleaning liquids are available in the market for dry cleaning. Among these, petroleum, ether, turpentine benzale, benzene and petrol are notable. Petrol is the best product for dry cleaning. Because it is less expensive and readily available.

Rules of washing : The different steps of dry washing are as follows :

- First of all the dirt should be dust off.
- The cleansing liquid should be made waterless.
- This waterless liquid should be kept in 3 or 4 buckets. We can mix benzene soap or lisapol in the first bucket. The clothes should then be dipped in this solution, wringed lightly and taken off.
- After this, the excess liquid should be taken off from the clothes etc. by using both of our hands and then the clothes are dipped in the second, third and fourth buckets. The fourth bucket should contain some vinegar.
- After washing in this system, the clothes should be dried in the shade. While it is drying, the clothes should be pulled to bring it back to its original from and shape. This will prevent the clothes from shrinking.
- When it is nearly dried we can iron it by putting a wet piece of cloth on it.

The following steps should be followed with caution at the time of dry cleaning. As a example- There should be enough movement of air at the place of dry cleaning.

- There should not be any type of fire at the place or near the place of dry cleaning.
- The chemical liquids should not fall on the floor. In this system silk or woolen clothes may be dry washed at home.

Washing Method of Nylon, Polyester Clothes of Artificial Fibre

The clothes of this type of fibre will not be spoiled easily if they are kept in water. The clothes with much dirt will be cleaned easily if they are kept in lukewarm soap water. It is better to use soap powder of good quality. At the time of washing they should not twisted by hands. They should be washed slowly. Clean water is to use more than once to remove dirt and soap. Then they should be dried in the shade hanging on the string. It can be used without ironing because the clothes of this fibre do not shrink for washing.

Task: Describe the preparation of washing clothes.

Lesson - 5: Preservation

Preservation means to keep something safe from harm or danger following the proper rule. Here, preservation means to keep the used clothes safe after washing and ironing for a short time or a long time. We use different types of clothing. Among this informal, formal dress. Party dress and seasonable dress are included. Besides this, there are bed sheed, bedcover, table cloth, cushion cover napkin, tray cloth etc. in almost all the houses. These are to be cared and preserved properly to retain their brightness, beauty and durability. Steel or wooden almirah, big steel box, suitcase etc. are used as the preservation unit.

Noticeable Objects in Preserving Clothing

- It is convenient to preserve costly clothing and normal clothing separately.
- It is easy to get at the time of need if big clothing and small clothing are preserved separately.
- Naptholin is to be kept in the folding of clothing.
- Taking in a small bundle, black cumin, dry tea leaves are to the kept in the folding of quilt-cover, bed sheet etc.
- If they are dried in the sun at times, the moisture of clothing will be remove.

Woolen cloths are not used in other times except in winter season. Woolen clothes are used for 2-3 months in a year. These are preserved for rest of the time of the year. The price of woolen clothings is comparatively high. If they are properly preserved, they can be used for a long time.

The Process of preservation are as follows -

- Moth destroys wool. They affect more the dirt woolen clothings. To save from moth woolen clothings should be cleaned and dried properly before storing. Woolen clothings should be kept in clean mothproof and fume free places.
- Then after ironing they should be kept in the open air to remove moisture. Next, they are to be kept separately.
- Naptholin should be given in the folding of clothings. Besides this, leaves of margosa tree, dried tea leaves, black cumin are to be kept in the foldings of woolen clothings taking in small bundles.
- It is better to spray insecticide in almirah or box before preserving.

- The preserved clothings are to be kept in the sun light to remove moisture from them at sometimes.
- It is better to hang the woolen coat, pant, jacket etc. on hangers.
- The woolen clothings are costly. So, to keep them fit for using, they are to be stored with care.

The noticeable aspects of preservation are as follow-

- They should be cleaned, dried and ironed properly before storing.
- We should remove water vapour from ironed woolen clothings properly. So after ironing they should be kept in the open air.
- Moth is the worst enemy of woolen clothings. Mildew also has a bad affect on them. So the preserving places must be moisture free. At times, they are to be dried in the light sun ray.

Task- Write down about the care taken for preserving clothing different types of fibers.

Lesson - 6: Personal Hygiene and Tidiness in Clothing

It is a natural and eternal desire of human beings to present themselves in an attractive way before others. So, they decorate themselves by dressing up their body in their own various ways. Body means one's physical structure and health and dressing up means tidiness in clothing. One should select suitable garments and accessories keeping harmony with ones personality. When a person possesses a good physical health and dresses up appropriately, only then his or her physical beauty is brightened up. Sound mind is in sound body. It is the sound mind that creates an urge to dress up oneself in an artistic way.

The works that we have to do in keeping tidiness are as follows :

- It is necessary for tidiness to take care of clothing regularly such as -washing, ironing and repairing accordingly.
- It is the important part of tidiness to choose dresses in terms of time and place.
- Tidiness and natural beauty of personal hygiene i,e to take care of hair, nails, eyes, teeth etc. are to be maintained.
- To maintain straightness , playfulness in physical structure and to keep normal posture in speaking.

- We have to wear suitable dresses considering certain factors such as function, occasion, place, weather, age ,occupation and physical features of a person etc. All types of designs and all types of dresses are not suitable for all.
- Costly dresses are not necessary for being tidy. Without wearing ultra -modern dresses it is possible to be tidy wearing usual and harmonious dresses.
- It becomes more attractive by the collaboration of usal dress and additional toiletries.
- Selection of dresses should be according to the custom of culture, such as, a Bangalee girl looks beautiful in a saree.
- The person wearing a dress can be full of personality if it is possible to create harmony in combining the principles and ingredient for creating art on dresses. It is important in tidiness to bring harmony of colour, line and texture of clothing with the different parts of a dress, such as- the use of a suitable duppatta with salwar and kameez which reflect the personality of moderate taste.
- It is one of the prerequisite conditions of tidiness to maintain the consistency in the arrangement of shoe, handbag, ornaments and make up etc. with dresses. For example-skates are not suitable with sarees. In the same way, high heel is inconsistent with school uniform. The use of lipstick, kohe, ornaments etc. is adverse to tidiness for the school girls. It means that harmony should be established for tidiness between clothing and accessories.

Physical Hygiene

The pre-requisite condition of an attractive personality of a person is good physical health. Sound mind is in a sound body. Physical hygiene and care are necessary for building up of good physical health. The human body consists of different organs. The different organs are : hands, legs, teeth, eyes, nails, ears, nose, neck, hair, skin etc. Cleanliness and care of these organs are called personal hygiene. The objective of personal hygiene is to keep the physical health sound. If a person takes proper care of his different organs such as teeth, skin, hair etc., his entire physical features will be attractive. It helps expose personality by removing inconfidence. It helps remove hesitation to present oneself in front of all in with full of personality.

The most important aspects in maintaining personal hygiene are as follows :

A) To maintain the cleanliness of different organs

Care of hands : When we talk about personal hygiene, the first thing that comes to mind is our hands. Smooth and well shaped hands express beauty and soundness. The aspects, important to care in maintaining the cleanliness are as follows:

- We should wash our hands with soap after doing any work.
- We should use cream or lotion to keep smoothness of hands.
- While chopping vegetables, our hands get stained and also during cooking our hands get stained with turmeric and other spices. Hands will become stain free if we rub hands with a piece of lemon.
- We have to cut our nails and keep them small. Because if dirt goes into nails, it will get into stomach and make us sick.

Care of legs: The followings are the noticeable aspects in taking care of legs :

- Everyday we should wash our legs with lukewarm water and soap. We have to clean our legs rubbing with soap. After washing we should dry our feet with a towel and lotion, glycerin and petroleum jelly to keep them smooth.
- At times, the legs are to be dipped into lukewarm water with salt for 30-35 minutes to remove dirt and tiredness.

Care of teeth : The followings are the noticeable aspects in taking care of teeth:

- We have to use standard paste and tooth powder along with toothbrush to clean our teeth regularly.
- After eating we should clean our teeth.
- Ash, coal etc. should not be used for cleaning teeth.
- It is said that teeth are valuable treasure. They enhance the beauty of our face.
- Bright teeth free from bad smell are the indicator of beauty and good health.

Care of eyes : Among all the organs in a human body, the eyes are the most delicate, complicated and sensitive organs. Transparent and glittering eyes bears the testimony of good health. The following aspects are to be noticed in keeping the eyes safe :

- Everyday in the morning , we must wash our eyes with cold water.
- Strong and very bright light, less or dim light or both can damage our eyes. So, according to the nature of work, we should ensure sufficient light depending on the nature of work .
- Blue and green light help the eyes to overcome stress and bring soothing feeling.
- We must eat foods that contain vitamin A to keep our eyes healthy.
- If tears come out of our eyes or if they scratched or become swollen, we should immediately consult an eye specialist.

Care of hairs - Hair is a symbol of beauty for the Bengali women. Clean, shiny, smooth, thick dark, long and well-arranged hair reflects ones personality. Beautiful smooth hair is a sign of beautiful mild mannered personality. The methods that maintain the beauty and health of hair are as follows :

- We must take care of our hair regularly. For this, we should wash our hair with mild soap, natural ingredients such as water of soaked mushur dal (lentil), limejuice, yolk of egg and grind methi etc. In order to get rid of dandruff and dead skin, we can wash our hair with limejuce, grind methi, water boiled with neem leaves, yolk of egg etc.
- To increase the smoothness of hair, we can use limejuice, liquor tea, sour curd etc.
- Nutritious foods with vitamin A should be eaten to have shiny hair and to avoid hair loss.

Care of ears, nose and throat - To keep one's body healthy, it is necessary to take care of the ears, the nose and the throat. Like the ears, the nose and the throat are placed very close to each other.

We should clean our ears and nose with cotton buds regularly. We can also use mustard oil to soften the dirt and clean it easily. To keep our voice sweet we should always control our voice. It is good for throat to use hot water and salt to gargle our throat. We should remember that speaking in a -sweet voice our personality becomes attractive.

Care of skin: Clean and tidy skin is bright and disease free. Whatever may be the colour of skin, if it is soft, smooth and clean, it will express personality. The things which are necessary for the healthy skin are as follows:

- The habit of taking bath regularly increases the tidiness of skin.
- We should never use very hot or very cold water while bathing.
- Mild soap should be used for bathing. Every day we should take bath rubbing our body with soft soap.
- We should use cream /olive oil / glycerin to keep our skin smooth and soft.

B) Cleanliness in clothing

Only the tidiness of different organs can not bring the entire tidiness of a body. For this, it is also necessary to clean the clothes. The tidiness of dresses is closely related to the soundness of a body. Because, clothes are attached to a person's body and maintain the tidiness of a body. Untidy dress hinders the tidiness of a body. So to ensure the personal hygiene cleanliness of clothing is must.

Task - Describe the ways of tidiness

Lesson- 7: Reflection of Personality Through Clothing

Clothing is an inseparable part of personal identity. Wearing dress is a man's basic human right. Psychological analysis of the word "Personality" is the similarity, rhythm and unity of a person's body structure, type of his conduct, eagerness, posture, ability and tendency to maintain consistency with the social condition. It means personality is a living harmony of body and mind.

A person expresses his inner feeling through his dress. There is a close relationship between personality and dress.Clothing is a medium of expressing a person's personality such as :

- Dress has relationship with the mind. Wearing of neat and clean or new clothe changing old one makes a mind cheerful.

- Dress that is consistent with the environment frees hesitation to express oneself in front of all in an attractive way. The artistic appearance is expressed in his or her personality.

- If the clothing is inconsistent with the environment there will be hesitation to express oneself. It hinders to express ones personality. There will be a tendency to hide himself or herself.

- Colour, line, design and texture that are used in dresses have impacts on personality. Persons, who are healthy and bulky, look relatively fatter if they wear dresses of heavy ornamentes, large print and thick texture. Dresses with less design, small print and thin texture are suitable for healthy and short structured persons. Loose fits with full sleeve, large print, dark colour and small cut neck are suitable for slims persons. Use of checks and lines in clothing also can cause apparent changes in the physical structure of a person. For example, for heavy and short persons, use of vertical long lines is appropriate in clothing. Use of horizontal lines in clothing makes these persons heavier and shorter.

- A number of inconsistencies of ones body feature such as thinness and thickness can be covered selecting appropriate dresses that match with the colour of hair, skin or eyes. If any one is heavy, light colour such as blue, green, bluish green are suitable as they make the person appear slim. On the other hand, If anyone is too slim, bright colours, such as red, yellow, orange etc. are suitable. Persons of dark complexion should use clothes of light but dazzling colours such as orange, yellow, pink etc. as they make the complexion a hit bright.

- Bright colours are called colours of cheerfulness. They have influence on our personality. It is used in dresses for joyful events. In contrast, light colours and simple designs of dress are befitting with the tone of sorrowful programs and help express personality.

- If a man wears dresses keeping consistency with social customs and culture, he will look a man of more personality. Peevish, impolite dress is adverse to good personality.
- To establish a mutual harmony between dress and personality, we have to be careful that other accessories of dressing such as shoes, handbags, handkerchief, jewellery and cosmetics are in uniform.
- Cleanliness and tidiness is the prerequisite condition of tidiness in the entire dressing through clothing. Untidy hair, big dart nails hinders to reflect decency.

  There are men of introvert, extrovert and of both the personalities. The varities of personality affect the taste. But whatever may be the personality the dress of fine taste befitting brighten the personality.

Task- How is the personality reflected through the clothings ? make it clear.

Lesson-8: Use of Unnecessary Cloth

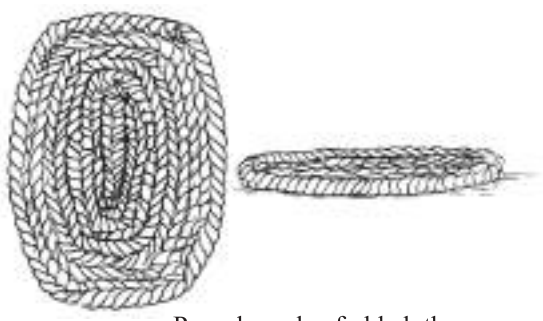
Many types of work are done at home and created unused things. Torn and old clothe is one of them. These unnecessary clothes are to be used in different ways. For example-

If the colours of old clothes, saree, bedsheet, screen etc fades or partly torn, they are kept away. The village girls make embroidered katha beautifully with old clothes. Different types of scenery of creepers and herbs are blossomed on the katha of old clothes. In this way embroidered katha is made. Now a days these types of kathas are used not only as the winter covering but also on the bedsheet, sofa cover, wall decoration, floor cover etc.

Mat (*Paposh*) can be made with the old bedsheet. The steps are as follows-

- At first, a knot is given at one edge of the bedsheet
- Now, the bedsheet is divided into three parts lengthwise/virtically.
- Then the bedsheet is hung anywhere lengthwise and a plait is made strongly with the bedsheet.

- Now, turning the braid gradually, one is to be tightened with another by needle and thread.
- This paposh is to be round or oval shape.



Paposh made of old clothes.

Cut piece

After sewing clothes at home different types of cut pieces come out as unnecessary parts. Gathering the big cut pieces we can cut them following the same measurement and size. Then we can join all the cloths one by one with the machine and giving border around the whole cloth with any other cloth to make a bed cover, table cloth etc.

Task- Show a paposh making with the unnecessary cloth at home.

Sample Question

Multiple Choice Question

1. Which one is available best cleansing material ?

   a. Detergent b. Rita

   c. Gam arabic d. Soap

2. What is called to bring out soap and dirt washing into water repeatedly ?

   a. Stiffen b. Airing

   c. Rinse d. Dry wash

Read the following stimulant and answer question no 3 and 4:

Mr Rafiq stores the warm clothes after the winter season is over. In the next winter season when he goes to use them, he notices that many clothes are damaged by insects.

3. What should have done by Mr Rafiq before preserving the warm clothes ?
   a. he used neptholin in the folding of the clothes.
   b. put neem leaf inside the clothes.
   c. dried the clothes after washing them properly.
   d. sprayed insecticide in the almirah before storing.

4. The reason of the damage in the clothes
   i. insecticide was not sprayed on the clothes.
   ii. at times, they are not dried in the light sun and air.
   iii. black cumin, tea leaf, neem leaf are not used.

Which one is correct ?

a. i & ii
b. i & iii
c. ii & iii
d. i, ii & iii

Creative Question :

1. Rupa is the elder daughter of her family. She has to clean the dresses of her family along with the other works at home. A few days ago, she notices, after washing the colour of her orange silk dress was smeared on the white texture of the dress. Faded away and spoils the white cloured cloth. Her dress also shrank. But her nylon and polyster clothes were not spoiled.
   a. What is used to maintain the firmness of the silk clothes ?
   b. Why is cloth repair done?
   c. Explain the reason why nylon and polyster clothes are not smudged?
   d. It was reasonable to wash the coloured silk cloth in a proper way. Give your opinion regarding this matter .

2. Dressing up with a white salwar- Kamiz Tanaha goes to attend on an occasion of marriage festival. She was looking gloomy after going to the occasion. Looking at her dull appearance her father said to her 'Garments and accessories that are in harmony with the occasion make a man attractive'.

   a. What is the prerequisite condition of an attractive personality ?

   b. Why is the tidiness of clothing necessary ?

   c. Why was Tanaha looking gloomy ?

   d. Evaluate properly the comment of Tanaha's father for her.

Short Answer Questions

1. Which cleaning agent is used for heavily soiled clothes?
2. What is used to enhance the whiteness of white clothes?
3. Which fibers turn yellow under sunlight?
4. How is personality expressed through clothing?
5. Explain how to preserve clothes for a long time

The End

2026 Academic Year

Classes Nine and Ten : Home Science

নারীশিক্ষা ব্যতীত জাতীয় উন্নতি অসম্ভব।



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