**KENYA JUNIOR SCHOOL EDUCATION ASSESSMENT**

**KEJSEA 2025**

**GRADE 9**

**906/1- AGRICULTURE AND NUTRITION (THEORY)**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**School: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Duration:** 2 HOURS  
**Total Marks:** 50 marks

**FOR FACILITATOR’S USE ONLY**

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| --- | --- | --- | --- | --- |
| SCORE RANGE | 40-50 | 28-40 | 14-27 | 0-13 |
| LEVEL | EXCEEDING EXPECTATION | MEETING EXPECTATION | APPROACHING EXPECTATION | BELOW EXPECTATION |
| LEARNER’S SCORE |  |  |  |  |
| TICK LEVEL |  |  |  |  |

**General Instructions:**

1. Answer all questions in Section A and Section B.
2. Use the space provided to show all workings for the structured questions.
3. Ensure your handwriting is clear and legible.

**TURN OVER**

### ****Section A: Multiple Choice Questions (1 mark each)****

**1. What is the main purpose of crop rotation in agriculture?**  
A) To reduce soil erosion  
B) To increase the soil’s fertility  
C) To control pests and diseases  
D) All of the above

**2. Which of the following is a source of vitamin A?**  
A) Meat  
B) Carrots  
C) Fish  
D) Whole grains

**3. What is the process by which plants make their own food using sunlight, water, and carbon dioxide?**  
A) Respiration  
B) Germination  
C) Photosynthesis  
D) Fermentation

**4. Which of the following is a staple crop grown in Kenya?**  
A) Wheat  
B) Rice  
C) Maize  
D) Cassava

**5. What is the main role of proteins in the human body?**  
A) Providing energy  
B) Building and repairing tissues  
C) Regulating body temperature  
D) Supporting immune function

**6. Which of these is a method of organic farming?**  
A) Using chemical pesticides  
B) Crop monoculture  
C) Use of synthetic fertilizers  
D) Use of natural fertilizers like compost

**7. Which nutrient is most essential for the growth and development of bones and teeth?**  
A) Protein  
B) Carbohydrates  
C) Vitamin D  
D) Calcium

**8. What is the best method for preserving food in a cold climate?**  
A) Freezing  
B) Canning  
C) Drying  
D) Smoking

**9. Which of the following is a function of carbohydrates in the human body?**  
A) Build and repair tissues  
B) Provide long-term energy  
C) Provide short-term energy  
D) Regulate body processes

**10. Which is the largest source of dietary energy for humans?**  
A) Proteins  
B) Fats  
C) Carbohydrates  
D) Minerals

### ****Section B: (2 marks each)****

**11. Define agriculture and explain its importance in food production and economic development.**

**12. Explain how soil erosion can affect crop yields and suggest methods of preventing it.**

**13. List the five major food groups and provide two examples of foods from each group.**

**14. Discuss the impact of poor nutrition on child development.**

**15. Describe the role of water in the human body and the recommended daily water intake for an average adult.**

### ****Section C: (5 marks each)****

**16. Explain the process of photosynthesis in detail. Include the role of sunlight, water, and carbon dioxide.**

**17. Discuss the importance of sustainable farming practices and their role in ensuring food security for future generations.**

**18. Describe the effects of malnutrition on different age groups, focusing on children, adolescents, and adults.**

**19. Identify common pests and diseases affecting crops and explain how they can be controlled using both chemical and organic methods.**

**20. Explain how climate change can affect agriculture and what steps can be taken to mitigate these effects.**

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**MARKING SCHEME**

### ****Section A: Multiple Choice Questions****

**1. What is the main purpose of crop rotation in agriculture?**  
**Answer:** D) All of the above

**2. Which of the following is a source of vitamin A?**  
**Answer:** B) Carrots

**3. What is the process by which plants make their own food using sunlight, water, and carbon dioxide?**  
**Answer:** c) Photosynthesis

**4. Which of the following is NOT a staple crop grown in Kenya?**  
**Answer:** C) Maize

**5. What is the main role of proteins in the human body?**  
**Answer:** B) Building and repairing tissues

**6. Which of these is a method of organic farming?**  
**Answer:** D) Use of natural fertilizers like compost

**7. Which nutrient is most essential for the growth and development of bones and teeth?**  
**Answer:** D) Calcium

**8. What is the best method for preserving food in a cold climate?**  
**Answer:** A) Freezing

**9. Which of the following is a function of carbohydrates in the human body?**  
**Answer:** C) Provide short-term energy

**10. Which is the largest source of dietary energy for humans?**  
**Answer:** C) Carbohydrates

### ****Section B:****

**11. Define agriculture and explain its importance in food production and economic development.**  
**Answer:** Agriculture is the practice of cultivating soil, growing crops, and raising animals for food, fiber, medicinal plants, and other products used to sustain and enhance human life. It is important for food production, economic development, employment, and providing raw materials for industries.

**12. Explain how soil erosion can affect crop yields and suggest methods of preventing it.**  
**Answer:** Soil erosion removes the fertile topsoil, reducing soil fertility, which negatively impacts crop yields. Methods to prevent soil erosion include crop rotation, contour farming, terracing, and planting cover crops.

**13. List the five major food groups and provide two examples of foods from each group.**  
**Answer:**

* **Fruits and Vegetables**: Apples, Carrots
* **Grains**: Rice, Wheat
* **Proteins**: Chicken, Beans
* **Dairy**: Milk, Cheese
* **Fats and Oils**: Olive oil, Butter

**14. Discuss the impact of poor nutrition on child development.**  
**Answer:** Poor nutrition can lead to stunted growth, weakened immune systems, and cognitive delays in children. Malnutrition during critical development periods can cause long-term health issues, including physical and mental impairments.

**15. Describe the role of water in the human body and the recommended daily water intake for an average adult.**  
**Answer:** Water helps regulate body temperature, removes waste products, and aids in digestion and nutrient transport. The recommended daily water intake for an average adult is about 2.7 liters (for women) and 3.7 liters (for men), but this may vary based on individual needs and activity levels.

### ****Section C:****

**16. Explain the process of photosynthesis in detail. Include the role of sunlight, water, and carbon dioxide.**  
**Answer:** Photosynthesis is the process by which plants convert light energy into chemical energy, producing glucose (a form of sugar) and oxygen. Sunlight provides energy, water is absorbed by the roots and transported to the leaves, and carbon dioxide is absorbed from the air. These components react in the chloroplasts in plant cells, using sunlight as an energy source, to create glucose and release oxygen as a by-product.

**17. Discuss the importance of sustainable farming practices and their role in ensuring food security for future generations.**  
**Answer:** Sustainable farming practices focus on methods that do not deplete natural resources, promote biodiversity, and reduce the environmental impact of agriculture. These practices ensure long-term food security by preserving soil fertility, minimizing water usage, and reducing pollution, all while meeting current food demands without compromising the ability of future generations to produce food.

**18. Describe the effects of malnutrition on different age groups, focusing on children, adolescents, and adults.**  
**Answer:**

* **Children**: Malnutrition can result in stunted growth, poor cognitive development, and weakened immunity.
* **Adolescents**: Malnutrition can lead to delayed puberty, reduced academic performance, and increased susceptibility to infections.
* **Adults**: Malnutrition can lead to fatigue, muscle weakness, and chronic health conditions such as heart disease and diabetes.

**19. Identify common pests and diseases affecting crops and explain how they can be controlled using both chemical and organic methods.**  
**Answer:**

* **Pests**: Aphids, locusts, caterpillars
* **Diseases**: Powdery mildew, blight, rust  
  Chemical control methods include using insecticides and fungicides, while organic methods include introducing natural predators (e.g., ladybugs for aphids) and using organic sprays like neem oil or garlic-based solutions.

**20. Explain how climate change can affect agriculture and what steps can be taken to mitigate these effects.**  
**Answer:** Climate change can lead to unpredictable weather patterns, increased droughts, floods, and changing temperature zones, all of which can reduce crop yields. To mitigate these effects, farmers can adopt drought-resistant crops, improve water conservation methods, and practice sustainable land management. Governments can also invest in research to develop adaptive agricultural technologies.

**RUBRICS**

### ****Section A: Multiple Choice Questions (1 mark each)****

| **Criteria** | **Marks** | **Description** |
| --- | --- | --- |
| Correct answer | 1 mark | The learner selects the correct option for the question. |
| Incorrect answer | 0 marks | The learner selects an incorrect option. |

### ****Section B: Short Answer Questions (2 marks each)****

| **Criteria** | **Marks** | **Description** |
| --- | --- | --- |
| **Accuracy of Content** | 1 mark | The learner provides a correct and relevant answer. |
| **Clarity and Detail** | 1 mark | The learner provides a clear and detailed explanation with sufficient examples or supporting details. |

### ****Section C: Long Answer Questions (5 marks each)****

| **Criteria** | **Marks** | **Description** |
| --- | --- | --- |
| **Introduction and Understanding** | 1 mark | The learner demonstrates a clear understanding of the topic, with a brief introduction and relevant concepts. |
| **Depth of Explanation** | 2 marks | The learner provides a thorough explanation with correct details, and relevant examples or supporting facts. |
| **Organization and Clarity** | 1 mark | The learner presents their ideas in a structured manner with clear, logical flow. |
| **Conclusion/Recommendation** | 1 mark | The learner provides a well-reasoned conclusion or suggestion, linking back to the question. |

### ****Example of scoring (2 marks)****

**Question 11:**  
Define agriculture and explain its importance in food production and economic development.

**Scoring:**

* **1 mark**: If the definition of agriculture is correct (e.g., "Agriculture is the practice of cultivating soil, growing crops, and raising animals.")
* **1 mark**: For providing a clear explanation of its importance (e.g., "Agriculture is essential for food production, economic development, and employment. It provides raw materials for industries and supports the livelihoods of millions of people worldwide.")

### ****Example of Scoring (5 marks)****

**Question 17:**  
Discuss the importance of sustainable farming practices and their role in ensuring food security for future generations.

**Scoring:**

* **1 mark**: Introduction explaining what sustainable farming practices are.
* **2 marks**: Explanation of how sustainable farming practices (e.g., crop rotation, water conservation, soil health, and biodiversity) contribute to food security and environmental conservation.
* **1 mark**: Clear and logical organization of the answer, with well-structured ideas and examples.
* **1 mark**: A conclusion or recommendation that emphasizes the need for sustainable farming practices for future food security.

### ****Total Marks****:

* **Section A** (Multiple Choice): 10 marks
* **Section B** (Short Answer): 10 marks
* **Section C** (Long Answer): 25 marks
* **Total**: 45 marks

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