

12. HOME SCIENCE (Code No. 064)

Home Science as a discipline aims to empower learners by developing understanding of five different areas, namely:

- Food and Nutrition
- Human Development and Childhood Studies
- Resource Management
- Fabric and Apparel Science
- Development Communications and Extension

The subject helps students to understand changing needs of Indian society, academic principles as well as develop professional skills.

This would make them competent to meet challenges of becoming a responsible citizen.

OBJECTIVES

The Syllabus at Senior Secondary level develops in the learners an understanding that the knowledge and skills acquired through Home Science facilitates development of self, family and community. It endeavours to -

1. acquaint learners with the basics of human development with specific reference to self and child.
2. help develop skills of judicious management of various resources.
3. enable learners to become alert and aware consumers.
4. impart knowledge of nutrition and lifestyles to enable prevention and management of diseases.
5. inculcate healthy food habits.
6. develop understanding of textiles for selection and care of clothes.
7. develop skills of communication to assist in advocacy and dissemination of knowledge to community.

COURSE STRUCTURE

CLASS XI (THEORY)

One Paper (Theory)		Time: 3 Hours	70 Marks
Unit			Marks
I.	Concept of Home Science		02
II.	Know myself		17
III.	Nutrition for Self and Family		17
IV.	My Resources and Community		17
V.	My Apparel		17
			70

Unit I: Concept of Home Science and its Scope (Periods 2)

Home Science and its scope.

Unit II: Know myself : Issues related to adolescents (Periods 33)

Adolescence definition

Characteristics:

- (i) Physical development - growth spurt, sexual development.
- (ii) Social and Emotional development : family and socialisation pattern of priority, parental control techniques, role of siblings and grandparents, development of peer relationship & friendship patterns.
Interest in opposite sex, development of gender role, stereotype, role of school and teacher, identity crises, storm and stress, anger management.
- (iii) Cognitive development.

Individual differences:

Difference between two sexes and same sex, early and late maturers, role of heredity and environment (family, peers, school, neighbourhood, community and world)

Special Needs of adolescents :

- (i) Nutritional problems of adolescents - Iodine deficiency disease (IDD) Anaemia.
- (ii) Cases of obesity in adolescents - eating out, nutrition transition and lack of exercise.
- (iii) Eating disorders of adolescents - anorexia nervosa, bulimia.

Some problems of adolescence:

Depression; alcohol, drugs and smoking; delinquency; summary; problems related to sex; HIV / AIDS and other sexually transmitted diseases;

Population Education:

- (i) Causes and effects of overpopulation.
- (ii) Neglect of girl child - causes, government incentives to improve status of girl child and women empowerment.

First Aid

- (i) First aid in cuts, burns, fractures, bites (snake and dog), poisoning and fainting.

Unit III : Nutrition for Self and Family (Periods 45)

- (i) Definition of food, nutrition, (WHO) health and Nutritional status.

Functions of food:

Physiological (body building, energy giving, protective, regulatory), psychological and social functions.

Selection of foods for optimum nutrition and good health:

- (i) Nutrients : sources, functions and deficiency and its prevention, Proteins, Carbohydrates, Fats, Vitamins- Fat soluble (A, D, E, K) and water soluble (B₁, B₂, Niacin, Folic acid, B₁₂ and Vitamin C), Minerals (Calcium, Iron, Zinc and Iodine).
- (ii) Basic Food Groups (ICMR) and their contribution ; Concept of Balanced diet, food and nutritional requirements for family (ICMR tables).
- (iii) Factors influencing selection of food : culture, family food practices, media, peer group and availability of foods

Maximum nutritive value from food by proper selection, preparation, cooking and storage:

- (i) **Selection and Storage of Foods** : Perishable, semi-perishable, non-perishable, convenience foods and their storage. Selection of fruits, vegetables, egg, fish, poultry, milk and milk products.
- (ii) **Preservation of food** :
 - (a) Reasons of spoilage of food
 - (b) Brief description of household methods of preservations -
 - Refrigeration, dehydration
 - Use of chemicals and household preservatives (salt, sugar, oil).
- (iii) **Preparation of food** : loss of nutrients during preparation of food and their minimization.
- (iv) **Cooking** :
 - (a) Principles of cooking
 - (b) Methods of cooking - boiling, steaming, pressure cooking, deep and shallow frying, baking, sauteing, roasting, grilling, solar cooking and microwave cooking.
 - (c) Effect of cooking on the nutritive value of food.
 - (d) Methods of enhancing nutritive value-germination, fermentation, fortification and food combination.

Unit IV: My Resources and Community**(Periods 36)****(i) Resources: Meaning, characteristics and types:**

- (a) Human / Personal Resources : knowledge, skills, time, energy, attitudes;
- (b) Non-human / material resources : money, goods, property;
- (c) Community facilities / shared resources : Schools, parks, hospitals, roads, transport, water, electricity, library, fuel and fodder.
- (d) Need to manage the resources and methods of conservation of shared resources.

(ii) Management:

- (a) Meaning and need for management.
- (b) Steps in management: planning, organizing, controlling, implementing and evaluation.
- (c) Decision making and its role in management.

(iii) Time and energy management:

- (a) Need and procedure for managing time for occupation and leisure.
- (b) Work simplifications : meaning and methods.
- (c) Need and ways to organize space in a house.
- (d) Use of colours and accessories to make house attractive - prang colour wheel dimensions of colours, classes and colour schemes.

(iv) Work ethics:

- (a) Meaning and importance; discipline at work place; reaching on time, staying in seat, knowing the job, using polite language.

Unit V: My Apparel

(Periods 34)

(i) Introduction to Fibre Science:

- (a) Characteristics of fibre
- (b) Classifications of fibre
 - Natural-cotton, silk and wool
 - Man-made (Regenerated & Synthetic), (rayon nylon and polyester)
 - Blends - Characteristics (terrycot, terrysilk, terrywool).

(ii) Fabric Construction:

- (a) Yarn making : Basic procedure of making yarn (cotton, wool, silk and nylon).
- (b) Weaving: Basic mechanism, types of weaves : plain (basket and rib), twill, sateem & satin weave. A brief mention of special weaves (pile and jacquard weaves)
- (c) Other methods of fabric constructions : knitting and nonwoven fabrics. (felted and bonding).
- (d) Effect of weaves on appearance, durability and maintenance of garment.

(iii) Fabric Finishes:

- (a) Meaning and importance.
- (b) Classification of finishes.
 - Basic finishes : (cleaning scouring), singeing, bleaching, stiffening, calendering and tentering.
 - Special finishes : (Mercerisation, shrinkage control (sanforizing), water proofing)

PRACTICALS

Time: 3 Hours		30 Marks
UNIT		MARKS
I.	Concept of Home Science	-
II.	Know myself	-
III.	Nutrition for Self & Family	8
IV.	My Resources and Community	8
V.	My Apparel	7
	Record	5
	Viva	2
Total		30

Unit I : Concept of Home Science (Periods 2)

Unit II : Know myself : issues related to adolescents (Periods 8)

Activity: Observe and test your own strengths and weaknesses; Discuss about them in class with your teacher and fellow students; take decision about maximum utilization of strength, overcoming weaknesses, stress management.

Activity: Report situations from your life to indicate your interaction within the family, with peers and with members of the community.

Unit III : Nutrition for Self and Family (Periods 28)

Activity: Look for signs of good poor health within your family.

Activity: Make a list of foods available in the local market according to food groups.

Activity: Observe how different food stuffs are stored at home and evaluate the effectiveness of the method; practise skills to preserve and optimise nutrients by preparing meals and snacks.

Practical: Preparing nutritious snacks, canteen meal/mid-day meal.

Practical: Household methods of food preservation - Jam, Squash / Pickles / Chutney.

Unit IV : My Resources and Community (Periods 30)

Activity (Observation): Observe and list resources available at home and in neighbourhood. Make a detailed study on available community resource and its management, suggest improvements.

Activity: Critically evaluate anyone activity centre of your house. Suggest improvements.

Activity: Suggest a work plan for yourself for a day and state where and why will you take help from others.

Practicals: Make flower and foliage arrangements, floor decorations, clean and polish copper or brass, glass and iron.

Unit V : My Apparel

(Periods 24)

Activity: Collect samples of fabrics and study characteristics for identification.

Activity: Collect samples of weaves and identify them.

Practicals: Carry out burning test, slippage test, tearing test and test for colour fastness.

Practical: Dyeing: tie and dye, block printing on small sample.

CLASS XII (THEORY)

One Paper (Theory)		Time: 3 Hours	70 Marks
Unit			Marks
I.	Know Little Children		17
II.	Nutrition for Self, Family and Community		17
III.	Money Management and Consumer Education		17
IV.	My Apparel		17
V.	Things I can do with my Home Science Training		2
Total			70

Unit I: Know Little Children (0-3 years)

(Periods 34)

Some specific characteristics: physical - height, weight and body proportions; motor development during 0-3 months, 3-6 months, 6-9 months, 9-12 months and 1-3 years (milestones only); social and emotional developments; expression of emotions, socialization; cognitive development and language development.

Protection from preventable diseases: immunization - concept and types (natural and acquired), breast feeding (one of the ways to develop natural immunity); immunization chart; symptoms prevention, after care and incubation period of childhood diseases - tuber culosis, Diptheria, pertussis, tetanus, polio, measles, cholera, diarrhoea, chicken pox.

Special needs of disadvantaged and disabled children: socially disadvantaged, physically handicapped (Blind, partially blind & deaf, affected/missing limb): characteristics & needs.

Substitute care at home and outside: siblings, grand parents, neighbour/creche, day care centres etc: Integrated Child Development Scheme (ICDS) - objectives and functions.

Unit II : Nutrition for Self, Family and Community

(Periods 36)

Planning meals for the family: meaning and importance of meal planning, principles and factors affecting meal planning, planning meals for the family; keeping in mind the needs of individual members, infants, schoolgoing children adolescents, pregnant women, lactating mother.