آغا خان یونیورسٹی ایگزامینیشن بورڈ

AGA KHAN UNIVERSITY EXAMINATION BOARD

Secondary School Certificate
Examination Syllabus

# Food & Nutrition

Grades IX - X

(based on National Curriculum 2007)

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**Secondary School Certificate**
**Examination Syllabus**

# FOOD AND NUTRITION

**GRADES IX-X**

**This syllabus will be examined in both**
**May and September Examination sessions from**
**May 2020 for Grade IX and May 2021 for Grade X**

**For queries and feedback**


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# Preface

Established in 2002 through Ordinance CXIV, Aga Khan University Examination Board (AKU-EB) is Pakistan's first private autonomous examination body for secondary (SSC) and higher secondary (HSSC) school certifications. Its vision is to be a model of excellence and innovation in education in Pakistan and the developing world.

One of the ways in which AKU-EB achieves its vision is by developing syllabi which inculcates conceptual thinking and higher order learning based on the National Curriculum. AKU-EB revises its syllabi every 4 years so that they continue to meet the needs of students, teachers and examiners.

The aims of the current syllabus review of SSC and HSSC in 2018 were to:

- Ensure continued compatibility with the goals of the National Curriculum of Pakistan.
- Review the content for inclusion of new knowledge and deletion of obsolete knowledge.
- Review the content for clarity and relevance as per the changing needs of students, teachers and examiners.
- Enhance and strengthen continuation and progression of content both within and across grades IX - XII (SCC and HSSC).
- Ensure the readiness of students for higher education.

During this syllabus review, the needs of all the stakeholders were identified through a needs-assessment survey. Students and teachers of AKU-EB affiliated schools from across Pakistan participated in the survey. Thereafter, a revision panel, which consisted of examiners, schools teachers of affiliated and non-affiliated schools, teacher trainers and university academics, reviewed and revised the syllabus following a planned, meticulous and standardised syllabi review process.

This year, AKU-EB took the initiative of introducing a 'Concept Map' for each syllabus which represents links among the key concepts of the syllabus. These have been designed to improve students' interest in the subject, facilitate conceptual thinking and make the learning and teaching experience more memorable.

The syllabus is organised into topics and subtopics. Each subtopic is further divided into achievable student learning outcomes (SLOs). The SLOs of the cognitive domain are each assigned a cognitive level on which they have to be achieved. These cognitive levels are 'knowledge', 'understanding' and 'application', the latter also including other higher order skills. This is followed by the Exam Specification which gives clear guidance about the weightage of each topic and how the syllabus will be assessed.

The development of the revised syllabus have been made possible by the creativity and relentless hard work of Curriculum and Examination Development unit and the constant support provided by all the other units of AKU-EB. We are particularly thankful to Dr Sohail Qureshi for his very useful feedback on revising the syllabus review process, to Dr Naveed Yousuf for his continued guidance and support throughout the syllabus revision process and to Raabia Hirani for leading the syllabi revision. We are also thankful to all the students and teachers who took part in the needs-assessment survey and to the principals of AKU-EB affiliated schools who made this endeavour possible by facilitating and encouraging their teachers to be a part of the survey and the syllabus revision panel.

With your support and collective hard work, AKU-EB has been able to take the necessary steps to ensure effective implementation of the National Curriculum of Pakistan through this syllabus. We are confident that this syllabus will continue to provide the support that is needed by students to progress to the next level of education and we wish all the best to students and their teachers in implementing this syllabus.

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# Introduction to AKU-EB Syllabi

1. Aga Khan University Examination Board (AKU-EB) has a mandate by Ordinance CXIV of 2002 'to test the attainment of the objectives of the national curriculum, for the purpose of enhancing student learning, and to do all such things that may be considered appropriate for the improvement of education in respect to teaching and learning, institutional effectiveness and all things ancillary and incidental thereto'.

2. The AKU-EB syllabi are an important tool in the achievement of this mandate. These syllabi are based on the National Curriculum of Pakistan 2007 and the National Scheme of Studies 2006 – 2007. The syllabi bring together all those cognitive outcomes of the National Curriculum statement which can be reliably and validly assessed. Moreover, the syllabi aim to achieve the pedagogically desirable objectives of the National Curriculum which encourage 'observation, creativity and other higher order thinking skills', better meeting the needs of the students of the twenty-first century.

3. The syllabi guide the students, teachers, parents and other stakeholders regarding the topics that will be taught and examined in each grade (IX, X, XI and XII). In each syllabus document, the content progresses from simple to complex, thereby, facilitating a gradual, conceptual learning of the content.

4. The topics of the syllabi are grouped into themes derived from the national curriculum. The connection between various themes and topics is highlighted in the '**concept map**' provided at the beginning of each syllabus. This ensures that students begin to understand the interconnectedness of knowledge, learn conceptually and think critically.

5. The topics of the syllabi are divided into subtopics and **student learning outcomes (SLOs)**. The subtopics and the SLOs define the depth and the breadth at which each topic will be taught, learnt and examined. The syllabi complement the national curriculum by providing enabling SLOs where needed to scaffold student learning.

6. Each SLO starts with an achievable and assessable **command word** such as describe, relate, evaluate, etc. The purpose of the command words is to direct the attention of teachers and students to specific tasks that the students are expected to undertake in the course of their studies. The examination questions are framed using the same command words or their connotations to elicit evidence of these competencies in students' responses.

7. The SLOs are classified under three **cognitive levels**: knowledge (K), understanding (U) and application and other higher order skills (A) for effective planning during teaching and learning and deriving multiple choice questions (MCQs) and constructed response questions (CRQs) and extended response questions (ERQs) on a rational basis from the subject syllabi, ensuring that the intentions of the national curriculum are also met during examinations.

8. By focusing on the achievement of the SLOs, these syllabi aim to counter the culture of rote memorisation as the preferred method of examination preparation. While suggesting relevant, locally available textbooks for achieving these outcomes, AKU-EB recommends that teachers and students use multiple teaching and learning resources for achieving these outcomes.

9. The syllabi follow a uniform layout for all subjects to make them easier for students and teachers to follow. They act as a bridge between students, teachers and assessment specialists by providing a common framework of student learning outcomes and **exam specifications**.

10. On the whole, the AKU-EB syllabi for Secondary School Certificate (SSC) provide a framework that helps students to acquire conceptual understanding of the content of the National Curriculum and learn to critically engage with it. This lays a solid foundation for HSSC and beyond.

# Aims/ Objectives of the National Curriculum (2007)[1]

**Aims**

The curriculum for Food and Nutrition for grades IX-X aims to help individual students to:

- Develop knowledge of food and Nutrition with special reference to healthy living
- Develop professional attitude towards meeting food needs of the family
- Build capacity for utilisation of available resources to meet human needs (production, consumption, and services)
- Develop skill in planning, preparing and serving meals.

**Objectives**

- To inculcate clear understating of the terminology used in food science
- To give the knowledge to students for the special nutrient needs of people through the life cycle-expectant and lactating mothers, infancy, preschool, teenagers and old age
- Understanding the principles of nutrition and ability to use this knowledge in the feeding of normal and sick persons of all ages
- To describe the essential components of a nutritionally adequate diet
- To be able to plan a variety of nutritionally adequate meals
- To build capacity of the students to plan appropriate meals in accordance with the body needs and available resources
- Monitor and control the changes occurring in food during preparation and cooking
- To select appropriate equipment and be able to use it in a safe and appropriate manner
- To create understanding and ability for storage of food

## 1. Rationale of the AKU-EB Examination Syllabus

### 1.1 General Rationale

1.1.1 In 2007, the Curriculum Wing of the Federal Ministry of Education (MoE) issued a revised part-wise Scheme of Studies according to which the total marks for the SSC examination have been increased from 850 to 1100 from the year 2008 and onwards. All subjects are to be taught and examined in both classes IX and X. It is therefore important for teachers, students, parents and other stakeholders to know:

(a) that the AKU-EB Scheme of Studies for its SSC examination (Annex A) derives directly from the 2007 Ministry of Education Scheme of Studies;

(b) which topics will be examined in Class IX and in Class X;

(c) at which cognitive level or levels (Knowledge, Understanding,

[1] Government of Pakistan (2007), *National Curriculum for Food and Nutrition IX-X, Islamabad,* Ministry of Education (Curriculum Wing)

Application and other higher order skills) the topics and sub-topics will be taught and examined;

1.1.2 This AKU-EB examination syllabus addresses these concerns. Without such guidance teachers and students have little option other than following a single textbook to prepare for an external examination. The result is a culture of rote memorization as the preferred method of examination preparation. The pedagogically desirable objectives of the National Curriculum which encourage "observation, creativity and other higher order thinking [skills]" are generally ignored. AKU-EB recommends that teachers and students use multiple teaching-learning resources for achieving the specific objectives of the National Curriculum reproduced in the AKU-EB examination syllabuses.

1.1.3 The AKU-EB examination syllabuses use a uniform layout for all subjects to make them easier for teachers to follow. Blank sheets are provided in each syllabus for writing notes on potential lesson plans. It is expected that this arrangement will also be found helpful by teachers in developing classroom assessments as well as by question setters preparing material for the AKU-EB external examinations. The AKU-EB aims to enhance the quality of education through improved classroom practices and improved examinations.

1.1.4 The Student Learning Outcomes (SLOs) in Section 3 start with command words such as list, describe, relate, explain, etc. The purpose of the command words is to direct the attention of teachers and students to specific tasks that Students following the AKU-EB examination syllabuses are expected to undertake in the course of their subject studies. The examination questions will be framed using the same command words or the connotation of the command words to elicit evidence of these competencies in Students' responses. The definitions of command words used in this syllabus are given in Section 8. It is hoped that teachers will find these definitions useful in planning their lessons and classroom assessments.

1.1.5 The AKU-EB has classified SLOs under the three cognitive levels Knowledge (K), Understanding (U) and Application of knowledge and skills (A) in order to derive multiple choice questions and constructed response questions on a rational basis from the subject syllabuses ensuring that the intentions of the National Curriculum should be met in full. The weighting of marks to the Multiple Choice and Constructed Response Papers is also derived from the SLOs, command words and cognitive levels. In effect the SLOs derived from the National Curriculum determine the structure of the AKU-EB subject examination set out in Section 4.

1.1.6 Some topics from the National Curriculum have been elaborated and enriched for better understanding of the subject and/or to better meet the needs of students in the twenty-first century. These additional topics have been italicized in Section 3 of this syllabus.

## 1.2. Specific Rationale of the AKU-EB Food and Nutrition Examination Syllabus

1.2.1 The Curriculum Development team for Food and Nutrition for grades IX-X was framed involving subject experts and teachers of Food and Nutrition from colleges all over Pakistan.

Following strategies were adopted in designing/ revising the curriculum:

- Need assessment by critically reviewing current curriculum
- Consultative meetings with the working teachers and professors to get feedback and comments on existing curriculum
- Identification of eminent areas of study
- Identification of standards for communicating the impending areas
- Study of foreign curricula for comparison and guidelines
- Drafting of contents
- Preparation of detailed contents in the light of competencies to be developed
- Preparation of specific learning outcomes according to the contents
- Preparation of study and evaluation scheme for implementing the curriculum

1.2.2 The requirement to revise and update Food and Nutrition curriculum is based on the aspirations of the government and the society envisages vibrant and responsive curriculum.

The prime focus of this curriculum is based on the broad areas of Food and Nutrition. This document is based on three broad categories of activities that connect Food and Nutrition with health and wellbeing of people:

- Knowing how to use knowledge scientifically
- Developing an understanding of home making tasks relating to foods, based on scientific knowledge
- Utilization of all the resources of modern science to improve the nutrition of the family

1.2.3 This curriculum will broaden the horizon and vision of the students by teaching them latest techniques and developing scientific and practical approach. It will prepare the students for the world of work, as will as for pursuit of professional and specialized education.

# Subject Rationale of AKU-EB Food and Nutrition

**What will you learn in AKU-EB Food and Nutrition?**

Nutrition-related illness has become a global issue; therefore, it is immensely important to educate our society about the importance of nutrition and its direct or indirect impact on the economic and social development of the society. Thus, proper education of food and nutrition and its right practices are the ultimate solutions to address nutrition-related illness globally. Therefore, food and nutrition syllabus is designed to understand and follow the main aspects of food science, including nutrition and nutritional value, meal management, community health nutrition and food technology.

**Where will it take you?**

AKU-EB food and nutrition examination syllabus is more focused towards conceptual understanding of the importance of nutrition and its application in the changing world which prepares students appropriately for higher secondary or tertiary level studies of food and nutrition-related fields.

The following list suggests the diversity of careers which graduates in food and nutrition can pursue:

Food Writer

Dietary Manager

Clinical Dietetics

Professional Chef

Nutrition Educator

Public Health Worker

Independent Nutritionist

International Aid Worker

Food Industry Professionals

Weight Management Professional

**How to approach the syllabus?**

The concept map on the next page will give you an overview of your entire syllabus. After this, the topics and Student Learning Outcomes (SLOs) will tell you the details about what you have to achieve. And finally, the Exam Specification will tell you what to expect in your examination.

**What is the concept map telling you?**

'To eat is a necessity, but to eat intelligently is an art.'

*La Rochefoucald*

In this concept map of food and nutrition, the items on the table are artistically presented and related to the themes that we cover in the syllabus. There is a purpose for keeping each item on the specific part of the table. The four main parts of the table depict the four main themes present in the food and nutrition SSC syllabus. Each food item or other items signify the topics and subtopics. For example, in the theme nutrient and nutritional value, the plate with a variety and balanced food illustrates the requirement and importance of a balanced diet in our lives. Let's explore the logic behind every item on the table and relate it with the topics in the syllabus.


Food & Nutrition
1 nutrients & nutritional values
i. Introduction to the study of food & nutrition
ii. Energy and nutrients
iii. Balanced diet
iv. Nutrient composition
2 meal management
i. Meal Management
ii. Table Setting & Meal Services
iii. Purchasing & Storage of Food
3 community & health nutrition
i. Family & Community Nutrition
4 food technologies
i. Preparation & Cooking
ii. Food Preservation
Grocery list
Meat
Beans
Mushrooms
Rice
1500 calories
MILK
pickle
Concept Map
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# Student Learning Outcomes of AKU-EB SSC Food and Nutrition Syllabus

**Part I (Grade IX)**

| Topics and Sub-topics | | Student Learning Outcomes | Cognitive Level[2] | | |
|---|---|---|---|---|---|
| | | | K | U | A |
| **1. Introduction to the Study of Nutrition and Human Organ System** | | Students should be able to: | | | |
| 1.1 Introduction | 1.1.1 | define the terms 'nutrition', 'nutrients' and 'diet'; | * | | |
| | 1.1.2 | relate nutrition with physical health; | | * | |
| | 1.1.3 | discuss the significance of food and nutrition in daily life; | | * | |
| | 1.1.4 | define antioxidants; | * | | |
| | 1.1.5 | discuss the role of antioxidants in regulating human body processes; | | * | |
| 1.2 Human Organ System | 1.2.1 | describe the functions of human organ systems, i.e:<br>a. digestive system<br>b. muscular system<br>c. skeletal system. | | * | |

[2] K = Knowledge, U = Understanding, A = Application and other higher-order cognitive skills

| Topics and Sub-topics | | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|---|
| | | | | K | U | A |
| **2. Energy and Nutrients** | | Students should be able to: | | | | |
| 2.1 | Nutrients<br>• carbohydrates<br>• proteins<br>• fats<br>• minerals (calcium, iodine, phosphorus and iron)<br>• vitamins (A, B1, B2, B6, C, D and folate)<br>• water<br>• dietary fiber | 2.1.1 | list the basic nutrients of food; | * | | |
| | | 2.1.2 | describe each basic nutrient; | | * | |
| | | 2.1.3 | identify the food sources of each basic nutrient; | | * | |
| | | 2.1.4 | describe the functions of each basic nutrient; | | * | |
| | | 2.1.5 | explain the digestion of carbohydrates, proteins and fats in each part of the digestive system, i.e.<br>a. mouth<br>b. stomach<br>c. small intestine; | | * | |
| | | 2.1.6 | describe the absorption of nutrients in small intestine, i.e.<br>a. carbohydrates<br>b. proteins<br>c. fats; | | * | |
| | | 2.1.7 | discuss the health implications of low carbohydrate, high protein diet; | | * | |
| 2.2 | Food intolerance | 2.2.1 | define the term 'food intolerance;' | * | | |
| | | 2.2.2 | describe intolerance to lactose and gluten; | | * | |
| 2.3 | Dietary Reference Intakes (DRIs) | 2.3.1 | define Dietary Reference Intakes (DRIs); | * | | |
| | | 2.3.2 | differentiate among Dietary Reference Intakes (DRIs), i.e.<br>a. Estimated Average Requirements (EARs)<br>b. Recommended Dietary Allowances (RDAs)<br>c. Adequate Intakes (AIs)<br>d. Tolerable Upper Intake Levels (ULs); | | * | |
| | | 2.3.3 | describe the general characteristics of Recommended Daily Allowance (RDA); | | * | |

| Topics and Sub-topics | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|
| | | | K | U | A |
| | Students should be able to: | | | | |
| | 2.3.4 | state the RDA of nutrients for teenagers, i.e.<br>a. carbohydrates<br>b. proteins<br>c. fats<br>d. minerals (calcium, iodine, phosphorus and iron)<br>e. vitamins (A, B1, B2, B6, C, D and folate)<br>f. water<br>g. dietary fiber; | * | | |
| | 2.3.5 | discuss the most likely effects of excess and deficiencies of each nutrient; | | * | |
| | 2.3.6 | discuss public health strategies to overcome iron, vitamin A, vitamin D and folate deficiency; | | * | |
| 2.4 Energy Value of Food | 2.4.1 | define the terms 'energy', 'calorie' and 'metabolism'; | * | | |
| | 2.4.2 | state the uses of energy in human body; | * | | |
| | 2.4.3 | outline the process of release of energy in human body; | | * | |
| | 2.4.4 | describe factors affecting energy requirement of the individuals, i.e.<br>a. age<br>b. gender<br>c. physical activity<br>d. state of body (pregnancy, lactation and illness). | | * | |

| Topics and Sub-topics | | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|---|
| | | | | K | U | A |
| **3. Balanced Diet** | | Students should be able to: | | | | |
| 3.1 | Features and Importance of Balanced Diet | 3.1.1 | define balanced diet; | * | | |
| | | 3.1.2 | differentiate between balanced and unbalanced diet; | | * | |
| | | 3.1.3 | define malnutrition; | * | | |
| | | 3.1.4 | differentiate between under-nutrition and over-nutrition; | | * | |
| | | 3.1.5 | relate:<br>a. kwashiorkor and marasmus with under-nutrition<br>b. diabetes and obesity with over nutrition; | | * | |
| | | 3.1.6 | identify food groups in food pyramid; | | * | |
| | | 3.1.7 | describe the different food groups; | | * | |
| | | 3.1.8 | describe the concept of 'MyPlate';<br>a. cereals<br>b. fruits<br>c. vegetables<br>d. milk products<br>e. meat; | | * | |
| | | 3.1.9 | state the importance of balanced diet; | * | | |
| | | 3.1.10 | explain the requirement of a balanced diet;<br>a. at different ages-infancy, pre-school, adolescence, adulthood, old age<br>b. between genders<br>c. in relation to intensity of daily physical activity<br>d. during pregnancy and lactation; | | * | |
| 3.2 | Health and Dietary Practices | 3.2.1 | define the term 'health'; | * | | |
| | | 3.2.2 | define the term 'dietary practices'; | * | | |
| | | 3.2.3 | describe the factors influencing dietary practices; | | * | |
| | | 3.2.4 | discuss the role of unhealthy dietary practices on health; | | * | |
| | | 3.2.5 | discuss the general dietary guidelines to maintain optimal health; | | * | |

| Topics and Sub-topics | | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|---|
| | | | | K | U | A |
| | | Students should be able to: | | | | |
| 3.3 | Planning Balanced Diets | 3.3.1 | discuss the importance of healthy food choices; | | * | |
| | | 3.3.2 | differentiate between serving size and the concept of portion size; | | * | |
| | | 3.3.3 | plan a balanced diet for a teenager using basic food groups; | | | * |
| | | 3.3.4 | define Body Mass Index (BMI); | * | | |
| | | 3.3.5 | calculate Body Mass Index BMI; | | | * |
| | | 3.3.6 | estimate energy, protein, carbohydrate and fat content for an individual. | | | * |

| Topics and Subtopics | | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|---|
| | | | | K | U | A |
| **4. Nutrient Composition** | | Students should be able to: | | | | |
| 4.1 | Nutrient Composition of the Various Foods | 4.1.1 | describe the nutrient composition of various foods, i.e.<br>a. milk<br>b. eggs<br>c. fish<br>d. poultry<br>e. vegetables and fruits<br>f. cereals<br>g. pulses<br>h. nuts<br>i. butter<br>j. cheese<br>k. yogurt; | | * | |
| | | 4.1.2 | identify food items with reference to their nutrient composition. | | * | |

| Topics and Sub-topics | | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|---|
| | | | | K | U | A |
| **5. Preparation and Cooking** | | Students should be able to: | | | | |
| 5.1 | Preparation and Cooking Methods | 5.1.1 | explain the effects of cooking on colour, texture, palatability and digestibility of various foods, i.e.<br>a. milk and milk products<br>b. eggs<br>c. meat and meat products<br>d. vegetable and fruits<br>e. cereals and starch; | | * | |
| | | 5.1.2 | describe appropriate methods of preparing food; (cereals, meat and vegetables); | | * | |
| | | 5.1.3 | identify measuring equipment (cups and spoons); | | * | |
| | | 5.1.4 | convert weight and volume equivalencies; | | | * |
| | | 5.1.5 | demonstrate different cooking methods, i.e.<br>a. baking<br>b. frying<br>c. grilling<br>d. steaming<br>e. boiling<br>f. barbecuing; | | | *P |
| | | 5.1.6 | describe the effects of moist and dry method of cooking on the nutrient content of food; | | * | |
| | | 5.1.7 | explain cooking methods which minimises nutrient losses; | | * | |
| | | 5.1.8 | plan, prepare and serve some common dishes from the following:<br>a. milk and milk products (custard, kheer, etc)<br>b. eggs (omelet, egg sandwiches, egg roll, etc)<br>c. meat and meat products (biryani, etc) | | | *P |

*Practical Activity

| Topics and Subtopics | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|
| | | | K | U | A |
| | Students should be able to: | | | | |
| | | d. vegetable and fruits (potato and spinach bhujiya, vegetable rice, pea pulao, etc)<br>e. cereals and starch (paratha, cutlets, daal, etc); | | | |
| | 5.1.9 | explain food preparation guidelines; | | * | |
| 5.2 Safety in the Kitchen | 5.2.1 | explain the importance of safety measures in the kitchen; | | * | |
| | 5.2.2 | identify potential danger areas in the kitchen; | | * | |
| | 5.2.3 | discuss causes of accidents in the kitchen and their preventive measures, i.e.<br>a. slips<br>b. trips<br>c. scalds and burns<br>d. machinery accidents<br>e. cuts<br>f. fires<br>g. electricity. | | * | |

**Part II (Grade X)**

| Topics and Subtopics | | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|---|
| | | | | K | U | A |
| **6. Family and Community Nutrition** | | Students should be able to: | | | | |
| 6.1 | Nutrition of Vulnerable Groups in the Community | 6.1.1 | define the term 'community nutrition'; | * | | |
| | | 6.1.2 | define the term 'vulnerable groups'; | * | | |
| | | 6.1.3 | identify nutritional problems of different vulnerable groups; | | * | |
| | | 6.1.4 | explain the dietary needs of the vulnerable groups:<br>a. pregnant and lactating females<br>b. infants<br>c. preschoolers<br>d. adolescents<br>e. elderly; | | * | |
| | | 6.1.5 | differentiate between the additional food requirements of pregnant and lactating mothers; | | * | |
| | | 6.1.6 | describe the advantages and disadvantages of breast-feeding and bottle-feeding; | | * | |
| | | 6.1.7 | compare the choices between home-made and commercial baby foods; | | * | |
| | | 6.1.8 | differentiate between healthy snacks and unhealthy snacks; | | * | |
| | | 6.1.9 | explain the modification of diets to suit the food needs of preschools and elderly in the family; | | * | |
| 6.2 | Preventing Malnutrition in Community | 6.2.1 | list various measures for preventing malnutrition; | * | | |
| | | 6.2.2 | discuss the prevention of nutritional disorders related to food shortage; | | * | |
| | | 6.2.3 | discuss the role of economics in community nutrition; | | * | |
| | | 6.2.4 | discuss the role of nutrition education in promoting healthy diets; | | * | |
| | | 6.2.5 | explain distribution of food in family and community; | | * | |
| | | 6.2.6 | discuss the importance of avoiding food wastage at family and community levels. | | * | |

| Topics and Sub-topics | | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|---|
| | | | | K | U | A |
| **7. Meal Management** | | Students should be able to: | | | | |
| 7.1 | Principles of Meal | 7.1.1 | define the term 'meal planning'; | * | | |
| | | 7.1.2 | state the principles of meal planning; | * | | |
| | | 7.1.3 | explain the importance of meal planning; | | * | |
| 7.2 | Menu Planning for Families of Different Income Levels | 7.2.1 | define the term 'menu planning'; | * | | |
| | | 7.2.2 | state the principles of menu planning; | * | | |
| | | 7.2.3 | differentiate between meal planning and menu planning; | | * | |
| | | 7.2.4 | state the principles of menu writing; | * | | |
| | | 7.2.5 | describe the types of menu, i.e.<br>a. formal<br>b. informal<br>c. single use<br>d. cycle menu; | | * | |
| 7.3 | Menu Planning | 7.3.1 | plan menu for three different income levels, i.e.<br>a. low<br>b. middle<br>c. high; | | | *P |
| | | 7.3.2 | plan menu for different stages of life, i.e.<br>a. pregnancy<br>b. early childhood<br>c. teenage<br>d. elderly; | | | *P |
| | | 7.3.3 | plan menu for different dietary preferences, i.e.<br>a. meat lovers<br>b. vegetarians<br>c. health conscious individuals; | | | *P |

| Topics and Sub-topics | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|
| | | | K | U | A |
| | Students should be able to: | | | | |
| | 7.3.4 | plan menu for different occasions, i.e.<br>a. eid<br>b. birthday<br>c. wedding. | | | *P |

| Topics and Sub-topics | | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|---|
| | | | | K | U | A |
| **8. Table Setting and Meal Services** | | Students should be able to: | | | | |
| 8.1 | Food Service and Table Setting | 8.1.1 | define the term 'food service'; | * | | |
| | | 8.1.2 | describe the significance of food service; | | * | |
| | | 8.1.3 | describe the different methods of food service, i.e.<br>a. buffet<br>b. trolley<br>c. tray<br>d. table; | | * | |
| | | 8.1.4 | describe appropriate methods of food services for different occasions; | | * | |
| 8.2 | Table Manners and Etiquettes | 8.2.1 | demonstrate table manners and etiquettes, e.g. washing hands before eating meals, saying prayers while starting meal, using right hand while eating, use of table napkins etc. | | | *P |

*Practical Activity

| Topics and Sub-topics | | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|---|
| | | | | K | U | A |
| **9. Purchases and Storage of Food** | | Students should be able to: | | | | |
| 9.1 | Purchase of Food | 9.1.1 | explain the principles of purchase; | | * | |
| | | 9.1.2 | interpret food label; | | | * |
| | | 9.1.3 | discuss the criteria of purchasing different types of food, i.e.<br>a. fruits<br>b. meat<br>c. vegetables<br>d. bread; | | * | |
| 9.2 | Storage | 9.2.1 | compare different types of food storage:<br>a. refrigeration<br>b. freezing<br>c. cabinet storage. | | * | |

| Topics and Sub-topics | | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|---|
| | | | | K | U | A |
| **10. Food Preservation** | | Students should be able to: | | | | |
| 10.1 | Food Preservation | 10.1.1 | define the term 'preservation of food'; | * | | |
| | | 10.1.2 | discuss the importance of food preservation; | | * | |
| | | 10.1.3 | explain the principles of preserving food; | | * | |
| | | 10.1.4 | compare different methods of preservation, i.e.<br>a. heating, i.e. canning and bottling<br>b. removal of moisture, i.e. drying<br>c. reduction in temperature, i.e. freezing<br>d. chemical preservation, i.e. sugar, salt, vinegar<br>e. pasteurisation<br>f. irradiation; | | * | |
| 10.2 | Food Spoilage | 10.2.1 | define the term 'spoilage of food'; | * | | |
| | | 10.2.2 | explain the factors of food spoilage, i.e.<br>a. natural decay (moisture loss and action of enzymes)<br>b. contamination by microorganisms (bacteria, mould and yeast)<br>c. other sources (chemicals, radiation and pollution); | | * | |
| | | 10.2.3 | explain different methods of controlling food spoilage, i.e.<br>a. personal hygiene<br>b. kitchen hygiene<br>c. waste disposal; | | * | |
| 10.3 | Food Additives | 10.3.1 | define the term 'food additives'; | * | | |
| | | 10.3.2 | describe the types of food additives and their uses; | | * | |

| Topics and Sub-topics | Student Learning Outcomes | | Cognitive Level | | |
|---|---|---|---|---|---|
| | | | K | U | A |
| | Students should be able to: | | | | |
| | 10.3.3 | explain the role of food additives in relation to health hazards, i.e.<br>a. allergies<br>b. migraine<br>c. diabetes<br>d. dysbiosis; | | * | |
| | 10.3.4 | discuss food adulteration and its implications on human health. | | * | |

# Summary of Student Learning Outcomes

**Grade IX**

**Table 1: Number of Student Learning Outcomes by Cognitive level**

| Topic No. | Topic | No. of Sub-Topics | SLOs | | | Total SLOs |
|---|---|---|---|---|---|---|
| | | | K | U | A | |
| 1. | Introduction to the study of Food and Nutrition | 2 | 2 | 4 | - | 6 |
| 2. | Energy and Nutrients | 4 | 6 | 13 | - | 19 |
| 3. | Balanced Diet | 3 | 6 | 12 | 3 | 21 |
| 4. | Nutrient Composition | 1 | - | 2 | - | 2 |
| 5. | Preparation and Cooking | 2 | - | 9 | 3 | 12 |
| | **Total** | **12** | **14** | **40** | **6** | **60** |
| | Percentage | | **23** | **67** | **10** | **100** |

**Grade X**

**Table 2: Number of Student Learning Outcomes by Cognitive level**

| Topic No. | Topic | No. of Sub-Topics | SLOs | | | Total SLOs |
|---|---|---|---|---|---|---|
| | | | K | U | A | |
| 6. | Family and Community Nutrition | 2 | 3 | 12 | 0 | 15 |
| 7. | Meal Management | 3 | 5 | 3 | 4 | 12 |
| 8. | Table Setting and Meal Services | 2 | 1 | 3 | 1 | 5 |
| 9. | Purchases and Storage of Food | 2 | - | 3 | 1 | 4 |
| 10. | Food Preservation | 3 | 3 | 8 | - | 11 |
| | **Total** | **12** | **12** | **29** | **6** | **47** |
| | Percentage | | **25** | **62** | **13** | **100** |

# Scheme of Assessment

**Grade IX**

**Table 3: Exam Specification**

| Topic No. | Topics | Marks Distribution | Total Marks |
|---|---|---|---|
| 1. | Introduction to the study of Food and Nutrition | MCQs 3 @ 1 Mark<br>CRQ 1 @ 3 Marks<br>CRQ 1 @ 4 Marks | 10 |
| 2. | Energy and Nutrients | MCQs 13 @ 1 Mark<br>CRQ 1 @ 2 Marks<br>CRQs 3 @ 3 Marks each<br>ERQ 1 @ 6 Marks<br>Choose any ONE from TWO | 30 |
| 3. | Balanced Diet | | |
| 4. | Nutrient Composition | MCQs 9 @ 1 Mark<br>CRQs 2 @ 3 Marks each<br>CRQ 1 @ 4 Marks<br>ERQ 1 @ 6 Marks<br>Choose any ONE from TWO | 25 |
| 5. | Preparation and Cooking | | |
| **Total** | | **MCQs** **CRQs** **ERQs**<br>**25** **28** **12** | **65** |
| Practical | | | 10 |
| **Total Marks** | | | **75** |

**Grade X**

**Table 4: Exam Specification**

| Topic No. | Topics | Marks Distribution | Total Marks |
|---|---|---|---|
| 6. | Family and Community Nutrition | MCQs 11 @ 1 Mark<br>CRQs 2 @ 3 Marks each<br>CRQs 2 @ 4 Marks each<br>*ERQ 1 @ 6 Marks<br>Choose any ONE from TWO | 31 |
| 7. | Meal Management | | |
| 8. | Table Setting and Meal Services | MCQs 4 @ 1 Mark<br>CRQ 1 @ 4 Marks | 8 |
| 9. | Purchases and Storage of Food | MCQs 10 @ 1 Mark<br>CRQs 2 @ 3 Marks each<br>CRQ 1 @ 4 Marks<br>ERQ 1 @ 6 Marks<br>Choose any ONE from TWO | 26 |
| 10. | Food Preservation | | |
| | **Total** | **MCQs** **CRQs** **ERQs**<br>**25** **28** **12** | **65** |
| | Practical | | 10 |
| | **Total Marks** | | **75** |

* Extended response questions (ERQs) will require answers in more descriptive form. The answers will be in a paragraph rather than a word or a single sentence.

4.1 Tables 1 and 2 summarise the number and nature of SLOs in each topic in classes IX and X. This will serve as a guide in the construction of the examination paper. It also indicates that more emphasis has been given to Understanding (60% and 64%), Application and higher order skills (12 and 9%) to discourage rote memorization. Tables 1 and 2 however do not translate directly into marks.

4.2 There will be two examinations, one at the end of Class IX and one at the end of Class X.

4.3 In each class, the theory paper will be in two parts: paper I and paper II. Both papers will be of duration of 3 hours.

4.4 Paper I theory will consist of 25 compulsory, multiple choice items. These questions will involve four response options.

4.5 Paper II theory will carry 40 marks and consist of a number of compulsory, structured questions and a number of extended response questions. Each extended response question will be presented in an either/or form.

4.6 Practical examination will be conducted separate from the theory paper. It will be based on the practical activities indicated in the syllabus.

4.7 All constructed response questions will be in a booklet which will also serve as an answer script.

4.8 Practical exams to assess performance skills will carry 10 marks in class IX and 10 marks in class X.

4.9 The practicals identified by a "P" should be carried out throughout the academic year. It is essential for each school to equip its laboratories with ingredients, instruments, apparatus, utensils etc. according to the requirements of the practicals. Each school will be responsible to make sure that each student is provided the opportunity to do the practicals.

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