**KENYA NATIONAL EXAMINATION AND ASSESSMENT PREDICTION SERIES**

**ENDTERM 2 ASSESSMENT 2025**

**GRADE 7**

**AGRICULTURE AND NUTRITION**

**MARKING SCHEME**

**Section A (30 marks)**

1. D. Humus
2. B. Drip irrigation
3. A. Jembe
4. C. Financial records
5. C. Collect and place in a designated hazardous waste bin.
6. C. Climate
7. C. crop rotation.
8. C. Hutch
9. C. Mites
10. B. improves soil structure.
11. C. Manual removal and simple spray.
12. B. bedding material to absorb moisture.
13. B. Farm gate sale
14. B. accidents.
15. D. Contour farming
16. C. recycling.
17. C. Tubers
18. B. improve aeration and root penetration.
19. B. To ensure animal health and productivity.
20. B. changes the form of the milk.
21. C. energy giving foods.
22. B. Rolling pin
23. C. Breakfast.
24. B. Cotton
25. C. Frying
26. C. cross-contamination of food.
27. D. dirt and germs.
28. A. growth of mould.
29. B. everyone gets enough food.
30. C. scrape off food remains into a bin.

**Section B (40 marks)**

Answer ALL the questions in this section.

**Task 1: Agriculture**

31. Your class is planning to establish a school garden. Before you start planting, you need to understand the importance of the soil. (a) State two reasons why soil is important for growing crops in your school garden. (2 marks)
    i. **Provides anchorage/support for plants:** Soil holds the roots firmly, allowing plants to stand upright and access resources.
    ii. **Supplies nutrients to plants:** Soil contains essential minerals and organic matter that plants absorb for growth.
    iii. **Holds water for plants:** Soil acts as a reservoir, retaining moisture that plant roots can draw upon.
    iv. **Allows for aeration for roots:** Spaces within the soil enable air circulation, which is vital for root respiration.
    v. **Provides a habitat for beneficial soil organisms:** Microorganisms and small animals in the soil contribute to nutrient cycling and soil health.

    (b) During a field trip, you observed different types of soil. Name one type of soil common in your locality. (1 mark)

    i. **Loamy soil**
    ii. **Sandy soil**
    iii. **Clayey soil**
    iv. **Red volcanic soil**
    v. **Black cotton soil**
    vi. **Alluvial soils**

32. To prepare the school garden, you will need simple tools.

    (a) Give two examples of tools used specifically for digging the soil. (2 marks)

    i. **Jembe (hoe)**
    ii. **Fork jembe / garden fork**
    iii. **Spade**
    iv. **Shovel**

    (b) If you needed to loosen soil or lift root crops, what is the main tool you would use? (1 mark)

    **Garden fork / Fork jembe**

    (c) Jabidii Junior School had a farm visit. They saw different water retention structures as shown below. Identify the following water retention structures ABC and D. (4 marks)

    **A: Retention ditch**

    **B: Earth basin**

    **C: Retention pits**

    **D: retention ponds**

33. Your school garden is on a gentle slope, so you need to protect the soil from erosion and conserve water.

(a) Explain how placing a layer of dry grass on the soil surface (mulching) helps to conserve soil moisture. (1 mark)

i. Mulching with dry grass **reduces evaporation** of water from the soil surface by providing a protective layer that shades the soil and lowers its temperature.

(b) Besides dry grass, list two other materials that can be used for mulching in your school garden. (2 marks)

ii. **Wood chips / Sawdust**
iii. **Compost**
iv. **Stones / Gravel**
v. **Plastic sheeting (synthetic mulch)**
vi. **Crop residues (e.g., maize stalks, banana leaves)**
vii. **Leaves (from deciduous trees)**
viii. **Old newspapers / Cardboard**

34. You notice that some of the sukumawiki plants in your school garden have small holes in their leaves and some are not growing well.

(a) Name one common pest that could be causing the holes and stunted growth in your kales. (1 mark)

i. **Aphids**
ii. **Cabbage worms / Caterpillars**
iii. **Slugs**
iv. **Snails**
v. **Flea beetles**

(b) Describe two simple ways you can control this pest in your kales without using strong chemicals. (2 marks)

vi. **Manual removal:** Hand-picking the pests and destroying them.
vii. **Soap solution spray:** Mixing liquid soap with water and spraying it on the affected plants to smother the pests.
viii. **Neem oil spray:** Using a natural pesticide derived from neem seeds, which acts as a repellent and disrupts insect feeding.
ix. **Crop rotation:** Planting different crops in the garden in subsequent seasons to break the pest cycle.
x. **Encouraging natural predators:** Attracting beneficial insects (like ladybugs for aphids) that feed on the pests.
xi. **Proper spacing:** Ensuring adequate space between plants to improve air circulation and reduce pest hiding spots.

35. Managing waste from the school compound and garden is important for cleanliness.

(a) Differentiate between waste materials that can decompose naturally (organic waste) and those that do not (inorganic waste). (2 marks)

i. **Organic waste** consists of materials that are biodegradable and break down naturally through the action of microorganisms (e.g., food scraps, plant matter, animal waste).
ii. **Inorganic waste** consists of materials that are non-biodegradable and do not decompose naturally or take a very long time to decompose (e.g., plastics, glass, metals, ceramics).

(b) Give two examples of inorganic waste materials you might find and collect from the school garden. (2 marks)

iii. **Plastic bottles / Plastic bags**
iv. **Broken glass / Glass bottles**
v. **Metal cans / Scraps of metal**
vi. **Stones / Rocks (that are not part of the natural soil structure)**
vii. **Pieces of old rubber / Tires**

36. Grade 7 learners made juice from the oranges harvested from the school farm. This is an example of value addition.

(a) Define what value addition means in the context of agriculture. (1 mark)

i. **Value addition in agriculture** refers to the process of transforming raw agricultural products into more desirable, marketable, and higher-value products, often extending their shelf life, improving quality, or making them more convenient for consumers.

(b) State three benefits that the school or farmer can get from adding value to farm produce like oranges. (3 marks)

ii. **Increased income/profit:** Value-added products can be sold at a higher price than raw produce, leading to better returns for the farmer.
iii. **Reduced post-harvest losses:** Processing perishable produce like oranges into juice helps extend its shelf life, minimizing spoilage and waste.
iv. **Creation of new markets:** Value-added products can appeal to a wider range of consumers and open up new sales channels beyond selling fresh produce.
v. **Job creation:** Processing and marketing value-added products can create employment opportunities within the farm or community.
vi. **Improved food security:** By extending the shelf life of produce, value addition can contribute to more stable food supplies.
vii. **Enhanced product quality and safety:** Processing often involves steps that improve the safety and consistent quality of the final product.

37. Your school keeps a few chickens as part of the agriculture project. You need to manage them well. (a) Outline two signs that indicate a chicken is healthy. (2 marks)

i. **Bright and alert eyes:** Healthy chickens have clear, bright eyes, showing awareness of their surroundings.
ii. **Smooth and well-preened feathers:** Feathers should be clean, orderly, and lie flat against the body.
iii. **Bright red comb and wattles:** These parts should be vibrant in color and firm (in breeds where they are prominent).
iv. **Active and vigorous behavior:** Healthy chickens move around, scratch, forage, and interact normally.
v. **Good appetite and consistent feeding:** They eat and drink regularly.
vi. **Clean nostrils and vent:** No discharge or blockage.
vii. **Normal droppings:** Faeces should be firm and consistent in color.

(b) Give two reasons why it is important to provide proper housing for the school chickens. (2 marks)

viii. **Protection from predators:** A secure coop keeps chickens safe from animals like wild cats, dogs, snakes, and birds of prey.
ix. **Protection from harsh weather:** Housing shields chickens from rain, extreme sun, wind, and cold temperatures, which can cause stress and illness.

x. **Prevention of diseases:** A clean and well-ventilated house helps reduce the build-up of pathogens, preventing the spread of diseases.
xi. **Comfort and welfare:** Provides a safe and comfortable environment for resting, laying eggs, and dust-bathing.
xii. **Improved egg production:** A stress-free environment contributes to consistent and healthy egg laying.
xiii. **Ease of management:** Confining chickens to a proper house makes it easier to feed, water, collect eggs, and monitor their health.

**Task 2: Nutrition**

38. Your teacher asked you to plan a simple balanced meal for your family for supper. Outline two reasons why eating a meal that contains foods from different food groups is important for your health. (2 marks)

a) **Ensures a wide range of nutrients:** Different food groups provide different essential vitamins, minerals, proteins, carbohydrates, and fats, which are all needed for overall health.
b) **Supports proper growth and development:** A balanced intake of nutrients is crucial for children's physical and mental development and for maintaining adult body functions.
c) **Provides energy for daily activities:** Carbohydrates are the primary energy source, and a balanced diet ensures sustained energy levels.
d) **Builds and repairs body tissues:** Proteins from various sources are essential for building muscles, repairing cells, and supporting body functions.
e) **Boosts the immune system:** Vitamins and minerals, especially from fruits and vegetables, help strengthen the body's defenses against illness.
f) **Helps maintain a healthy weight:** A balanced diet encourages satiety and helps prevent overeating of unhealthy foods.

39. When helping prepare food in the kitchen, you are reminded about hygiene. State two hygienic practices you should observe when washing and cutting vegetables. (2 marks)

a) **Wash hands thoroughly with soap and water** before handling vegetables and after handling any raw meat or other potential contaminants.
b) **Wash vegetables under clean running water** to remove dirt, pesticides, and other residues.
c) **Use a clean cutting board** for vegetables, separate from one used for raw meat or poultry to prevent cross-contamination.
d) **Use clean knives and utensils** for cutting vegetables.
e) **Remove any damaged or spoiled parts** of the vegetables before washing and cutting.
f) **Consider soaking leafy greens** in clean water for a few minutes to help loosen dirt before rinsing.

40. Different ways of cooking vegetables affect how many nutrients are kept.

(a) Name two cooking methods that involve cooking food in hot air or hot fat without using water. (2 marks)

i. **Frying** (e.g., deep-frying, stir-frying, shallow-frying)
ii. **Baking**
iii. **Roasting**
iv. **Grilling**
v. **Broiling**

(b) Explain three ways you can try to keep more vitamins in vegetables when cooking them. (3 marks)

a) **Use minimal water:** Many water-soluble vitamins (like Vitamin C and B vitamins) leach into cooking water. Steaming or stir-frying uses less water, preserving more nutrients.
b) **Cook for shorter durations:** Overcooking vegetables, especially at high temperatures, can destroy heat-sensitive vitamins. Cook until just tender-crisp.
c) **Cut vegetables into larger pieces:** Smaller pieces have more surface area exposed to heat and water, leading to greater nutrient loss.
d) **Cook with skins on (where appropriate):** Many nutrients are concentrated just beneath the skin.
e) **Use cooking water in sauces or soups:** If you boil or blanch vegetables, use the nutrient-rich cooking water to make stock, soups, or sauces.
f) **Avoid high heat for prolonged periods:** Some vitamins degrade with excessive heat.

41. Keeping the area around your home clean helps to prevent diseases. Give two reasons why it is important to regularly clean the compound outside your house. (2 marks)

a) **Prevents breeding grounds for pests and vectors:** A clean compound reduces places for mosquitoes, flies, rats, and other pests that carry diseases to breed.
b) **Reduces accumulation of dirt and germs:** Regular cleaning removes disease-causing microorganisms that can thrive in dirty environments.
c) **Discourages disease spread:** By removing waste and stagnant water, the spread of waterborne and vector-borne diseases is minimized.
d) **Promotes a healthy and pleasant living environment:** A clean surroundings improves hygiene and overall well-being.
e) **Prevents accidents:** Removing debris and obstacles reduces the risk of falls and injuries.

42. You noticed a small tear in your school uniform. You want to mend it using a patch.

(a) State two reasons why you would choose to mend the uniform instead of discarding it. (2 marks)

i. **Saves money/Cost-effective:** Mending is cheaper than buying a new uniform.
ii. **Promotes resourcefulness/Sustainability:** It reduces waste and makes the most out of existing resources.
iii. **Teaches practical skills:** Mending helps develop useful life skills.
iv. **Extends the lifespan of the item:** It makes the uniform last longer, delaying the need for replacement.
v. **Environmental conservation:** Reduces textile waste going to landfills.

(b) Outline three basic tools and materials you would need to make a simple patch on the tear. (3 marks)

i. **Fabric for the patch:** A piece of fabric that matches the uniform in color and texture, or a contrasting one for decorative purposes.
ii. **Needle:** For hand sewing.
iii. **Thread:** Matching the color of the uniform or patch, strong enough for mending.
iv. **Scissors:** For cutting the patch fabric and thread.
v. **Pins:** To hold the patch in place before sewing.
vi. **Iron (optional but helpful):** To flatten the fabric and press the patch for a neater finish.
vii. **Marking tool (e.g., tailor's chalk, pencil):** To outline the patch area.

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