

QUESTION BANK STEWART SCHOOL

**A TEXT BOOK OF ICSE HOME SCIENCE CLASS -IX
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Chapter-1 Concept and Scope of Home Science

Q1. Define Home Science

A. According to Dr.A H. Richard,Home Science is a special subject dealing with income and expenditure of the family, cleanliness of food, adequacy of clothing, proper choice of house, etc.

Q2. What are the various names given to “Home Science” ?

A. They are Domestic Science, Domestic Arts, Domestic Economy, Household Science, Household Arts, Household Economy, Household Administration or Home Craft.

Q3. What is the purpose of study of Home Science ?

A. The purpose of Home Science is the creation of an environment and outlook which will encourage, motivate and enable the common man to live a richer and more purposeful family life.

Q 4. Name the subjects related to Home Science.

A. They are Physics, Chemistry, Biology, Sociology and Psychology.

Q5. What are the various aspects of Home Science ?

A. The various aspects are

- (i) Food and Nutrition.
- (ii) Human development (Child development)
- (iii) Communication and Extension.
- (iv) Resource management
- (v) Textile and clothing

Q6. What is the importance of study of Home Science.

- A. (i) Home Science trains the student for not only the role of a homemaker but also as a member of other vocations such as catering, teaching etc.
- (ii) Home Science helps in the creation of an affectionate and systematic home environment for the members of the home.
- (iii) It helps in maximum utilization of resources in a family.
- (iv) It helps in enhancing the artistic aspect of a home.

(vi) It extends help for proper growth and development of children and their prevention from diseases.

(vii) It helps in bringing up of children to better citizens and also looking after aged persons and expectant and nursing mothers.

Q7. What are the career options in food and nutrition ?

A. They are Dietician, Catering, Food preservation Bakery and Confectionery, Director of Health clubs, Hotel Management.

Q8. What are the carrier options in Human development ?

A. They are Counsellor, Care of elderly, Teaching , Research etc.

Q9. What are the career options in communication and extension education ?

A Public relations, Extension worker, Advertising, Journalism, Mass communication, Community service and welfare.

Q 10.What are the career options in Resource Management. ?

A. Personal Management, Marketing management, Financial Planner, House Keeper in Hotels, Interior decorator.

Q 11. What are the career options in Textile and clothing ?

A. Merchandiser, Garment exporter, Textile designer, Fashion designer.

Q 12. What is wage employment ?Give some examples .

A Wage employment means that one works for another person or organisation and receives salary for services.

Eg.Nursery or preschool teacher

Cook

Production supervisor.

Worker in a bakery

Interior designer

Dress designer.

Q13. What is self-employment ? Give some examples.

A. Self- employment means that the individual is the owner of the enterprise

Eg. Nursery school or preschool owner.

Owner of canteen

Production unit of processed foods.

Owner of a bakery

Financial planner

Boutique owner

Q 14. The work of a home maker is most diversified in nature .Explain.

A. A home maker is to her family – a doctor, nurse, psychologist, banker, tailor, cook, receptionist caterer, gardener, governess, educationist, economist, a source of joy and pleasure, house manager, decorator, companion, social worker, ideal wife and mother.

Chaper-2 Food & Health

Q1. Define the following:-

- a) Food- Food is anything solid or liquid which when swallowed, digested and assimilated in the body helps to keep the body well.
- b) Health- Health is a state of complete physical, mental and social well being and not merely the absence of disease or infirmity.
- c) Nutrition- Nutrition is a combination of processes by which living organisms receive and utilize the material necessary for the maintenance of its functions and for the growth and renewal of its components.
- d) Nutrients- are the chemical substances present in food which perform different functions relating to body growth and development and maintenance of good health.
- e) Balanced diet-A balanced diet is one which contains different types of foods in such quantities and proportions that the need for calories, minerals, vitamins and other nutrients is adequately met.

Q2. Write the nutritional classification of food ?

- (i) Proteins.
- (ii) Carbohydrates.
- (iii) Fats
- (iv) Vitamins
- (v) Minerals
- (vi) Water
- (vii) Roughage

Q3. Mention the functional classification of food.

- (i) Body building foods- Proteins, Minerals
- (ii) Energy giving foods- Carbohydrates, fats
- (iii) Protective foods- Vitamins, Minerals
- (iv) Regulatory foods- Water, Roughage

Q4. What are the physiological functions of food ?

A (i) The body requires nutrients for energy for all voluntary and involuntary activities. Energy giving nutrients are carbohydrates, fats and proteins.

(ii) The nutrients build and maintain body tissues. Eg-proteins, minerals and water.

(iii) Some nutrients are needed for regulating body processes. Water helps in regulating body processes like digestion, excretion, maintenance of body temperature and electrolyte balance, Roughage helps in normal bowel movements.

(iv) Protective foods are required for safeguarding the body against diseases and disorders Eg-vitamins and minerals.

(v) All the nutrients, except carbohydrates, play an important role in the regulation of body process such as circulation of blood maintenance of body temperature, digestion etc.

Q5. What are the social functions of food ?

A. Food is served almost on all social events like marriages, parties, get-togethers, official meetings etc in the form of tea, Breakfasts, banquets, dinners etc. On all these occasions food indirectly serves as a powerful and effective instrument for developing social rapport.

Q. 6 What are the psychological functions of food ?

A. Food satisfies certain emotional needs of the human being. It gives genuine satisfaction to the consumer.

- . Food provides an outlet for the stress and strain of life.
- . It is a sign of security to many. A baby feels secure in the arms of its mother when it drinks milk .
- . Food is used as a weapon when an insecure child refuses to eat and causes its mother concern.
.Children who are ill and lonely make demands for food to gain attention.

Q 7. Write the different functions of food.

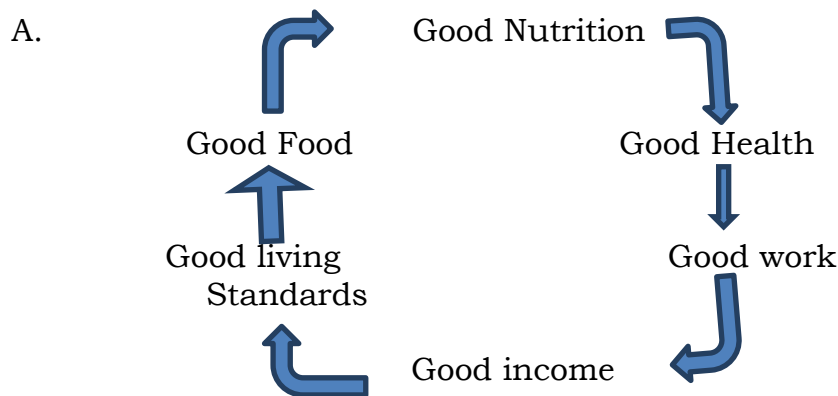
- A.
- (i) Food supplies nutrients for health
 - (ii) Food is a source of power.
 - (iii) Food is a source of security
 - (iv) Food is a status symbol
 - (v) Food is a symbol of hospitality and friendship throughout the world.
 - (vi) Food is an outlet for emotion.

(vii) It is a sum of culture and traditions.

Q. 8 What are the dimensions of health ?

- A
- (i) Physical well-being:- Means physical fitness. It can be brought about by eating right kind of food in sufficient quantities along with an adequate amount of exercise and attention to the rules of health.
 - (ii) Mental and Emotional well- being:- Mental health is easily influenced by emotions such as love, anger, jealousy, worry etc.
 - (iii) Social well-being : The changing pattern of social life influences the physical and mental life of the people. A socially sound person helps others and is liked by all.
 - (iv) Spiritual well –being –Attention to moral values ethics, yoga, exercise and meditation are some ways of attaining spiritual well-being.

Q. 9 Mention the relation between food and health.



Q 10. What is the eight point plan for a healthy diet ?

- ➔ Eat plenty of fibre, pulses, whole grains, foods made from whole grain flour and fruits and vegetables.
- ➔ Eat plenty of fresh fruit and vegetables, especially green leafy ones.
- ➔ Cut down your fat intake.
- ➔ Cut down your sugar intake. Use sugar as flavouring rather than as a food.
- ➔ Cut down your salt intake.
- ➔ Cut down your consumption of processed food to avoid the empty calories of saturated fats, added sugar, refined cereal grains and additives.
- ➔ Drink only moderate amounts of alcohol .
- ➔ If you are over- weight, exercise more and consume the amount of food and drink that will enable you to reach and keep to your optimal body weight.

Q11 Why are some foods considered unhealthy?

A. Some foods are considered unhealthy on ground of their being high in calories (saturated fats) lack of antioxidants and fibres. Such foods when consumed lead to a high probability of occurrence of many diseases.

- ➡ Tinned and canned foods.
- ➡ Fried foods
- ➡ Saturated fats
- ➡ Refined flour

Chapter-3 Food preparation (methods of cooking)

Q1. Define cooking.

A. Cooking is preparing food or a meal by heating the ingredients so as to make them edible.

Q2. What is flavour ?

A. Flavour is a combination of taste and aroma.

Q3. What is the purpose of cooking food.

A. Most foods are cooked for the following reasons.

- (i) To make their maximum nutritive value available in palatable form.
- (ii) To improve their digestibility .
- (iii) To increase their palatability by improving their colour, texture or flavour
- (iv) To destroy pathogenic organisms and injurious substances that may be found in or on the raw food.
- (v) Cooking to provide variety.
- (vi) Increased shelf life of food.

Q4. What are the different methods of cooking?

- A. Moist heat cooking
- b. Frying
- c. Dry heat cooking
- d. Microwave cookery

Q.5 What do you understand by boiling as a method of cooking?

A. Boiling is the method of cooking food with the help of water. The food is completely immersed in water and boiled at 100* C.

Q6. Write short notes on:-

- | | | |
|-------------|---------------------|----------------|
| a) Steaming | b) Pressure Cooking | c) Frying |
| d) Sautéing | e) Shallow frying | f) deep frying |
| g) Baking | h) Roasting | i) Grilling |

Aa) Steaming is a method of cooking foods with water but the food does not come in direct contact with water. It is done in two ways.

- (i) Direct and (ii) Indirect

In the direct method of steaming, the steam is applied directly to the food which is placed in a perforated rack over boiling water in a pan which is tightly covered with a lid. Eg) as in making idlis.

In the indirect method- the food is placed in a vessel with a lid. The vessel is then immersed in another vessel of boiling water as in the making of pudding.

Ab.) Pressure Cooking :- A pressure cooker is used in this method. Food is placed in a sealed container with just sufficient quantity of water and cooked by the pressure of steam. The pressure of weight is used which maintains the steam pressure higher than atmospheric pressure and thus the temperature inside the pressure cooker is about 120* Celsius or so. The loss of water soluble vitamins and minerals is prevented when food items are cooked in a pressure cooker.

Ac). Frying:-In frying the food is cooked in hot fat .Frying is a quick method of cooking because of the high temperature used. The food cooked in hot fat gets very readily heated up and its outer surface becomes harder. This prevents loss of flavour and juices from inside . Frying can be done in different ways- sautéing, shallow frying and deep frying.

Ad). Sautéing- In this a small quantity of fat is used which is just enough to lubricate the pan and at the same time it is sufficient to be absorbed by the food cooked. The food is turned frequently to avoid burning. eg) parantha ,Tikki, Cutlet.

Ae). Shallow frying:- In this sufficient quantity of fat is put in the pan and food is turned to cook both sides equally as it is done in the case of omelette, pancake etc. The excess fat adhering to food item is drained off by using absorbent paper before serving.

Af). Deep frying :- Deep frying is done in a deep sauce pan or karahi which contains enough quantity of fat or oil so as to immerse the food item completely in it.eg) potato chips, badas, pakoras and puris.

Ag. Baking:- Baking is cooking by dry heat in an oven. The enclosed air in the oven gets heated and that cooks the food. It is necessary to place food properly and evenly in the oven so as to have a uniform temperature throughout. Eg. Biscuits, bread, cakes, baked puddings etc.

Ah. Roasting:- Roasting is the method of cooking over an open fire so that all surfaces of food gets equally heated eg brinjals for bhurtha and phulka. Sometimes the food is not cooked by direct contact with fire as in roasting grams, peanuts, sweet potatoes, puffed rice This is done by heating the sand separately in a deep frying pan and when the sand is very hot, the peanuts or gram or corn may be roasted in it.

A(i) Grilling :- It is a method of cooking food by placing it on glowing fire or under the electric heater. The high heat is maintained and food is rotated so that all sides are cooked evenly. The foods cooked are tasty but most of the valuable nutrients are lost. eg Tikka, Seekh Kabab.

Q7. What is microwave cookery ?

A. It is a new advanced method of cooking which is very commonly used. The equipment- an electric oven is not too expensive for common household use. The food to be cooked is placed in an electric oven where it is exposed to the penetration of microwaves produced by a magnetron tube. The microwaves cause agitation of molecules within the food so that the heat is generated.

Q8. Mention some precautions while cooking food.

- .Select solid fruits and vegetables and discard rotten parts or pieces
- .The fruits and vegetables should be washed before cutting them.
- .Cut as big pieces as your recipe permits.
- .Use minimum water required.
- .Complete the cooking in a shorter duration so that there is minimum loss of heat sensitive vitamins.

- .Don't overcook any food. It destroys flavour, colour and vitamins.
- .Cook foods in covered vessels so that there is minimum loss of volatile substances.
- .Do not cook high protein food at high temperature as high temperature leads to denaturing of proteins.
- .Do not add soda to foods while cooking as it destroys "B"vitamins.
- .Do not add too many spices at a time in one single recipe as it suppresses the natural flavour of the food.
- .Do not overheat the fat used for frying because once fat decomposes, it is no longer suitable for frying.

Q9. What are the advantages of boiling ?

- A. (i) It is an easy method
(ii) It does not require constant attention.
(iii) Boiled food is easily digestible and least irritant to the digestive system.
(iv) Boiled food is recommended for infants, elderly people and people with digestive disorders or stomach infections.
(v) Boiling is the best method to cook roots, vegetables, cereals, pulses and meat.

Q10. What are the disadvantages of boiling ?

- (i) Some valuable nutrients and flavours are lost when the cooking water is discarded.
(ii) Boiling affects the colour of vegetables.
(iii) Boiling does not cook the food faster rather it uses more fuel and decreases the flavour of foods.
(iv) Boiling foods may not have the best appearance.
(v) Improper pan size selection can lead to longer time and higher temperature requirement for boiling.
(vi) The lid of the container should fit properly.

Q11. What are the advantages of baking ?

- (i) Large quantities of food can be cooked.
(ii) The food is cooked evenly
(iii) There is not much loss of nutrients
(iv) The food is easily digestible.

Q12. What are the disadvantages of baking ?

- (i) Baking is a slow method of cooking

- (ii) To obtain good results, it is necessary to place food properly and evenly in the oven so as to have a uniform temperature throughout.

Q. 13 What are the advantages of roasting ?

- A
- (i) It is a quick method of cooking.
 - (ii) Roasting gives a crunchy texture to foods and allows cooking without oil which makes it healthy and low calorie.

Q14. What are the disadvantages of roasting ?

- A.
- (i) Some of the vitamin contents of food are destroyed as food cooked comes directly in touch with fire.
 - (ii) It requires constant monitoring and care. The food has to be stirred continuously.

Chapter-4 Nutrients and their functions.

Q1. What is a Food Group?

A. Food items providing the same type of nutrients have been grouped together which is known as "Food Group".

Q2. What are the functions of carbohydrates ?

- (i) As a source of energy.
- (ii) Glycogen reserves: Liver and muscle glycogen reserves provide a constant interchange with the body's overall energy balance system and protects cells from depressed metabolic function and inquiry.
- (iii) Protein sparing action: Carbohydrates are mainly used up for providing energy, thereby sparing the protein for body building functions.
- (iv) Regulation of fat metabolism :For normal oxidation of fats, the inclusion of carbohydrates in diet is very essential.
- (v) Gastro-Intestinal function: Carbohydrates play an important role in the gastro-intestinal functions of animals.
- (vi) Heart function: Fatty acids are the preferred fuel of the heart muscles but the glycogen in the cardiac muscle is an important source of contractile energy.

- (vii) Central Nervous System: The central nervous system requires constant supply of glucose from the blood as the brain does not contain stored glucose.

Q.3 Classify carbohydrates.

A. They are classified into:-

Monosaccharides:- Glucose, Fructose, Galactose

Disaccharides :- Maltose, Lactose, Sucrose

Polysaccharides:- Starch, Glycogen.

Q4. Classify proteins.

A. Proteins are classified into:-

- a) Complete proteins:- Complete proteins are found in those foods which have all the essential amino acids in significant quantities. These foods are referred to as proteins having a high biological value which means that these proteins are easily and completely used by the body without many changes or processing. They are very useful to the body and are absorbed and used by the body in very short time. Source- animals.
- b) Partially incomplete proteins:- Partial proteins are those proteins which contain amino acids in the proportion that may help in maintaining life but do not support growth. Source- vegetables.
- c) Incomplete proteins:- These are found in those food in which more than two essential amino acids are absent. It is incapable of either building and repairing cells, maintaining life or supporting growth.

Q5. What are the functions of proteins ?

- A. (i) Proteins are essential components of enzymes, hormones and body secretions.
(ii) They maintain the fluid balance within the body.
(iii) They are required for growth and maintenance of tissues.
(iv) Protein is an important constituent of blood. In the blood the protein part is haemoglobin which helps in transporting respiratory gases.

(v) When a diet does not have sufficient carbohydrates, tissue protein provides the needed energy.

Q6. Name the diseases caused due to protein deficiency .

A a) Marasmus and b) Kwashiorkor

Q7. What are the symptoms of Nutritional Marasmus?

A (i) Absence of subcutaneous fat and muscle wasting.

(ii) Diminishing of height or length- big head and huge protruding eyes, wrinkled face and tiny body, dull and dry hair.

(iii) Dehydration, due to acute watery diarrhoea.

(iv) Subnormal temperature, low pulse rate.

(v) Continuous feeling of hunger.

Q8. Name some sources of protein.

A. Animal protein- Milk, egg, cheese, meat, poultry and fish.

Vegetable protein- Cereals, legumes and vegetables.

Q9. Mention the functions of fat.

A. (i) It is the major source of energy stored in the body.

(ii) Fats are stored in adipose tissues surrounding organs like the kidneys and reproductive organs and cushion them against any sudden injuries.

(iii) It also serves as a padding in the cheeks, palms of the hands and base of the feet.

Q10. Name some fat soluble Vitamins:-

Vitamins "A", "D", "E" and "K" are fat soluble vitamins.

Q11. Name some water soluble vitamins

Vitamins- "B" and "C" are water soluble vitamins.

Q12. Name the disease caused due to the deficiency of the following vitamins.

A. (i) Vitamin A- Night blindness, Xerophthalmia

(ii) Vitamin D- Rickets, Osteomalacia

(iii) Vitamin E- Reproductive failure

(iv) Vitamin K- Haemorrhage

(v) Vitamin B- Beriberi

(vi) Vitamin C-Scurvy

Q13. Write the functions of calcium ?

A(i) Calcium helps in building skeleton and teeth.

(ii) Normal behaviour of heart and nervous system, blood clotting process, etc, depends on the presence of calcium.

Q 14. How does phosphorus help in the functioning of our body ?

A. It helps in the –

(i) Formation of teeth and bones.

(ii) Maintenance of acid base balance of the blood.

(iii) Supply of energy to the muscles for contraction.

(iv) In the form of enzymes, they regulate carbohydrate metabolism

Q 15. Name the diseases caused due to deficiency of the following minerals.

A (i) Calcium- Osteomalacia, Osteoporosis, thin fragile bones .

(ii) Iron- Anaemia

(iii) Iodine – Goitre

Q16. Mention the function of water in our diet.

A. (i) Water acts as a solvent for several products (like water soluble vitamins) during digestion.

(ii) It plays an important role in the regulation of body temperature.

Q17. How is dietary fibre important for our body ?

A Dietary fibre mainly consists of cellulose which is not digested by the human body. Dietary fibre is essential for normal functioning of intestine and bowel movements. It prevents constipation.

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Chapter -5: Topic- **Growth and Development of Children.**

1. Define growth?

Ans. Growth is the progressive increase in body dimensions of a child or parts of a child.

2. Define development?

Ans. Development is the progressive acquisition of various skills in a child's personality.

3. Differentiate between growth and development.

Ans.

GROWTH	DEVELOPMENT
1. It is quantitative.	1. It is qualitative.
2. It comprises of height, weight, size and shape of body organs.	2. It comprises of physical, cognitive, social and emotional change.
3. It is for limited period.	3. It takes place till death.
4. Can be measured.	4. Can be observed by matured behaviour.
5. Related to heredity.	5. Related to heredity and environment.

4. What are the stages of life?

Stages of Life	Age
1. Prenatal period	Conception to birth.
2. Period of the neonate	Birth to one month.
3. Infancy	1 month to 2 years.
4. Early childhood	2 - 6 years
5. Middle childhood	6 – 11 years
6. Adolescence	11/12 to 18/19 years.
7. Adult hood	18/19 to 40 years.
8. Middle Age	40 to 60 years
9. Old age	60 and above.

5. What is prenatal development? Explain the three stages in brief?

Ans. The prenatal stage is the time period from conception to birth which is as long as 280 days.

This phase can be divided into three phases to study the details.

1. Germinal stage- This is the period from conception until implantation and can be approximately 1-2 weeks long.
2. Embryo stage - This period lasts from the beginning of the third week to the end of the eighth week. All major organs are formed and the heart begins to beat in this period.
3. Foetus stage- It is the final phase which lasts from the third prenatal month until the birth. Organ systems begin to function and growth of the foetus is rapid.

6. What is physical development?

Ans. It refers to increase in weight and height and the associated changes in shape and size of the child.

7. What is/ Define motor development?

Ans. It refers to the infant's ability to use muscles and bones to perform different skills.

8. What are the factors affecting mastering skills?

Ans.

Favourable factors	Unfavourable factors
1. Accelerated physical growth.	1. Retarded growth.
2. Above average strength and energy.	2. Poor health and low energy.
3. Better intelligence.	3. Low mental ability.
4. Rich environment.	4. Lack of opportunity.
5. High motivation.	5. Low motivation.
6. Guidance from parents/siblings.	6. Insufficient and inadequate guidance.

9. Define social development?

Ans. Social development of a child refers to the ability of a child to develop affection, love, friendship, anger and other emotions with people around.

10. What is emotional development?

Ans. Emotional development means the ability to control emotions and express them in a way that is acceptable to society. Joy, anger, fear, happiness are some of the emotions that can be noticed even among small children.

11. What is cognitive development?

Ans. Cognitive development refers to the ability of the child to think and find solutions to problems.

12. What is language development?

Ans. Language development is the ability to communicate through the use of meaningful words and sentences.

13. What is moral development?

Ans.Moral development is the ability to discriminate between good and bad, right and wrong by a child. Parents, siblings and family members play a major role to start this development at home.

14. What is immunisation?

Ans.Immunisation is the process whereby a person is made immune or resistant to an infectious disease or fortified against an agent. It controls and eliminates life threatening infectious diseases.

15. What is the importance of immunisation?

- Ans.a)Immunisation helps to protect us from getting infected from the infectious diseases.
b)It helps in eradication of diseases in future.
c)If children are not vaccinated, they get infected from the diseases, which results in weak immune system.
d)Immunisation cost is less than the treatment of diseases.

16. Mention the vaccines for the following diseases?

Disease	Vaccine
1.Tuberculosis	BCG
2.Mumps	MMR
3.Measles	MMR
4.Chickenpox	Varicella Vaccine
5.Diphtheria	DTaP/DPT
6.Pertussis	DTaP/DPT
7.Tetanus	DPT
8.Rubella	MMR
9.Polio	IPV (Inactivated polio virus vaccine) OPV(Oral Polio Virus vaccine) Salk’s vaccine.

17. What is object permanence?

Ans.The ability of not forgetting the existence of an object.(eg.toy).

18. What are the milestones of development?

Ans.Developmental milestones are abilities that most children are able to perform by certain age.

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Chapter -6: Topic- **Role of Play and Play School for the young child.**

1. Explain Play?

Ans. Play is defined as behaviour which is freely chosen, personally directed and intrinsically motivated.

- It is one of the most powerful tool that helps children to develop new skills ,concepts and experiences.
- It helps children gain the knowledge they need to connect in meaningful ways to the challenges they encounter in school.
- It helps to develop a positive attitude towards learning.
- It is through play that children develop essential life skills. They learn how to interact with their peers and with adults, they learn how to choose friends and enemies, they learn how to run around, play team games and sports. They also learn to be creative, to adapt and develop new skills.
- Through play they learn how to visualize the world and make sense.

2. Explain the role of play in the development of children?

Ans.

1. **Play supports Holistic development:** Children learn by playing through imitating. The process of play facilitates the physical ,cognitive and socio-emotional development of children.
2. **Play supports physical development:** Play is essential in the development of perceptual motor co-ordination and it helps children attain and maintain good health.
3. **Play supports Socio-Emotional Development:** In play children express and work through their fears, anxieties and desires. They resolve personal problems. They feel that they control the world, which gives them a sense of dominance.
4. **Play supports cognitive development:** Play helps to develop various skills in children – imagination, creativity, various concepts, logic, reading, writing, reasoning learning.

3. Name the equipments used for outdoor play?

Ans. Sand box, climbing equipment, jungle gym, tubs for water play, tricycle, wagons, swings, sliding boards, see saw.

4. Name the equipments used for indoor play?

Ans. Blocks, bells, drums, jigsaw puzzles, scissors, crayons, building blocks, play dough, kitchen sets, doll house, mini market.

5. Explain classification of play in details?

Ans.

1. **Active Play-** Play that involves movement and physical activity is termed as active play. It keeps children busy and happy.
2. **Co-operative Play**– It is a play for a child and a group of friends. It takes place either outside the house or in the house or school premises.
3. **Creative Play** – Play that explores child’s imagination and makes something out of nothing is called creative play. Providing a child a creative outlet will lead to many amazing things.

4. **Dramatic Play** -Play that involves pretend and make believe or whatever the imagination dreams.
5. **Manipulative Play** –It is a play that involves hand-eye co-ordination and motor skills. It develops the sense of co-ordination.
6. **Quiet Play** – Play that keeps children focussed. Children need quiet time to intently understand the concepts of activities. It provides children an opportunity to think and reason.
7. **Motor/Physical Play** – Motor play provides critical opportunities for children to develop both individual gross and fine muscle strength and an overall integration of muscles, nerves and brain functions.
8. **Social Play** – It is the best mechanism for processing through the different social stages. Children learn social rules, moral reasoning to develop a mature sense of values.
9. **Constructive play** – Constructive play is when children create or manipulate their environment to build imitative things. It gives children a sense of productivity, accomplishment and empowers them to control their imaginary play world or environment.
10. **Fantasy Play** – Children learn to abstract, to try out new roles and possible situations and to experiment with language and emotion with fantasy play.

6. Name the different types of play schools?

Ans.

- Nursery school
- Day care nursery
- Pre- school
- Kindergarten nursery
- Montessori nursery.

7. Write down the basic principles of Pre-school?

Ans.

1. It is to stimulate ,enforce and polish the mental development of the child.
2. They should be allowed to manipulate the objects in the environment around them.
3. Variety of teaching tools may be used by the teacher to stimulate their intellectual growth.
4. The materials and strategies used should match the level of each child’s development and learning.

8. Why is it important to not compel a child to play?

Ans. It is important not to compel a child to play because play is process-oriented. Compelling a child to play can make him/her avoid playing completely as there is no fun involved when they do it for others willingness. It rather becomes a punishment and becomes a performance presentation for the child.

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Chapter :7 Topic- Choosing a Home

1. What are the five facilities that a modern well equipped home of today provides?

A.

- 1.Comfort and Convenience
- 2.Beauty
- 3.Economy
- 4.Health and Hygiene
- 5.Larger living area

2. What is a house?

A.A house may be defined as the building having four walls to provide shelter to human beings from the adversities of environment and ravages of weather. It provides security from wild animals and also helps to save property and valuables from thieves and robbers.

3.Write the importance of a home?

- A.1.Home is a place for family to live with relaxation and convenience, sense of security as well as rest and privacy.
- 2.It is a place where one feels protected from outside heat , cold, sun ,wind, rain.
- 3.It is a place where basic ,emotional ,psychological and social needs of every individual member of the family are fulfilled.
- 4.It is a place where every individual enjoys happiness, feels comfortable, gets maximum relaxation, passes on family traditions and customs from one generation to the other.
- 5.It is a place where an individual is completely free to express himself.

4.What are the advantages and disadvantages of home ownership?

A.ADVANTAGES OF OWNING A HOME-

- 1)The owner of the house does not have the insecurity of being ordered to vacate and the burden of timely increase in rent.
- 2)It is a pride ,a security.
- 3)He /she can modify the house according to his/her requirements and choices.
- 4)A permanent asset.
- 5)House owners can avail credit without difficulty.

DISADVANTAGES OF HOUSE OWNERSHIP-

- 1)It costs more to own a house than to rent it.
- 2)One has to curb current expenditures just to own a house.
- 3)House ownership binds the family to a given location.
- 4)House owners have to pay taxes.
- 5)The maintenance of the house is another burden for him/her.

5.What is rent?

A. Rent is the compensation that is paid to the house owner, generally in the terms of money, by the tenant for the living in and using services of a house, from month to month.

6.What are the advantages and disadvantages of a rented house?

A. ADVANTAGES OF A RENTED HOUSE-

- 1) It often costs less to rent than to own a house.
- 2) The family renting a house is free from the responsibility of the upkeep, maintenance and management of residential property.
- 3) They are free to move when conditions become unsatisfactory.
- 4) Rented houses offer geographic mobility depending upon the job opportunities.
- 5) In renting a house, expenses are clearly defined.

DISADVANTAGES OF A RENTED HOUSE-

- 1) The pride and satisfaction of ownership is totally absent.
- 2) Conflicts for costs of maintenance and repair of the house between landlord and tenants are very common.
- 3) Finding a perfect home in a perfect location is very difficult.
- 4) The tenants do not have freedom to modify their rented portion in their own desired way.
- 5) Conflicts between the landlord and the tenants are quite common.

7. Name the considerations to be borne in mind while selecting a house site.

A. Site should be selected with utmost care, keeping in view the convenience, health and happiness of its members.

- 1) A good neighbourhood includes schools, religious places and recreational areas.
- 2) A shopping centre should be within walking distance of the house.
- 3) A police station should be conveniently situated.
- 4) Adequate parking space should be provided.
- 5) Medical service and hospital facilities must be there.

8. State the advantages and disadvantages of "flat system"?

A. ADVANTAGES OF FLAT SYSTEM-

- 1) Most families are nuclear and feel accompanied, safe and social in apartments.
- 2) All get to socialise with the people of their age groups.
- 3) They do not feel isolated and lonely like they do in independent houses.
- 4) Celebrations and festivals become more lively and grand when more families come together.

B. DISADVANTAGES OF FLAT SYSTEM-

- 1) The maintenance of flats requires a committee and a head for proper execution of all repair.
- 2) If one house has a leakage problem, other houses especially on the lower floors are also affected by that.
- 3) Cleaning and washing one house and its exteriors can be bothersome by others.
- 4) Continuous care and management is required with cooperation of all the flat occupants.
- 5) Basic amenities should be shared and used with utmost care.

9. What are the advantages and disadvantages of natural ventilation?

A. ADVANTAGES of natural ventilation-

- 1) Natural ventilation is crucial for any housing or working area.
- 2) It provides pure and fresh air continuously.
- 3) In ambient temperature, it works as an air-conditioning system.
- 4) Such ventilation keeps the interiors lively and energetic.

DISADVANTAGES of natural ventilation-

- 1) Impure air and mould can build up to give rise to unhealthy living conditions.
- 2) Constantly breathing in the same air provides with limited oxygen supply and is suffocating and exhausting to live in.
- 3) Closed rooms seldom receive direct sunlight.

4) It makes conditions worse for overall health of the people living in.

10. What are the characteristics of a good house?

- A.1) Site location
- 2) Flat system or floor plan
- 3) Soil condition
- 4) Sanitary requirements
- 5) Ventilation
- 6) Infiltration
- 7) Lighting
- 8) Legal Characteristics

11. Describe the principles which decide the planning of a house. Also mention the practical consideration.

- A.1) Aspect – The design of interior part of the house is called the aspect. A good aspect not only provides comfort but also a requisite from hygiene point of view. A kitchen should have an eastern aspect for getting pure air and the sunlight in the morning.
- 2) Prospect- It is the impression of a house on a person viewing it from outside. A good prospect provides a sense of pride for its occupants and is appreciated by outsiders.
- 3) Orientation – Good orientation means proper placement of rooms in relation to the sun, wind, rain, topography and outlook.
- 4) Elevation – The architectural beauty of a structure depends upon the relative, appropriate proportion of the different parts.
- 5) Grouping of the room – It is important that rooms should be arranged according to functions towards one another.
- 6) Privacy- Although man loves to socialize and stays in groups but personal space and privacy are equally important.
- 7) Sanitation – Health and happiness of the members depend on it.

Practical Consideration-

- 1) Strength and stability coupled with convenience and comfort.
- 2) Simplicity, effect of long lasting beauty and grandeur to a building.
- 3) House is immovable property, so it should last for several years.
- 4) Provision of extending the floors and wings of the house.
- 5) All the stages of lifecycle should be considered while building a house.

12. Discuss various features of different rooms in a home.

Ans.

1. Living Room.

- a) It should be well lit and well ventilated and should provide maximum comfort for the perfect relaxation of all the members of the family.
- b) It should be decorated and designed according to one's personal requirement.
- c) It should be equipped with suitable furniture.
- d) Flooring should be durable and easy to clean.
- e) It should be preferably 15' X 12'.

2. Drawing Room.

- a) It should be located in the front or outer portion of the house.
- b) It should be spacious, well lighted, well ventilated and properly decorated.
- c) Size should be preferably 15' X 12'.
- d) It should have large windows and doors.

3. Dining Room.

- a) The Dining room or the dining area should be situated and planned in such a way that the paraphernalia of the kitchen are not visible from there.
- b) A rectangular room is usually preferred.
- c) There should be sufficient space around the dining table for ease of service and free movement of persons.
- d) The room should have space for keeping the refrigerator, storage of crockery and cutlery.

4. Kitchen.

- a) It must preferably be located at a place where the morning sun rays are in plenty.
- b) It usually contains the three working units – preparation area, cooking area and washing place.
- c) It should be adjacent to dining area.
- d) The work counters should be 2 ¼' or 2 ½' high.
- e) It should be L shaped, U shaped.
- f) Work area should have a smooth surface which can be easily cleaned.
- g) Floor should be smooth and non-absorbent.
- h) Proper drainage must be provided.
- i) Appropriate exhaust and ventilation facilities should be there.

5. Bedroom.

- a) It should be well protected from noise
- b) Should be located away from drawing room and kitchen.
- c) Dressing area should be provided.
- d) It should have attached bathroom.

6. Bathroom.

- a) It should be convenient and should have privacy.
- b) It should be attached to the bedroom.
- c) It should have provision for lavatory.
- d) It can also be combined with a dressing room.

13.What is a colour wheel?

Ans. - The colour wheel is a traditional arrangement of colours in their natural order, used to explain the relationship between the different colours and for the formation of new colours. It is a matrix of colours used to see how colours relate.

14.Name some primary, secondary and tertiary colours.

Ans. Primary colours – Red, yellow, blue
 Secondary colours – Orange, green, purple
 Tertiary colours – Blue -green, red-orange.

15.Differentiate between secondary and tertiary colours?

Secondary Colour	Tertiary Colour
1. The colour formed by mixing of two primary colours in equal quantities.	1. The colour formed by mixing of primary and a secondary colour in equal quantities.
2. Example- Orange, Green, Purple.	2. Example- Yellow -Orange, Red- Purple, Blue- Green.

16.What are warm and cool colours?

Ans. **Warm Colours.**

1. These colours have the element of fire or sun within them.
2. They are associated with bright, energetic and rich look.
3. These colours exude the sense of coziness, warmth and comfort to the space.
4. These are very commonly used in traditional Indian embroideries.
5. Example -shades of red, orange, yellow and brown.

Cool Colours.

1. They have the element of vegetation or water in them.
2. They project a soothing effect.
3. These are peaceful colours as they bring in freshness and a relaxed feeling into any space.
4. They also create a visual impact of enhanced size and length.
5. These colours give an airy feel and appear spacious.
6. They provide a balance to vibrant warm colours.
7. Example: Shades of blue, green and purple.

17. Give examples of neutral colours .

Ans. White, black, grey, brown, tan, beige.

18. Differentiate between tint, shade, tone.

Ans. If a colour is made lighter by adding white, the result is called tint.

If black is added, the darker version is called shade.

If grey is added, the result is a different tone.

19. What do the following colours symbolise?

Ans. 1) BLACK- self control, discipline, independence, strong will, authority, power, death, darkness, evil, mystery.

2) WHITE- positive colour, innocence, purity, peace, goodness, faith.

3) GREY- masculinity, modesty, sincerity, indifference.

4) METALLIC COLOURS- prestige, wealth, seen as glamorous and sophisticated colour, related to prosperity and modernity.

20. Discuss the three dimensions of colour

Ans.

1). HUE- The hue represents the colour itself. It is simply the colour quality.

2). VALUE- Value is the lightness or darkness of a colour.

3). INTENSITY- It refers to brightness or dullness of a colour.

21. What is a colour scheme?

Ans. A colour combination that matches and looks pleasing to the eye and creates a unified aesthetic space is called a colour scheme.

22. Discuss the application of colours in different rooms of a house.

Ans. 1). LIVING ROOM- Sophisticated colours are often toned down or greyed so that they look neutral.

2). BEDROOM- Shades of medium to dark brown, greens and browns are classic combinations.

3). DINING ROOM- Peach, pink, and other tints in red and orange, pale tint of yellow.

4). KITCHEN- White or light coloured walls. One vital colour, primary or secondary can be used. For kitchen ceiling, white colour is preferable.

5). BATHROOM- White, green, blue, violet, or grey.

CHAPTER-8 TOPIC- CONSERVATION OF GAS, ELECTRICITY AND WATER

1. Define conservation.

Ans. Conservation is the proper management of a natural resource to prevent its exploitation, destruction or degradation.

2. What does L.P.G stand for?

Ans. L.P.G –Liquified Petroleum Gas.

3. Name 2 gaseous fuels used for domestic purpose.

Ans. L.P.G (Liquified Petroleum Gas) and coal gas.

4. How can you make your cooking gas last longer?

Ans. 1) Organise your cooking.

2) The family that eats together saves gas.

3) Control the flame.

4) The colour and height of the flame are very important.

5) Match the burner to the vessel.

6) Cover the vessel while cooking.

5. What are the advantages of L.P.G?

Ans. The advantages of L.P.G are-

1) Its calorific value is higher than that of other fuels.

2) Properly designed burners ensure complete combustion of the fuel with no smoke.

3) Cleanliness in handling and ease of control .

4) It is safe to use.

5) Easy transport even to remote places.

6. One evening on entering the house you find a strong smell of gas .Explain , what will you do to avoid an accident.

Ans. 1) Immediately turn off the electric supply by switching off the main switch.

2) Turn off the gas cylinder.

3) Open all the windows and doors wide.

4) Evacuate the space for a while.

5) Call for professional help with gas cylinder connection and fittings.

7. Mention three advantages of electricity.

Ans. 1) Electricity has made life easier and simpler.

2) It enables us to have a great deal of enjoyment and reduces labour in day –to-day tasks.

3) Makes life comfortable and enjoyable.

8. Write in brief how these appliances reduce energy use-

Ans.1. LIGHTING SYSTEM-

1). Turn off lights when not in use.

2). Automatic devices can help in saving energy used in lighting.

3). Use task lighting, which focuses light where its needed.

4).Clean tubelights and lamps regularly to reflect more light.

5).Use CFLs and LED bulbs

2. AIR CONDITIONER-

1) Set the thermostat of the room air conditioner at 25°C(77 degreeF)for comfort at the least cost.

2) A good air-conditioner will cool and dehumidify a room in about 30 minutes. Then leave the unit off for some time.

3) Keep the doors and windows closed.

4) Clean the air conditioner filter every month to enable the unit to cool down quickly.

5) It's better to buy a new energy efficient air conditioner if the old air conditioner needs repair.

3. REFRIGERATOR-

1) Keep refrigerator away from all sources of heat.

2) Allow enough space, airflow around refrigerator.

3) A full refrigerator is a fine thing, but be sure to allow adequate air circulation.

4) Think about what you need before opening the refrigerator door.

5) The refrigerator will use less energy and condensation will be reduced if we cool the warm foods and put in.

6) Make sure that the refrigerator rubber door seals are clean and tight.

7) Defrost freezer compartment regularly.

4. MICROWAVE OVEN –

1) It saves energy by reducing cooking time.

2) If we are cooking more than one item, place larger and thicker items on outer edges.

5. ELECTRIC KETTLE-

1) Use electric kettle to heat water. It is more energy efficient.

2) Choose an automatic shut off system when keeping a new electric kettle.

3) Clean your kettle by combining boiling water and vinegar as a dirty kettle takes more energy.

4) Heat only the amount of water required. Don't overfill the kettle.

6. COMPUTER–

1) Turn off your computer when not in use.

2) Turn off the monitor as it consumes half the system's energy.

3) Setting it to sleep mode, consumes 40% energy.

4) When chargers are not in use, pull out the plug and save energy.

5) Shut down the computer when you are not using it.

9.What are the precautions that should be observed while using an electrical appliance?

Ans-

1) The switch should be put off when the plug of the appliance is put in.

2) The electrical connections must be secure.

3) Never touch an electrical appliance with wet hand as it can be extremely dangerous.

4) Avoid using 'Octopus' connections and adapters simultaneously at a time as it may cause fire.

5) Do not attempt to repair any electrical appliance unless you know the job exactly.

10.How does an earthwire ensure safety in a home?

Ans.The Earth is a good conductor of electricity.All electrical appliances should be properly earthed, so that in case of any leakage of current or short circuiting with the body of the appliance, it is conducted away to the earth and the person touching it, is saved from electric shock ,which otherwise may be fatal.

11. Write down the uses of water.

Ans. 1) It serves our physiological need.

2) It has a high place in the healthy maintenance of the body.

3) It is required for many domestic and community purposes like cooking, bathing, washing etc.

4) It is a source of power. (hydroelectricity)

5) It is a means for fighting fire.

12. What are the various sources of water?

Ans.

1) Rainwater or snow water.

2) Surface water

3) Ground water or subsoil water, wells and springs.

4) Sea water.

13. How can you conserve water?

Ans. 1). Use only the amount of water you actually need.

2). Promote water conservation in community by a group of people.

3). Make sure your home is leak free.

4). Do not leave the tap running while you are brushing your teeth or soaping your face.

5). When washing a car, use water from a bucket and not a hose pipe.

6). Do not throw away water that has been used for washing vegetables, rice or dal. Use it to water plants or to clean the floors.

7). Collect water and store it.

14. Discuss rainwater harvesting.

Ans. Rainwater harvesting essentially means collecting rainwater on the roofs of buildings and storing it underground for later use. It not only recharges the groundwater depletion, but also raises the declining watertable.

15. Write the benefits of rainwater harvesting.

Ans. 1) Increases water availability.

2) Checks the declining water table.

3) It is ecofriendly.

4) Improves the quality of groundwater through the dilution of fluoride, nitrate and salinity.

5) Prevents soil erosion and flooding.

16. What is contour farming?

Ans. In contour farming the land is ploughed in steps instead of continuous plain land. This method allows water conservation and complete use of rain water in farming. It also prevents soil erosion and water flowing away. The water seeps into the strips completely and thereby floods are also prevented.

17. What is vertical gardening?

Ans. Vertical gardening employs the use of minimum space with pots arranged in vertical positions that is one above the other. This method also uses minimum water and compost and can be adopted for kitchen gardens very well. It also gives a beautifying appearance to small houses in urban areas.

QUESTION BANK – Class IX HOME SCIENCE

Chapters 9, 10, 11, 12 and 13.

CHAPTER 9- WASTE MANAGEMENT IN THE HOME AND COMMUNITY

1. What do you mean by cleanliness?

Ans. Cleanliness is a habit that keeps us cheerful, organised and healthy.

Q2. What is waste?

Ans. Waste is nothing but a material that someone no longer wants or needs. It also means material that is discarded after primary use, defective or is not useful.

Q3. Define waste management.

Ans. Waste management is the collection , transport, processing, recycling or disposal and monitoring of waste materials.

Q4. Why is waste management carried out?

Ans. Waste management is carried out

1. To reduce the effect of waste on health, environment, or aesthetics.
2. To recover resources from it.
3. To control pollution.
4. To collect and sort kitchen waste, solid waste, dry waste and medical waste, and recycle them accordingly.

Q5. What are the advantages of recycling of waste?

Ans. The advantages are:

1. It conserves natural resources, such as timber, water and mineral ores.
2. It prevents pollution, caused by manufacturing from resources not yet used.
3. It saves energy.

4. It reduces the need for landfilling and incineration, and avoids pollution produced by these technologies.
5. It helps in protecting and expanding manufacturing jobs.
6. It gives a sense of community involvement and responsibility.

Q6. What is garbage?

Ans. Garbage is domestic rubbish or waste, something worthless.

Q7. a) Classify wastes. b) Explain each group of wastes.

Ans. Wastes can be classified into 9 groups, depending on their origin.

- **Agricultural wastes:** This waste is produced by the result of various agricultural activities in farms , poultry houses, animal sheds, etc. Eg- non edible seeds, groundnut wastes, molasses, tobacco wastes, rice husk, saw dust, coconut shells and husks, coffee wastes, rubber wastes, cotton wastes, etc.
- **Animal wastes:** It includes excreted materials from animals, cattle-feed remains, organic materials, feathers, and dead body parts of animals. Eg- Frog wastes, fishery waste, cattleshed waste, slaughter house waste, etc.
- **Aquatic wastes:** It is the excreta and dead body parts of aquatic animals, parts of aquatic plants and other marine creatures.Eg- Algae, dead aquatic animals, aquatic weeds, etc.
- **Fruits and Vegetable wastes:** This is mostly the unsold or unconsumed, overripe and rotten produce of fruits and vegetables.It also includes the trimmed parts that are not edible, peels of fruits and vegetables from household, markets and canning industry.
- **Community wastes or Household wastes:** Consists of wet (kitchen wastes and sewage) and dry (other rubbish and household garbage thrown in dustbins) wastes.
- **Building materials:** These are the waste products or rubbish from the construction sites. Eg- Broken bricks, discarded sand gravels, wooden pieces, sawdust, broken glass, stone pieces, etc.
- **Industrial wastes:** This consists of any useless material rendered from manufacturing processes of factories, industries and mills. Eg- Mica, paper, fly ash waste from steel industries, chemicals, dyes, microbial wastes, harmful pesticides, etc.
- **Medical wastes:** This is the garbage from hospitals, laboratories, pet clinics, and waste material of patients at home. These are infectious and should be disposed with special care. Eg- Drugs, medicines, needles, biological wastes and fluids and other human wastes.
- **Electronic wastes:** E wastes are unusable, discarded, electronic gadgets from houses, shops, offices, educational institutions, etc. Eg- discarded mobile phones, laptops, tablets, and their internal components.

Q8. Explain biodegradation.

Ans. Biodegradation is breaking down of waste materials into smaller parts, eventually into individual molecules. Except industrial and building material wastes, most other wastes can be utilised for generation of electricity, manure by adapting the biodegradation process. It can

transform the waste into simpler, harmless, and useful substances after a period of time. Eg- Paper and cowdung are biodegradable.

Q9. What are non- biodegradable wastes?

Ans. Non- biodegradable wastes are substances that cannot be changed to a harmless and natural state. Neither chemical action nor bacterial disintegration helps to make them harmless. They are harmful to environment and our health. On burning, they emit poisonous gases, thus they pollute land, water or air in any form. Eg- plastic, electronic wastes, etc. These wastes pose risk of extreme health hazards and should be handled with utmost care.

Q10. Write briefly about ' Zero Waste at Kovalam.'

Ans. In Kovalam, Zero Waste centre was developed in the year 2001. This centre has viewed Waste as a resource instead of garbage. The biodegradable and non biodegradable wastes are treated as required and there is practically no dumping of garbage to cause landfills and pollution. This centre is an ideal to follow nationwide.

Q11. Define conservation.

Ans. Conservation is preservation or restoration of the natural environment and careful use of resources.

Q12. Write a short note on Swachh Bharat Abhiyan/ Clean India Mission.

Ans. Swachh Bharat Abhiyan / Clean India Mission is the biggest ever cleanliness mission run in India. It was initiated by Hon. PM Shri Narendra Modi. It was launched on 2nd October, 2014. The campaign is running across 4,401 cities, towns and villages of India. It involves the construction of toilets, provision of dustbins in public areas in each household, segregating wastes separately (green dustbin for wet kitchen waste and red dustbin for dry waste.) It also includes promoting sanitation programmes, cleaning streets, roads, and changing the infrastructure of the country. This mission is politics free mission which is boosted by patriotism and willingness to change and improve India and its citizens. It is promoted and supported by celebrities, business tycoons and other countries.

Q13. How are different wastes recycled?

Ans. Various industrial units are already working on a small scale in a private sector, which recycle domestic and industrial wastes in the following ways:

The paper waste is converted into paper board.

Agricultural waste is converted into biogas and manure.

Metals like iron, aluminium, zinc, etc are recycled to make iron rods, castings, utensils, etc.

Broken glass is melted and is again used for making new items.

Community waste is recycled to get manure.

Fly ash is used to make cement, bricks, ground improvement material, asphalt filter, compost, rockwool, glasswool, deodorant and sewer treatment material.

Cowdung and sewage are used to make biogas. The residue is used as manure.

Reclaimed articles like scrap, ferrous, non ferrous metal, paper, glass, tyres, textiles, used oil, discarded furniture, cars, etc. are reusable materials for small scale units.

Aluminium scrap is recycled to make aluminium articles.

Pesticide containers are returned to the factory to be reused.

'Take Back Scheme' – The producers take back all the packaging material and reuse them . Discarded waste of one factory can be purchased and used by another factory. For eg- Molasses to alcohol.

Paper waste -> Cardboard

Sugar industry waste -> Construction material

Aquatic waste -> Fish Food, Biogas, Paper and Pulp.

CHAPTER 10-WHAT ARE THE 5RS ?

Q1. Mention some effects of climate change.

Ans. The effects of climate change are:

- Rise of temperature of atmosphere
- Longer frost free season
- Changes in the pattern of precipitation
- More drought
- Hurricanes
- Rise in sea level
- Decreasing levels of ice in the Arctic

Q2. Name the factors responsible for change in climate.

Ans.

- Various forms of pollution
- Careless use, wastage and disposal of resources

Q3. Mention any two effects of pollution.

Ans.

- Changes in the health of overall population
- Adverse effect on the life and habitat of wildlife.

Q4. What do you mean by 5Rs of sustainability?

Ans. The 5Rs of sustainability mean living on our planet without wasting our natural resources by reusing, reducing, recycling, renewing and refusing materials so that our environment will be preserved for future generations.

Q5. What do you mean by reduction of waste?

Ans. Reduction is the golden goal of sustainability. It is the area in which everyone of us , individually and collectively, make the biggest impact on the environment and on our wallet. We can reduce our consumption of energy and water by 10% in the first year without making any change in our setting. For this, turn off water taps when not in use, switch off lights when leaving a room, turn off electrical equipments when not in use, and avoid use of plastic bags.

Q6. List some waste reduction ideas.

Ans.

1. Shop carefully- Buy in bulk to reduce the amount of packaging. Choose returnable or reusable containers.
2. Avoid over packaged products or unnecessarily packaged foods.
3. Choose durable articles.
4. Buy recyclable products.
5. Use rechargeable batteries.
6. Store food in the fridge in reusable, airtight containers.
7. Take your own basket, or reusable plastic bags to the supermarket.
8. Photocopy on both sides of the paper.

Q7. Define 'Reuse.'

Ans. Reuse is a pollution prevention strategy in which a product is for the same or different purpose without undergoing any physical change.

Q8. How can waste be reused?

Ans.

1. We can reuse glass bottles or jars for homemade food items.
2. Glass and plastic bottles with deposits can be returned to shops for reuse.
3. Wash and dry plastic bags for reuse.
4. For scrap paper, staple together office paper that has only been written on one side.
5. Nursery schools make good use of the inside core of the toilet rolls and paper towels, egg boxes, cereal boxes and jam jars.
6. Charities welcome unwanted clothes, furniture, toys, books and magazines.
7. Repair things rather than throwing them away.

Q9. Mention any two disadvantages of recycling.

Ans.

- High transportation and processing costs. Eg- electronics.
- It is not the ideal path to sustainability and CO2 emission reduction.

Q10. Why is it important to recycle electronic wastes?

Ans.

- The use of electronic items is at its peak. They are constantly replaced by newer and better versions.
- They contain toxic heavy metals, which when dumped in landfills, can leach into the soil and water. They travel through the food chain and accumulate in our body. They are stored in fat deposits of our cells and are never excreted. This leads to fatal diseases like cancer.

Thus recycling electronic wastes is of utmost importance.

Q11. How can organic wastes be recycled?

Ans. Organic wastes can be recycled in the following ways:

- By composting
- By using Eco-san toilets which improve soil quality by providing nutrients from human waste.
- Energy for cooking and heating can be produced from this process.
- Cooking oils can be turned into biodiesel.

Q12. How can glass, paper, metal and plastic be recycled?

Ans.

1. Glass, paper and metal manufacturers often buy back used materials. Plastic is harder to recycle, but as it is made from petroleum, a non renewable resource, it will become more expensive as petroleum runs out. So, more recycling companies will find ways to recycle plastics in the future. Govt. can encourage industrial recycling by making new policies and recycling targets for manufacturing companies.
2. Glass is 100% recyclable – make use of bottle banks.
3. Cans are 100% recyclable – they can be sent back to factories and melted down to produce new steel, aluminium, and tin.
4. Schools and community groups can get involved and make money by delivering cans to collection points.
5. Paper can be recycled into attractive and valuable items (paper mache) ourselves.

Q13. Write a note on 'Replace?'

Ans. Replacing a conventional product with an environmental friendly one, without giving up on performance. Eg- replacing old light bulbs with CFLs or LEDs reduce energy bill. They last longer and are safer. Triclosan, chlorine, phenols, quaternary ammonium, PVC, flame retardants, etc are toxic chemicals that can be replaced with green products. Fertilizers and pesticides can be replaced by compost, manure and natural pest controls which makes our diet organic and saves us from many diseases.

Q14. What do you mean by 'Reinvent?'

Ans. Reinvent means restructuring our demand and supply system to promote sustainability and reduce CO2 emissions. It also includes changing our mindsets, attitudes and habits. We need to integrate the environmental factor into our lives and make ourselves environmental friendly. We ought to take care and love nature and take steps to save it. Eg- rainwater harvesting.

Q15. How can we adopt the principle of 5Rs to conserve the environment?

Ans.

1. At home:
 - a. Use solar cookers and solar heaters as far as possible.
 - b. Ensure proper disposal of refuse.
 - c. Avoid loudspeakers to celebrate.
 - d. Maintain sanitary conditions and adopt hygienic habits, like no spitting or defecating in the open.
 - e. Avoid smoking.
 - f. Save water for the future.
2. While going out:
 - a. Use bicycles.

- b. Live as close as possible to your office, school or college.
 - c. Use public transportation as much as you can.
 - d. Share cars and use unleaded petrol or CNG if available.
3. Be close to nature:
- a. Contribute funds for wildlife conservation.
 - b. Report any illegal felling of trees and cases of corruption, in spreading pollution to concerned authorities.
 - c. Spread awareness among your friends, families and relatives on how to make our earth GREEN.
 - d. Each one should plant one tree, and also take care of it.

Ch. 11:- FABRICS AVAILABLE IN THE MARKET

Q1. Why is apparel important for us?

Ans. Apparel is important for us due to the following reasons:

- It is one of the basic needs of human beings.
- It equips us to live in comfort in all types of weather and climatic conditions.
- It reflects our individuality.
- It enhances our beauty.
- It also provides comfort.

Q2. Discuss the socio - psychological aspects of clothing.

Ans.

1. Clothing helps in perception of people: Clothing creates the first impression. Clothing tells the observer something about the wearer.
2. Clothing affects behaviour: we use clothing terms to describe the type of job. Eg-“ White collar worker”. Safety professionals wear their uniforms. Executives in marketing and corporate prefer formal looking clothes. Similarly, all occasions and places that we visit requires us to dress differently.
3. Choice of clothing: Choice of clothing varies due to values, interest, attitudes and moods of the people. It also depends on the occasion of dressing and place of visit.

Q3. What are the factors affecting the purchase of clothing?

Ans.

1. Attributes of the garment: This includes pattern, colour, fibre and its properties, weave, price, style, etc.
2. Attributes of individual satisfaction: This includes ease of care, durability, appearance, performance during use, climatic conditions, etc.
3. Interest and values in clothing: An individual who is conscious about his looks and physical presentation may be interested in clothing from the point of view of creating an impression. Professionals like

staff of hospitality or hotel industry need to look sophisticated. Some maybe interested in practical considerations like comfort, durability related to price.

Q4. Define fibre.

Ans. Fibre is the very fine hair-like smallest unit and basic building block for making all textile products.

Q5. Define fabric.

Ans. Fabric is the product made from yarns, which in turn are comprised of fibres.

Q6. What do you mean by textile materials?

Ans. Textile materials include fibres, yarns and fabrics. The word 'textile' means *woven*. Therefore, fabrics made by methods other than weaving like knitting, crocheting, braiding, felting, bonding, knitting, laminating, etc are also included in textile materials.

Q7. What are textile fibres?

And. Textile fibres are

1. Any product that is capable of being woven or otherwise made into fabric.
2. The smallest unit of any textile material.
3. A bundle of molecules, whose length is much more than its width.

Q8. Name the natural fibres.

Ans. Cotton, Linen, Wool, Silk, etc.

Q9. How are textile fibres classified?

Ans. On the basis of length, the fibres have been divided into two categories:

1. Staple fibres: These are the fibres whose length can be measured in cms or inches. All natural fibres are staple fibres except silk.
2. Filament fibres: These fibres have continuous length measured in yards or metres. Silk is the only natural fibre which is a filament. All man-made fibres are filament fibres.

Q10. What is the advantage of filament fibres?

Ans. Filament fibres are available , both in staple and filament form. Whenever desired, the long filament can be

cut to a desired length to be used as staple fibres. The fabric made from staple fibres are called spun fabrics.

Q11. What is yarn? Name the different varieties of yarn.

Ans. Yarn is composed of textile fibres. The different methods by which these fibres are joined create the variety of yarn structures, which are:

- Single yarn
- Plied yarns
- Cabled yarn
- Cord
- Thread
- Fancy yarn

Q12. What is the difference between yarn and thread?

Ans. Yarn is the term usually applied when the assemblage (collection or bunch) of fibres is employed in the manufacture of a fabric. Whereas, thread indicates a product used to join pieces of fabric together to create textile product.

Thread is made from yarn. But yarn is never made from thread.

Q13. What is a loom? Name the two types of loom.

Ans. Loom is a machine by which weaving of fabric is accomplished. There are two types of loom.

- Handloom- operated manually.
- Powerloom- operated mechanically with the help of electricity.

Q14. What is weaving?

Ans. Weaving is a method of fabric construction in which at least two sets of yarns are interlaced at right angles to each other. The two sets of yarns are:

1. Warp yarn- Warps are standing or vertical yarns or parallel to selvage. Most garments are cut in the lengthwise direction.
2. Weft yarn- Wefts are sleeping or horizontal yarns or perpendicular to selvage.

Q15. Write the primary and secondary properties of fibre.

Ans. The primary properties of fibre are

1. Length to width ratio
2. Tenacity or fibre strength
3. Flexibility or pliability
4. Spinning quality or the cohesiveness of fibres
5. Uniformity

The secondary properties of fibre are:

1. Physical shape
2. Density
3. Colour
4. Lustre
5. Moisture regaining and absorption
6. Elastic recovery and elongation
7. Thermal behaviour
8. Resistance to chemicals
9. Resistance to micro-organisms.

Q16. What do you mean by natural fibres?

Ans. Fibres which are obtained from the natural sources like plants, animals and rocks are called natural fibres. Depending upon their sources, these fibres are called vegetable, animal or mineral fibres respectively.

Q17. What do you mean by man-made fibres?

Ans. Man-made fibres are synthetic fibres made artificially from a variety of raw materials under controlled conditions.

Q18. How are vegetable fibres obtained? Give some examples of vegetable fibres.

Ans. Vegetable fibres are obtained from the cellulose of one or the other parts of the plant. Eg- Cotton, linen, jute, coir, kapok, sisal, pina, ramie, etc.

Q19. Write about the composition of cotton fibres.

Ans. Cotton fibre is found on the surface of the cotton seed in the form of hair. It is composed of 86% to 90% cellulose, 5-8% water and the rest are other impurities.

Q20. Mention the properties of cotton fibres.

Ans.

1. Microscopic structure: Under the microscope, it is seen as a flat ribbon like structure, which is twisted 150-400 times per inch. These twists are called convolutions. The central canal called lumen is present in unripe fibres only. It is filled with a liquid called sap. When the fibre matures, the sap gradually dries up and the lumen collapses. The fibre gets automatically twisted in the process.
2. Length: It is a staple fibre, from $\frac{1}{8}$ inches to $2\frac{1}{2}$ inches in length.
3. Colour: Usually white, but varies from cream to brown.
4. Lustre: It has very little natural lustre. This can be increased in the fabric chemically by mercerization or physically by beetling method.

5. Strength: Moderately strong, it increases temporarily when wet, and permanently with mercerization.
6. Elasticity: Low elasticity. So it wrinkles easily after washing or weaving.
7. Absorption: Good absorption power.
8. Thermal properties: Burns readily with a smell like burning paper. Ironing temperature is 400°F-425°F.
9. Chemical resistance: Damaged by concentrated acid. Alkalis do not harm the fibre.
10. Dyes: Can be dyed with direct , vat and basic dyes. But colours are not fast to sunlight and washing.

Q21. Write about the uses of cotton.

Ans.

1. Because of its good absorption power, it is an ideal summer wear.
2. Used as medicated gauze for bandage.
3. Can be conveniently mixed with other fibres, so is used in making corduroy, denim, poplin, organdy, etc.
4. Used in tyre making industry.

Q22. How should we take care of cotton fabrics?

Ans.

1. White cotton can be conveniently washed in hot or warm water without adverse effect.

2. Chlorine bleach can be safely used. Coloured fabrics should be washed in cold water only.
3. White fabrics should be dyed in direct sunlight, while coloured fabrics in the shade.
4. For better results, the ironing of cotton clothes should be done when it is damp.

Q23. What is linen? How is it obtained?

Ans. Linen is a bast fibre obtained from the stem of the plant. Fibre is held intact in the stem by an adhesive substance. For obtaining the fibre undamaged, the stems are subjected to a fermentation process called retting, whereby the glue rots away and the fibres are free. Retting can be done by either of the methods like dew/pool/stream/chemicals

Q24. What is linen composed of?

Ans. Linen is composed of 70-85% cellulose and the rest are natural impurities.

Q25. What are the properties of linen?

Ans.

1. Microscopic structure: When seen under a microscope, flax (linen) looks like a long rod like structure of uneven

diameter having nodes or horizontal crossings at short intervals.

2. Length: Fibre length varies from 6-40" . Fibres shorter than 12" are not used for making fabrics.
3. Colour: Varies from yellowish buff to grey.
4. Lustre: more than cotton, almost very close to that of silk.
5. Strength: stronger than cotton, gain more strength than weight.
6. Elasticity: lower than cotton, wrinkles more than cotton.
7. Absorption: Higher than cotton.
8. Thermal properties: burns with a smell like paper. Ironing temperature is 450°F – 500°F.
9. Chemical resistance: damaged by strong acids, high resistance to alkalis.
10. Dyes: can be dyed with direct and vat dyes. Colours are not fast to washing and sunlight.

Q26. What are the uses of linen fabrics?

Ans.

- It is a good summer wear.
- Useful as good table linen.

Q27. How should we take care for linen fabrics?

Ans.

- Linen fabrics can be easily washed at home.
- Ironing should be done when it is damp.

Q28. Write short notes on the following:

- Jute:
 1. It is bast fibre. The plant requires moist climate.
 2. Quite cheap, but weak fibre. It has yellow to brown or gray colour with silky lustre.
 3. Resembles flax in structure.
 4. Resembles cotton and flax in its chemical resistance.
 5. Used for Gunny sacks, bags and binding thread for rocks and carpets.
- Coir:
 1. It is obtained from seed source from the husk of coconut. It contains the fibrous mass between the outer shell and actual nut.
 2. It is moistened and softened in sea water and pounded with stone to recover the fibre.
 3. Colour: Cinnamon brown. Doesn't require dyeing. Good resistance to long exposure to weather and water.
 4. It is stiff, wrinkle-resistant, strong, abrasion-resistant.
 5. Used for upholstery stuffing, sole cloth and coarse matting.
- Kapok:
 1. Seed hair fibre from Java kapok tree of tropical region.
 2. Tree is about 50ft/15m high.
 3. Seed pods are similar to cotton. Light, buoyant and soft.
 4. Used for padding and stuffing upholstery and mattresses. Used for sound proofing aeroplanes and insulation.

5. Difficult to spin, dries quickly after being wet.
- Sisal:
 1. Obtained from leaves of plant of Agave family.
 2. Cultivated in Mexico, Africa, Java and South America.
 3. Used for matting, carpets, ropes, bristles for expensive brushes.
 - Pina:
 1. Obtained from the leaves of the pineapple plant.
 2. Fibres are white or light ivory in colour.
 3. 2-4" long fibres, fine, lustrous, soft, flexible and strong.
 4. Used for making bags and accessories.
 - Ramie:
 1. Also called as China grass.
 2. Grown in China, Japan, Egypt, France, Italy and Russia.
 3. Bast fibre.
 4. Fibres are long, fine, lustrous and white in colour. Strong and stiff but have low elasticity.

Q29. Define animal fibres. Give examples.

Ans. Fibres obtained from animal source are known as animal fibres. They all are protein fibres. Eg- silk, wool, mohair, cashmere, camel hair, alpaca, llama, vicuna, etc.

Q30. How is silk obtained ?

Ans. Silk is a protein fibre obtained from silkworm. The caterpillar (silkworm) secretes a liquid from its mouth.

When this liquid comes in contact with air, it hardens and forms a covering around the worm. This covering or shell is called cocoon. The cocoon is unreeled to get the silk filament.

Q31. What is sericulture?

Ans. Raising silkworms and production of silk under controlled conditions is called sericulture.

Q32. Write about the composition of silk fibres.

Ans. Silk fibre is mainly composed of protein (C, H, O and N) called fibroin. Sericin is the gummy substance that holds the fibres together and protects them from damage.

Q33. Write the properties of silk fibre.

Ans.

- Microscopic structure: It is a rod like structure with smooth edges and non-uniform diameter.
- Length: It is the only long natural filament fibre, the length of which varies from 1300 to 2000 feet.
- Colour: the natural colour varies from yellow to grey.
- Lustre: It is a highly lustrous fibre.
- Strength: Strongest natural fibre but becomes temporarily weak when wet.
- Elasticity: Is good, hence it wrinkles less.

- Absorbency: has good moisture absorption.
- Thermal properties: Silk burns with a smell like burning hair or burning feather. Ironing temperature is 100°F and needs careful attention.
- Chemical resistance: not damaged by most of the acids. But it is damaged by alkalis and chlorine bleach.
- Dyes: Silk fibres can be dyed at lower temperature with acid, direct, basic and vat dyes. Colour is fast to sunlight and washing.

Q34. Mention the uses of silk fibre.

Ans.

1. Known as the Queen of fibres. It is the best fibre because of its softness and lustre.
It is used for making expensive and costly clothes and apparel. It can easily blend with other fibres.

Q35. How can we take care of silk fabric?

Ans.

- a) As Silk is weak in the wet state, great care is needed during its washing. It should be washed gently. Lukewarm or cold water must be used.
- b) Dry cleaning is a suitable method for cleaning silk items.
- c) It should be ironed when moist (100°F).

d) It should be carefully stored in a dry place, well protected from moths.

Q36. How is wool obtained?

Ans. Wool is obtained from sheep in the form of hair from its head, back, belly, legs and shoulders.

Different quality of wool fibre is obtained from different parts of a sheep. The quality of wool fibre is judged on the basis of its length, diameter, number of scales per inch, crimp, colour, etc.

Q37. What is wool composed of?

Ans. Chemically, wool is composed of a protein called keratin with C, H, O, N and S as constituent elements.

Q38. What are the properties of wool?

Ans.

- Microscopic structure: It is a rod like structure with uneven diameter. Its walls are covered with overlapping scales like those found on fish. The warmth of the wool is due to the presence of these scales.
- Length: It is a staple fibre, the length of which varies from 1 to 20 inches.
- Colour: Usually white but may also vary from grey to brown.
- Lustre: Little or no lustre.
- Strength: It is a weak fibre and loses its strength temporarily when wet or moist.

- Elasticity: It has very good elasticity hence negligible wrinkles appear.
- Absorption: Good absorption power and dries slowly.
- Thermal properties: It burns with a smell like burning hair or burning feather. Ironing temperature is 100°F.
- Chemical resistance: It is not easily damaged by dilute acids. But some concentrated acids may harm it. It is very easily damaged by alkalis.
- Dyes: acid and basic dyes are used to make it colour fast to washing and sunlight.

Q39. What are the uses of wool?

Ans.

- Small fibres are used for coarse fabrics generally called woollens. The longer fibres are used for finer quality fabrics called worsteds. Woollens show pilling and felting. But the worsteds are smooth and more expensive.
- Can be blended with other fibres depending on the ultimate use.

Q40. Differentiate between woollen and worsteds?

Ans.

WOOLLENS	WORSTEDS
It is made from small wool fibres called tops.	It is made from longer wool fibres called noils.

Less processing	More processing.
Less costly	Costly
Texture is coarse and rough	Texture is fine and smooth.

Q41. How can we take care of woollen fabrics?

Ans.

- It should be washed very gently with neutral soap having no alkali. Friction should be totally avoided. Dry cleaning can be done.
- Hot water should not be used.
- It should be dried flat.
- It should not be ironed but pressed. Pressing should be done by keeping a thin moist cloth between wool fabric and the iron.

Q42. Write short notes on:

a) Mohair-

- Protein fibre, obtained from Angora goat.
- Fine, silky fibres; 4-6 inches.
- High strength, lustre and excellent resistance.
- Use- Suiting, Sportswear, Upholstery, Rugs and Drapery

b) Cashmere-

- Protein fibre, obtained from Cashmere goat.
- Very soft and fine fibres. Fabrics are warm and comfortable. Luxurious items are made from cashmere

c) Camel Hair-

- Protein fibre, obtained from 2-humped camel.
- Short, soft, fine and very warm fibres.
- Used in Coating fabrics, sportswear and knitted fabrics.
- Colour- maybe tan or reddish brown.

d) Alpaca-

- Protein fibre, obtained from an animal named Alpaca, found in South America, Peru and Argentina.
- Coarse, warm, glossy and strong fibres.
- Colour- white to brown or black.
- Used to make suits, dresses, upholstery and lining.

e) Llama-

- Protein fibre, from Llama.
- Soft and yield strong fibres.
- Relatively uniform in length and diameter.
- Comparatively weaker than alpaca.
- Used for apparel fabrics.

f) Vicuna-

- Protein fibre, from a small animal that belongs to the genus llama.
- Expensive
- One of the softest fibres.
- Lustrous and brown/tan in colour.
- Very lightweight. Quite warm.
- Used to make coats, suits, shawls and caps.

g) Asbestos-

- Mineral fibre obtained from mineral rocks in Quebec, Russia, South Africa, Italy, New York, etc.

.Does not contain carbon

- Only natural fibre which is fireproof.
- Resistant to acids, alkalis.
- Used for making filters in chemical industry and fire proof clothes.

h)Rubber-

- Elastomeric fibre; the fibre forming substance is a thick gummy liquid obtained from rubber trees.
- Highly elastic and low resistance to abrasion
- Difficult to dye. Deteriorates by sunlight and chemicals.
- Used for Industrial purposes
- Doesn't find much use as textile item.

Q43. Mention the important properties of rayon fibre.

Ans.

- Microscopic structure: Under the microscope, it is a rod like structure having uniform diameter and smooth walls. A number of striations are visible in its longitudinal section.
- Length : It is a long filament fibre.

- Colour: It is transparent but desirable colour can be imparted before forcing the solution through the spinneret. This dyeing is called solution dyeing.
- Lustre: It is highly lustrous.
- Strength: It varies from fair to excellent depending upon the process of manufacture. It loses its strength when wet.
- Elasticity: Low
- Absorption: Greater than natural cellulose.
- Thermal properties: Burns very quickly and smells like burning paper. Ironing temperature is 275°F.
- Chemical Resistance: Like cotton, it is easily damaged by acids but resistant to normal alkalis.
- Dyes: It can be easily dyed with Direct, Vat or Sulphur Dyes. It is colour fast to washing and sunlight.

Q44. Mention the uses of Rayon.

Ans. It is an inexpensive fabric for household and apparel use. It is used for blending with other fibres like viscose Rayon.

Lizzy-Bizzy – Rayon + Polyester.

Q45. How can we take care of rayon?

Ans. Rayon needs to be washed with gentle handling. It can also be dry cleaned.

Q46. What are the differences between artificial and pure silk?

Ans.

Pure Silk	Artificial Silk
Natural	Man-made
Protein	Cellulose
Good strength	Weak
Damaged by moth	Attacked by silverfish

Q47. Write the composition of nylon.

Ans. Nylon is a polyamide compound of C, H, O, N elements.

It is a man made synthetic fibre.

Q48. What are the properties of nylon?

Ans.

- Microscopic appearance: Nylon has a rod like structure with uniform diameter and smooth walls.
- Length: Filaments can be of any desired length.
- Colour: off white
- Lustre: High natural lustre. Titanium dioxide is used to control the lustre.
- Elasticity: Very good. Wrinkles negligibly.

- Absorption: It has very low absorption capacity , therefore it dries very quickly.
- Thermal properties: Nylon burns with smell of celery or beans. It is very sensitive to heat but it is a thermoplastic fibre. Ironing temperature is 250°F.
- Chemical resistance: Damaged by concentrated acids but it has good resistance to alkalis. Soluble in concentrated formic acid. Insoluble in acetone.
- Dyes: Acid, direct, vat, disperse or basic dyes can be used.

Q49. Write about the uses and care of nylon fabrics.

Ans. USES:

- Hosiery, household furnishing and outerwear.
- Blended with other fibres.
- Bathroom curtains and swimming costumes.
- Because of good strength, it is used for ropes.

CARE:

- Ironing is not required, because it is wrinkle resistant.
- It is easy to care for and clean, but it should not be washed in hot water nor be subjected to hot ironing.

Q50. Write a short note on the manufacture and composition of Polyester.

Ans. Polyester is a synthetic fibre. Terephthalic acid and ethylene glycol react to yield polyester polymer, which is passed through the spinneret, where it coagulates into filaments in a hot air chamber. It is also known as 'Terrene'.

Polyester is a polymer of Ethylene terephthalate.

Q51. What are the properties of Polyester?

Ans.

- Microscopic properties: It is a rod like structure with smooth walls and uniform diameter.
- Length: It can be made into both filament and staple form.
- Colour: White
- Lustre: Very good
- Strength: Varies from good to excellent
- Elasticity: less than nylon but more than that of cotton or Rayon.
- Absorption: very low, dries quickly
- Thermal properties: Burns with a pungent smell. It can be heat- set at very high temperature. Ironing temperature is 250°F.
- Chemical resistance: very good resistance to most acids and alkalis. Soluble in m-cresol.
- Dyes: Disperse and Azoic dyes can be safely used.

Q52. Define the following terms:

- a) Yarn- Yarn can be defined as a continuous strand of textile fibres, filaments or material in a form suitable for knitting, weaving or otherwise, intertwining to form a textile fabric. This yarn is also known as thread.
- b) Selvedge- A selvedge is a “self-finished” edge of fabric, keeping it from unraveling and fraying.
- c) Fabric- When a yarn is knitted or felted together, it becomes a fabric. Fabric is a flexible material consisting of a network of natural or synthetic fibre. Fabric is an artifact made by weaving, felting or knitting.

Q53. Explain the types of basic weaves.

Ans.

- a) Plain weave- In this weave, the weft yarn is alternatively passed over and under one warp yarn. Right and wrong sides of fabric look alike. If coloured threads or yarns are used, good designs can be created. The surface of the cloth is smooth. This weave is the simplest and is very commonly used. Eg- poplin, cambric, muslin, organdy, linen, Rayon, silk, chiffon, wool, crepe, etc
- b) Twill weave- In this weave, the weft or warp yarns interlace with more than one warp yarns at regular intervals but never more than 4 warp yarns. By changing the intervals of warp yarns, many attractive patterns can be made. This weave is characterized by diagonal lines on the face of the fabric and is quite durable. Eg- Denim, flannel, drill, jersey, gabardine, etc.

c) Satin weave- In this weave, one side surface of the cloth is very smooth and plain. The weft is woven leaving one-one, two-two or four-four warp yarns. This weave is achieved by floating the warp or weft yarn over four or more of the opposite yarn. It is not very durable. The cloth is super smooth, soft and drapes well.

Q54. Name two decorative weaves and explain each one of them.

Ans.

a) Spot weave- Extra yarn weaves requires extra yarn warp and/or filling yarns to create the design. The extra warp and/or filling yarns are inserted during the weaving process. The surface figure weave is spot weave. Clip-spot, clip-dot, spot-dot is a weaving technique that involves extra weft yarns, usually of a contrasting fibre and/or colour from the plain ground. The extra yarns are woven into the ground in a generally small pattern. Later the wefts, carried on the back of a fabric, are clipped. The surface will appear to be embroidered, and the back will show these cut ends.

b) Pile weave(cut or uncut) – This weave is used to make a soft pile fabric which is absorbent, insulating and durable. The cut and uncut piles will be found on one side or either side of the fabric. The uncut or loop piles has loops on the face and back of the fabric. Ground yarns and additional

yarns for the pile are used. This cloth is used for towels, napkins, sports-shirts, etc.

Q55. What is felting?

Ans. Felting is a non-woven process of manufacturing of fabrics. It is consolidation of certain fibrous materials by the application of heat, moisture and mechanical action causing the interlocking or matting of fibres, possessing felting properties. Such fibres include wool, fur, and certain hair fibres. Felts do not require any adhesive substance for their production. Woven fabrics made of cotton or wool may be felted making them thicker or more compact.

Q56. What is knitting?

Ans. Knitting is a technique to turn thread or yarn into a piece of cloth. It is a process of fabric forming by the intermeshing of loops of yarns. When one loop is drawn through another, loops are formed in a horizontal or vertical direction. There are two types of knitting:

- Weft knitting- It is a method of forming a fabric in which the loops are made in horizontal way from a single yarn and intermeshing of loops take place in a circular or flat form on across wise basis.
- Warp knitting- It is a method of forming a fabric in which the loops are made in vertical way along the length of

the fabric from each warp yarns and intermeshing of loops take place in a flat form of length wise basis.

Q57. What are pure fabrics?

Ans. The fabrics made from one type of fibre are called pure fabrics. Varieties of pure fabrics are available in the market depending upon the different varieties of a fibre. For eg- different types of cotton seeds give different qualities of cotton having varying properties. Similarly, a large number of varieties of sheep yield different qualities of wool.

Q58. Mention different methods of finishing and their effects.

Ans.

- Napping finish- can convert an ordinary cotton fabric into flannel.
- Acid finish produces burnt out design fabrics, seersucker, cheesecloth and organdy from cotton.
- Moire calendering finish produces watered silk (wavy appearance).
- Embossing finish creates interesting effects on the monotonous plain surfaces of pure or other fabrics.
- Dyeing and printing

Q59. What are mixed fabrics?

Ans. Mixed fabrics are those in which the warp is formed by one type of fibre and the weft by another fibre. Eg- Cottswool fabric- In this , the warp is of cotton and the weft is of wool. Such fabrics possess properties common to both fibres used for making the fabrics.

Q60. What are blended fabrics?

Ans. Two types of fibres are blended in the raw stock, i.e at the fibre stage and then, yarn is made. Fabrics made using such yarn for both warp and weft are called blended fabrics. Eg- Polyester + Cotton gives Terrykot

Cotton + Wool gives Cotswool

Wool + Terryene gives Terrywool

Polyester + Silk gives Terrysilk.

Q61. How can we produce variety in fabrics?

Ans. Variety in fabrics can be produced by

- a) Composition of the fabric- (pure, mixed or blended fabrics)
- b) Selection of fibre (cotton, silk, Wool, rayon, Polyester, Nylon, acrylic, etc)
- c) Variety of the fibre (merino or pashmina wool, cultivated or tussar silk, etc)

- d) Method of fabric- construction (weaving, knitting, lace making, bonding, felting, braiding, etc)
- e) Selection of weave (eg- plain, twill or any decorative weave)
- f) Finishing given to fabric (basic, textured or functional)
- g) Application of colour (dyeing/printing and method of printing)

Chapter 12: CHOICE OF CLOTHING

Q1. Why are clothes required?

Ans. Clothes are required for

- Warmth and protection against the natural elements.
- Covering the body for maintaining and observing normal social behaviour.
- For one's psychological satisfaction.

Q2. Write the steps adopted to make the right choice of clothing.

Ans. To make the right choice of clothes, the following steps should be adopted:

- The problem- Understand the purpose for purchase of clothes.
- The expectation- Evaluate the expectations of the wearer, within the limits of the need. Like, for eg- his/her taste and personality.
- Various alternatives- List the various options available and choose the most suitable one according to the buyer's requirement and budget.
- The best alternative- Weigh each alternative against its pros and cons and find out the best alternative.
- Final Action- When the best choice according to the purpose, taste and money is made, buy it.

Q3. Mention the desirable and undesirable qualities of cotton, silk and wool.

QUALITIES OF SOME FIBRES		
Fibre	Desirable Qualities / Advantages	Undesirable Qualities / Disadvantages
(i) Cotton	<ul style="list-style-type: none"> (a) good absorbency (b) can be bleached (c) cool (d) dyes colour fast (except vegetable dyes) (e) washable (f) withstands high temperature and friction (g) good absorbency (h) does not cause skin problems/allergy/infection even in hot and humid climate 	<ul style="list-style-type: none"> (a) easy soiling (b) non-elastic (c) wrinkles easily (d) needs starching (e) colour fades in the sun (f) damaged by silverfish (g) affected by mildew
(ii) Silk	<ul style="list-style-type: none"> (a) beautiful colour (b) easily washable (c) good draping qualities (d) light weight (e) natural luster (g) resistance to soil (h) strength (i) retains shape 	<ul style="list-style-type: none"> (a) deterioration due to perspiration (b) water spotting (c) yellowing of white silk (d) subject to moth damage
(iii) Wool	<ul style="list-style-type: none"> (a) good absorbency (b) resilient and elastic (c) warm (d) dyes easily (e) mothproof (f) flame retardancy 	<ul style="list-style-type: none"> (a) damaged by alkalies (b) heat sensitivity (c) odour retention (d) shrinking and felting (e) subject to moth damage

Q4. Discuss the factors affecting selection of clothes.

Ans.

- Hygienic value: Clothes absorb the sweat and other body fluids and prevent anything from getting contaminated like food. They also prevent dust and smoke from accumulating on our skin.
- Climatic conditions: Climate affects our health and represents our taste in clothes. Wearing clothes according to the climate gives us satisfaction and improves our personality.
- Profession/Activity/Occupation: Clothes for working people should be smart, well tailored and formal. Occupation must be given higher priority while selecting clothes. It should be an aid, not a hindrance in one's work.
- Occasion: Clothes must be selected in accordance with the occasion.
- Figure and Fashion- Clothes should conform to present day fashion and must suit one's body structure.
- Comfort- Clothes must be comfortable. They affect our mood, posture and behaviour.
- Care and storage: Clothes should be easy to launder and iron and convenient to store when not in use.
- Labels: One must read the labels while choosing the clothes as it imparts information about the trade name, fibre composition, colour fastness, directions of care, etc.
- Appearance: Colour, texture and print should be according to complexion, height, age and figure of the wearer.

- Durability: Durability can be examined by the weave of the clothes. The fabric must not be overstitched. Absorbency and crease resistance enhances it's durability.
- Budget: One must keep in mind the budget for the maintenance of fabric, while considering the price range.
- Age: Closely associated with fashion trends, colours and fabric used

Q5. What are the criteria for selection of clothes for different seasons?

Ans. SUMMER-

- Light colours
- Fine prints
- Smooth and light weight fabrics
- Good heat conductivity
- Easy washing
- Perspiration resistant
- Stain resistant
- Good absorbency
- Colour-fast

WINTER-

- Dark, warm and bright colours
- Big and bold prints
- Rough textures

- Good insulators
- Heavy weight fabrics

MONSOON-

- Smooth and light weight fabrics,easily washable
- Mud stain resistant
- Easy to dry
- Less water absorbency

Q6.What are the points to be considered before selecting clothes?

Ans. They are:

1. Attractive personality : The wearer can exhibit an attractive personality to the outside world with a right choice of clothes.
2. Intelligent choice : The choice of clothes also reflects the intelligent choice of the wearer and carries the credit or discredit for the right choice or the unsuitable choice.
3. Value for money: With the right choice of clothes, we feel satisfied that the money spent is worth the quality.

e) Psychological satisfaction : Above all, right choice of clothes makes us feel that we are looking good and our money spent has been well utilized. This confidence enhances your personality.

Q7. What should be the criteria for selection of clothes for infants?

Ans.

- Soft and smooth fabrics
- Lightweight fabrics
- According to season
- Loose garments
- Easy to wash and dry
- No fasteners, only ribbons/tapes

Q8. What should be the criteria for selection of clothes for adolescents?

Ans.

- Fashion
- Body structure
- Occasion
- Season
- Well fitting

Q9. What should be the criteria for selection of clothes for old people?

Ans.

- Comfortable
- According to season
- Sober
- Durable
- Colour-fast
- Easy to wash and maintain

Q10. Write the criteria for selection of different household fabrics.

- A)Curtain:

(a) Suitable for purpose (Privacy, as room divider or decoration, blocking the light).

(b) Colour fast to sunlight and washing.

(c) Appealing colour scheme.

(d) Drapes/falls well.

(e) Durability.

(f)Dimensionally stable.

(g) Bathroom curtain, in addition to all the above should be water proof or water resistant.

- B)Bed sheet:

(a) According to size (108" x 36" for single bed and 100" x 90", 108" x 72", 122" x 108" for double bed).

(b) Durable.

(c) Preferably cellulosic.

(d) Strong selvedge and finished sides.

(e) Dimensionally stable.

(f) Proper colour scheme.

(g) Stain resistant.

(h) Colour fast.

- C) Towels:

- a. Compact basic ground weave

- b. Long loops for good absorbency

- c. High number of loops per inch

- d. Strong selvedge and finished ends.

- e. Appropriate size: Face towels- 14" X 20" to 27" X 42"

- f. Suitable to purpose- kitchen towels, bath towels, guest towels, beach towels, hand towels, dish towels

- g. Durable

D) Table cloth:

Appropriate size- 36" X 54", 45" X 54", 64" X 54" or 64" X 72"

Colour scheme

Durable

Stain resistant

Colour fast.

Chapter 13: COMMUNICATION AND EXTENSION

Q1. Define communication.

Ans. As per the Oxford Dictionary, communication is imparting, transmitting, conveying, feeling ideas and information by speech, writing and symbols.

Q2. What are the key components of the nature of communication?

Ans.

- Communication is a two way process: It involves the sender and receiver. The sender or receiver can be an individual or a group.

- There has to be a message: The message can be informative, a directive, an enquiry, a feeling, or an opinion.
- Commonness of understanding: Communication can occur only when there is commonness of understanding between the sender and the receiver.
- Modifying the behaviour of other individuals: The information transmitted to the receiver evokes a response in the form of some change in his behaviour.
- Method of giving information: Information can be given through words, signs, gestures, expressions, etc.

Q3. What are the functions of communication?

Ans.

- Information- This function is primarily performed by mass media which increases our understanding and problem solving ability; enhances social status and gives economic benefits. People learn about news, products, ideas and changes in policy through mass media.
- Influence- The receiver's general beliefs, attitudes, values and understandings can be altered in a desirable way. It creates a common pool of ideas and strengthens togetherness among people.
- Instruction- Instructions from a person in a higher position to a person in a lower position, provides knowledge, skill expertise and direction to participate actively in public life. Eg- offices and businesses

- Integration- At the interpersonal level, the purpose of Communication is self- integration.Eg- literature, art, folklore, mythology, belief, festivals, etc promote self-integration.
- Bonding- People sharing common values and interests can gather in public forums and bond amongst themselves.

Q4. How does mass media help in bonding?

And.

- Social integration messages like slogans, posters and songs.
- Appeals during calamities, wars and accidents.
- Bringing together of isolated societies.
- Knowledge of unknown communities.
- Involvement of people in community and national programmes.

Q5. What are the elements of communication?

Ans.

1. Communicator/Source/Encoder- A communicator is a person who takes the decision to encode a message or to communicate. He encodes the message by speaking, writing, gesturing or smiling. While doing so, he receives message from himself and other person.

The art of producing messages is termed as encoding.

2. Message- Messages refer to the information/ideas/appeals which have to be communicated to the audience or receiver.
3. Channel- Channel is the medium through which the message passes. It includes verbal or non-verbal forms of communication. The channels are based on 5 sense organs.
 - a. Vocal/Auditory
 - b. Visual/Gestural, Pictorial
 - c. Chemical/Olfactory
 - d. Cutaneous/Tactile
 - e. Taste/Gustatory
4. Receiver- Receiver is the person who receives the message or for whom the message is meant for.
5. Feedback- Feedback is the return message transmitted from the receiver to the sender, in the opposite direction. It is action-reaction interdependence.

Q6 What is Interpersonal Communication?

Ans. Interpersonal Communication is the process of sending and receiving information between two or more people. It differs from other forms of communication in that there are fewer participants involved, the communicators are in close physical proximity, there are many sensory channels and the feedback is immediate.

Q7. What are the 4 principles of Interpersonal Communication?

Ans.

- a. IPC is inescapable- We are in a constant state of communication with those around us, through words, gestures, facial expressions, posture and tone of voice.
- b. IPC is irreversible- The message sent cannot return to its sender. The effect is inevitable.
- c. IPC is complicated- The variables involved in a communication between two persons are multiple. Eg- refer to the '6 people' theory of communication between two persons.
- d. IPC is contextual: Communication does not happen in isolation. There is a psychological context, a relational context, a situational context, an environmental context, and a cultural context.

Q8. How can we improve IPC?

Ans.

- a. Be assertive: We should be willing to communicate. We should not be passive, withdrawn or inactive while communicating.

- b. Be considerate: We should be aware of the other person's background, personality and life experiences.
- c. Listen: We should practice ' active listening'. Active listening focusses, voluntary and intentional in nature. The goal is to acquire information, understand a person or a situation, and experience pleasure.
- d. Speak: We should follow the 7Cs for effective speaking.
- e. Read and Write: Reading improves our comprehension, writing ability and speaking skills. Deep reading implies the ability to connect dots, link thoughts, think critically, evaluate what we are reading.
We should write in the appropriate language. We should improve our writing skills in order to create a better impression on the people.

Q9. What are the 7Cs of effective speaking?

Ans.

- a. Completeness: Should contain all the facts needed for desired action.
- b. Conciseness: Conveying the message in fewest possible words.
- c. Consideration: Consider the receiver while framing the message.
- d. Concreteness: Use words which are specific, definite and vivid
- e. Clarity: Getting across the message clearly to the audience.

- f. Courtesy: Message should be friendly, sincere and pleasant.
- g. Correctness: Refers to accuracy and authenticity of message.

Q10. Mention the Wiio's laws of Communication.

Ans.

1. If communication can fail, it will.
2. If a message can be understood in different ways, it will be understood in just that way which does the most harm.
3. There is always somebody who knows better than you what you meant by your message.
4. The more communication there is, the more difficult it is for communication to succeed.