

# HOME SCIENCE (68)

## Aims:

1. To understand and appreciate the role of Home Science in the development and well-being of self, family and community.
2. To develop an understanding of the basic concepts of food and nutrition in order to lead a healthy life.
3. To understand human development with respect to early and middle childhood.
4. To develop skills to enable candidates to communicate effectively in various spheres of life.
5. To introduce candidates to the basics of Textiles and Clothing.
6. To develop skills for effective management and utilisation of resources available.
7. To create awareness regarding various developmental issues and concerns.

## CLASS IX

There will be **one** written paper of **two** hours duration carrying 100 marks and Internal Assessment of 100 marks.

### PART I: THEORY

The paper will be divided into **two** Sections, A and B.

**Section A** will consist of questions requiring short answers and will cover the **entire** syllabus. There will be no choice of questions.

**Section B** will consist of questions requiring longer answers. Candidates will be required to answer **four** questions. There will be a choice of questions.

#### 1. Concept and Scope of Home Science

- (i) Introduction to the five streams in Home Science and how they integrate to form a meaningful whole.

*Understanding that Home Science is a field of Applied Sciences, made up of five streams, i.e. Foods & Nutrition, Resource Management, Human Development, Textiles & Clothing and Communication & Extension.*

- (ii) Significance of the study of Home Science in different spheres of life.

*An understanding that Home Science is a multi-disciplinary subject which helps in development of life-skills to deal with various situations in different spheres of life.*

#### 2. Food and Health

- (i) Food and its functions. Basic Cookery Terms. Health benefits of common food items.

*Definition of: food, nutrient, nutrition, balanced diet, health, malnutrition and optimum nutrition. Functions of food:*

*physiological, psychological and social functions.*

*Meaning of basic cookery terms: Cutting, chopping, grating, kneading, beating, peeling, stringing julienne, mashing, cut and fold in, blending, dusting.*

*Health benefits of common food items - to be done briefly:*

- *Herbs: Mint, coriander, celery, basil, curry leaves, saffron, thyme, lemon grass;*
- *Spices: cardamom, cinnamon, cloves, turmeric, fenugreek, cumin, fennel, carrom, asafoetida, ginger, garlic.*

- (ii) Nutrients and their functions. Deficiency diseases.

*Classification of nutrients according to their sources and functions:*

- (a) *Energy giving: Fats and carbohydrates;*
- (b) *Body building: Proteins and minerals;*
- (c) *Protective: Vitamins (A, D, E and K, Vitamin B -Thiamine, Riboflavin and Niacin and Vitamin C); Minerals (calcium, iron and iodine);*
- (d) *Regulatory: Water and roughage.*

*Deficiency diseases associated with the above nutrients.*

#### 3. Growth and Development of Children from Birth to Five Years

- (i) Principles of development; milestones of development.

*Meaning of the terms **growth** and **development**; difference between growth and development. Principles of development. Meaning of developmental milestones;*

*Milestones of development: meaning and characteristics of physical, motor, social, emotional, cognitive and language development.*

- (ii) Role and importance of play and play-school during early childhood.

*The role of play with emphasis on holistic growth of the child. Considerations in choosing the kind of play (indoor/outdoor), play materials (indoor/ outdoor); types of play: constructive, fantasy, solitary, cooperative, creative: meaning only; types of play schools: Montessori, nursery, kindergarten - meaning only.*

- (iii) Diseases and their prevention.

*Common childhood diseases (0-5 years): Tuberculosis, mumps, measles, chickenpox, diphtheria, pertussis, tetanus, rubella, polio: names only and associated vaccines; Definition and importance of immunisation.*

#### **4. The Home and its Maintenance**

- (i) Colour and its application in the Home.

*Dimensions of colour – hue, value and intensity. Prang colour wheel (primary, secondary and tertiary colours); neutral, warm cool and metallic colours.*

*Colour schemes: related (monochromatic/one hue colour, analogous /adjacent), contrasting (complementary, double complementary, split complementary, triad and tetrad) colour schemes and their applications in the home – drawing/living room, bed room, dining room and kitchen.*

- (ii) Lighting in the Home.

*Types of lighting (general and local or task, direct and indirect); sources of light: natural and artificial; choice of adequate lighting for different rooms.*

- (iii) Sustainable utilisation of Fuel and Energy in the Home.

*Sustainable use of fuel and energy with emphasis on the need and methods for the conservation of cooking gas, water and electricity in the house.*

- (iv) Maintenance of Sanitation and Hygiene inside and outside the House

*Role of sanitation and hygiene in the home and its environment;*

*Waste Management: Meaning of the term waste; basic concept of bio degradable and non-biodegradable wastes with examples.*

*Importance of segregation of waste: sorting of waste into biodegradable / non-biodegradable, organic / non-organic, plastic, metal and e-waste at domestic and community level.*

*Importance of the five Rs (reduce, refuse, reuse, recycle and reinvent) for environmental conservation.*

#### **5. Textile Science and Fabric Construction**

- (i) Fibres: Properties and uses

*Meaning of the term fibre; classification of fibres: natural, man-made and synthetic;*

*Natural fibres (cotton, silk and wool): brief idea of origin; man-made fibres (rayon: raw materials); synthetic fibres: nylon and polyester: raw materials;*

*Identification of fibres: microscopic appearance and burning tests. Properties of cotton, silk, wool, rayon, nylon, polyester and their uses.*

- (ii) Fabric structure: woven, non-woven and knitted.

*Meaning of the terms yarn, warp, weft, selvedge, fabric.*

*Woven fabrics: basic (plain and twill, satin, decorative (spot and pile - cut and uncut): construction method and end use;*

*Non-woven: e.g. felt;*

*Knitted (hand and machine): meaning and end use of non-woven and knitted.*

#### **6. Communication & Extension**

*Communication: meaning, functions and importance; elements of communication; interpersonal communication.*

*Meaning, functions and importance of communication; elements of communication (sender, message, medium, receiver, feedback: brief idea); meaning of interpersonal communication; acquiring interpersonal communication skills (listening, speaking, reading and writing).*

### **PART II: INTERNAL ASSESSEMENT**

Please note the guidelines for Internal Assessment as given for Class X.

## CLASS X

There will be **one** written paper of **two hours** duration carrying 100 marks and Internal Assessment of 100 marks.

### PART I: THEORY

The paper will be divided into **two** Sections, A and B.

**Section A** will consist of questions requiring short answers and will cover the **entire** syllabus. There will be no choice of questions.

**Section B** will consist of questions requiring longer answers. Candidates will be required to answer **four** questions. There will be a choice of questions.

#### 1. Home Management

- (i) Management of Household Finances: budgeting and saving.

*Concept and importance of family budget; types of family budgets (surplus, balanced, deficit); factors affecting family budget (composition of the family, life cycle, socio-economic status); steps in preparing a family budget;*

*An understanding of how budgeting helps in proper planning and judicious utilization of available resources.*

*Concept and importance of saving.*

- (ii) Space Organisation in the Kitchen: characteristics and considerations of a good kitchen; layout and planning of kitchens: one-walled, corridor, L-shaped, U-shaped, Island. Modular kitchen.

*Characteristics and considerations of a good kitchen: aspect, size, colour, ventilation, walls, flooring, work counters, lighting, storage; Work triangle: meaning and the three centres – preliminary preparation, cooking and washing;*

*An introduction to the design of kitchen space with respect to placement of work centres for preparation, cooking, washing, service and storage, for the most efficient utilisation of space and saving time and energy; concept of modular kitchens.*

- (iii) Home furnishing.

*Meaning of home furnishing; objectives of home furnishing: beauty, expressiveness,*

*functionalism; factors affecting selection of furnishings: curtains, floor coverings (rugs, carpets) and upholstery.*

#### 2. Growth and Development during Middle Childhood

- (i) Milestones of development.

*Meaning and characteristics of gang age. Growth and development between 6 - 12 years of age with respect to physical, social, emotional, cognitive and language development (meaning and characteristics of each type of development).*

- (ii) Role of the family, peer group and school in middle childhood.

*Meaning of peer group; role of the family, peer group and school in the social development process of the child.*

- (iii) Common learning difficulties of children; role of family, school and peers.

*Meaning of the term learning difficulty; Meaning and symptoms of: dyslexia, dysgraphia, dyscalculia, ADHD (Attention Deficit Hyperactivity Disorder).*

*Role of the family, school and peers in acceptance of and sensitisation towards children with learning difficulties.*

#### 3. Meal Planning

- (i) Meal planning for the family.

*Components of a balanced diet: the five basic food groups (cereals, roots and tubers, pulses and legumes, milk and meat products, fruits and vegetables, sugars and fats): sources and their nutritional contribution in the diet.*

*Explanation of the term meal planning, principles, importance and factors affecting meal planning.*

- (ii) Hygienic handling and storage of food - household methods of preservation of food.

*Definition of the term food hygiene; Hygienic handling of food during purchase, storage, preparation and serving. Importance of personal hygiene while handling food. Sanitation and safety in kitchen.*

*Meaning and examples of perishable, semi-perishable and non-perishable food items: Storage of perishable, semi-perishable and non-perishable food items commonly available at home; use of convenience foods- advantages and disadvantages.*

*Definition of food preservation; household methods of food preservation: sun drying, freezing, use of salt, sugar, spices, oil and chemical preservatives.*

#### **4. Selection and care of Textiles and Clothing**

(i) Selection of Fabric

*Factors affecting selection of fabric: age, sex, occupation, season, occasion, fashion, purchasing power.*

(ii) Selection of readymade garments.

*Factors affecting selection of readymade garments: fit, colour, workmanship, cost, maintenance.*

(iii) Laundering of Clothes

*Household methods of laundering of cotton, silk, wool and synthetics (step- wise), use of detergents, soaps, starch, blue and optical brighteners.*

#### **5. Communication & Extension**

(i) Understanding terminology related to development; some developmental schemes and programmes in India.

*Meaning of the following terms:*

*Gender discrimination, women's empowerment, sex ratio, child labour, human trafficking, child abuse, female infanticide/foeticide, morbidity and mortality, carbon footprint, endangered species, population explosion, human capital, poverty line.*

*A brief understanding, significance and target group of each of the following:*

- *DWCRA (Development of Women Children in Rural Areas);*
- *MNREGA (Mahatma Gandhi National Rural Employment Guarantee Act 2005);*
- *Ayushman Bharat or Pradhan Mantri Jan Arogya Yojana;*
- *Ujjwala Yojna;*
- *Pradhanmantri Jan Dhan Yojna.*

(ii) Communication aids.

*Meaning and uses of communication aids; Poster, brochure, pamphlets, puppet shows, street play: effective usage of these communication aids for addressing various social concerns.*

### **PART II**

#### **INTERNAL ASSESSMENT: 100 MARKS**

To be assessed internally by the school.

#### **PRACTICAL WORK**

Candidates will be required to practice one or more aspects of Home Management, Human Development, Foods and Nutrition, Textiles and Communication & Extension, covered in the syllabus. They may also undertake practical work on any of the topics suggested below. The teacher is free to assess the practical work either on the basis of continuous assessment or on the basis of periodical tests.

The minimum number of assignments for each academic year:

**Class IX - Five** practical oriented assignments as prescribed by the teacher.

**Class X - Five** practical oriented assignments as prescribed by the teacher.

#### **SUGGESTED ASSIGNMENTS**

##### **Foods and Nutrition**

- Identification of pulses, cereals and spices.
- Identification of serving and cooking equipment.
- Preparation of nutritious snacks using different methods of cooking.
- Demonstration of various cuts of vegetables and fruits such as slice, chop, dice, mince, juliennes to make easy salads.
- Preparation of food using simple cooking techniques such as boiling, frying, steaming, grilling, baking, stewing.
- Visiting a food processing unit and preparation of a report on the same.
- Identification and collection of samples of ten herbs/ spices/condiments available in the kitchen for treating common ailments. Preparation of a report on the same.

- Listing foods eaten on any one day and classifying them into food groups. Analysing them on the basis of nutrient content and appearance.
- Food preservation: making chutneys, pickles and jam.
- Demonstration of various innovative table layouts, napkin folding and creative decorations.

### Human Development

- Collecting ten play materials and evaluating them in terms of their merits and demerits.
- Observing a group of junior/middle school children during the lunch break and recording observations with respect to the language used, choice of friends, games played, etc.
- Visiting a day-care centre and observing the activities of the children. Making a record of the observations.
- Visiting a special school and recording observations made on any one child with special needs.

### Textiles and Clothing

- Collecting samples of fabrics and comparing them on the basis of cost, durability, appearance and suitability.
- Identification of fibres-cotton, wool, silk and synthetics by the burning test.
- Planning the interiors of a home through choice of colours and furnishing materials of the bedroom, living room and dining room.
- Care of Clothing; Laundering of cotton, silk and wool.

### Resource Management

- Planning a system for recycling of waste produced by the school/home.
- Preparation of compost pits.
- Gardening: planting of herbs and medicinal plants and taking care of them.
- Preparing a layout of the plan of the Home Science laboratory with complete detailing of work centres, storage areas and placement of heavy and light equipment.

- Cleaning of glass panes, grills, sink (steel and ceramic), counter tops (marble, granite and sand stones) and wooden shelves and electrical appliances like refrigerator, oven and cooking stove (any five to be done.)
- Preparing a family budget based on the information received from parents.

### Communication & Extension

- Designing a leaflet or a pamphlet to create awareness regarding consumer rights/responsibilities.
- Collecting information about global environmental issues and problems and communicating the information through appropriate modes of communication such as posters, charts, collages, cartoons, handouts, letters, street plays, etc. to all concerned.
- Identifying low cost, environmentally friendly alternatives in order to deal with the scarcity of resources such as fuels in the locality.

### FINAL TEST

In addition to the course work, the candidate will be tested in one or more aspects of Home Science by the External Examiner.

### EVALUATION

The assignments/project works are to be evaluated by the subject teacher and by an External Examiner. The External Examiner may be a teacher nominated by the Head of the school, who could be from the faculty, **but not teaching the subject in the section/class**. For example, a teacher of Home Science of Class XI may be deputed to be an External Examiner for Class X, Home Science projects.

The Internal Examiner and the External Examiner will assess the assignments independently.

### Award of Marks (100 Marks)

Subject Teacher (Internal Examiner)	50 marks
External Examiner	50 marks

The total marks obtained out of 100 are to be sent to the Council by the **Head** of the school.

The Head of the school will be responsible for the online entry of marks on the Council's CAREERS portal by the due date.

### INTERNAL ASSESSMENT IN HOME SCIENCE - GUIDELINES FOR MARKING WITH GRADES

Criteria	Planning Efficiency	Working to time plan	Manipulation	Quality produced	Appearance/Arrangement	Marks
Grade I	Follows the question set and systematically organises the work process.	Is successful in handling parts of the question set and fits them within required time.	Excellent display of manipulative skills - can deal with a laboratory situation efficiently.	With a special insight into the question, the quality developed is of a high standard.	A fine aesthetic sense and artistic ability conveyed in the complete arrangement.	4 marks for each criterion
Grade II	Follows the question set except that the step by step work shows slow operational skill.	Is successful in handling parts of the question, but the smooth work appears to slow down.	Good control of manipulative skills. Has been able to deal with each situation with ease.	The insight into the requirements of the question has been achieved and the quality is good.	The display of colour and equipment used gives an impression of sound organisation.	3 marks for each criterion
Grade III	Follows the question. Order of work process shows lack of co-ordination.	Is successful in handling the question, however the time link seems to break in some area.	Has been successful with the manipulative skills in parts, then gradually slows down.	The quality has been produced in part but the overall lacks some achievement.	The arrangement appears complete but some special details missing.	2 marks for each criterion
Grade IV	Follows a part of the question, work sequence appears disorganised.	Is able to work only a part of the question within the time stated and then seems confused.	Begins with a control of the skills and is unable to sustain the effort.	Only few areas of quality are visible, which affect the total result produced.	Part of the arrangement is represented but the total appearance lacks finish and composition.	1 mark for each criterion
Grade V	Has not been able to interpret the question into proper laboratory organisation.	Time and work sequence is most disorganised.	Is unable to control and manipulate the required skills.	No standard of quality has been achieved due to poor understanding.	There has been no achievement in either the appearance or arrangement.	0 marks for each criterion