

**SECTION A (30 marks)**

**Answer ALL the questions in this section.**

1. During a soil practical, learners observed that one soil type felt very sticky when wet and could be rolled into long ribbons. Which type of soil has this characteristic and the highest water retention capacity?  
⊖ **B. Clay soil**
2. Mr. Koech has a farm on a steep slope. To prevent soil erosion and collect rainwater, he built structures that look like steps along the hillside. Which method of conserving soil and water is he using?  
⊖ **B. Constructing terraces**
3. Sarah is helping her mother remove small, unwanted plants growing around the maize in their garden. Which tool is specifically designed for this task?  
⊖ **C. Hand trowel**
4. A farmer recorded the number of litres of milk each cow produced daily and the number of eggs collected from the chicken coop. These entries are examples of what type of simple farm records?  
⊖ **C. Production records**
5. When handling chemicals like pesticides on the farm, learners are advised to wear protective gear, including gloves. Wearing gloves is a safety measure primarily against what type of harm?  
⊖ **C. Poisoning**
6. Before choosing where to plant tea bushes, which require specific growing conditions, a farmer considers whether the land is flat, gently sloping, or steep. Which environmental factor influencing agriculture is the farmer assessing?  
⊖ **C. Topography**
7. To plant small seeds like carrots, the soil bed needs to be very fine and crumbly. Preparing the soil to a fine tilth is most suitable for planting crops using which type of material?  
⊖ **B. Seeds**
8. Mr. Kamau wants to improve the genetic quality of his dairy herd by carefully selecting which bull mates with which cow. This practice is part of which aspect of animal production?  
⊖ **C. Breeding**
9. Learners observed that some of the young tomato seedlings in the nursery were falling over and rotting at the base. This condition is a common seedling problem known as  
⊖ **B. damping off.**
10. In areas where irrigation is practiced, sometimes salts can build up in the soil, making it hard for crops to grow. Which soil management practice helps to remove excess water and salts from the soil?  
⊖ **B. Drainage**
11. A farmer noticed that a certain type of bean plant in their field was not affected by a common bean disease that affected other varieties. Using plant varieties that are naturally resistant to diseases is an example of which pest and disease control method?  
⊖ **C. Cultural**
12. Baba Caro has several ponds on her farm where she raises fish for sale. This type of animal rearing is known as  
⊖ **C. aquaculture.**
13. After harvesting maize, a farmer needs to take it from the farm to the market where buyers are located. Which marketing function involves moving the produce from one place to another?

⊖ **C. Transportation**

14. Mrs. Akinyi views her poultry keeping and vegetable farming not just as activities but as a way to earn a living and make a profit. This approach of treating farming as a business is called

⊖ **C. agribusiness.**

15. Mr. Otieno uses a mobile phone app that gives him information about the best time to plant crops based on expected rainfall patterns. This is an example of using which modern tool in agriculture?

⊖ **C. Agricultural communication and information technology**

16. On a gently sloping field, a farmer planted alternating strips of maize and beans following the curve of the land. Which method of soil conservation is this farmer using?

⊖ **C. Strip cropping**

17. Adding well-rotted manure (compost) to the soil before planting has multiple benefits. It improves both the ability of the soil particles to stick together (structure) and provides nutrients for plants. It improves

⊖ **C. both soil structure and fertility.**

18. Heavy rainfall can wash away the top layer of soil if it's not protected. Which practice helps control soil erosion by covering the soil surface and reducing the speed of water flowing over it?

⊖ **C. Vegetation cover**

19. A farmer noticed that the lower leaves of his maize plants were turning yellow along the middle vein, while the edges remained green. This is a common symptom of deficiency of which essential plant nutrient?

⊖ **B. Nitrogen**

20. Which type of animal feed, like maize grain or molasses, is primarily given to provide animals with energy?

⊖ **C. Energy feeds**

21. John has decided to stop eating meat and fish, and only eats foods like fruits, vegetables, grains, and legumes. What is a person who follows this diet called?

⊖ **D. Vegetarian**

22. Your mother is cooking beef stew. She lets it cook slowly for a long time in liquid. Which cooking method is suitable for making tough cuts of meat tender through slow, moist cooking?

⊖ **C. Stewing**

23. To prevent tomatoes from spoiling quickly, Mama Mboga dries them in the sun. Which food preservation method involves removing most of the water from food?

⊖ **C. Drying**

24. When setting the table for a formal dinner, the knives and spoons are placed on the right side of the plate. On which side of the plate should the fork be placed?

⊖ **B. To the left of the plate**

25. While playing, Kevin stained his shirt with blood. To remove this type of stain effectively, which temperature of water should be used first?

⊖ **C. Cold water**

26. Your school uniform is dirty and needs cleaning. The process of washing clothes using water and detergent is generally called

⊖ **D. laundering.**

27. When your family decides what meals to cook for the week, they consider factors like who is eating (e.g., young children, older people), their activities, and the available ingredients. A well-planned meal should always consider the

⊖ **C. nutritional needs of the people eating.**

28. After cooking and eating, you need to clean the kitchen and dishes. Before washing dishes with soap and water, what is the first step you should take to make cleaning easier?

⊖ **B. Scraping off food remains into a bin.**

29. In a Home Science class, learners are using a sewing machine to stitch fabric. Which part of the sewing machine is directly responsible for creating the stitches in the fabric by piercing it and carrying the thread?

⊖ **C. Needle**

30. Mary wants to make a warm scarf using yarn and two long needles, creating loops that interlock. Which textile craft is she planning to do?

⊖ **C. Knitting**

## SECTION B (40 marks)

Answer ALL the questions in this section.

31. Your class visited a farm to observe advanced soil and water conservation methods.

(a) Name two types of structural conservation methods that involve building physical structures on the land to control erosion and water flow, which you might have observed. (2 marks)

1. Terraces
2. Gabions
3. Stone lines
4. Diversion ditches
5. Contour bunds
6. ridges

(b) The farmer also planted low-growing plants that cover the soil surface between main crops or during off-season. Explain one advantage of using these cover crops for soil conservation. (1 mark)

- **Cover crops help to protect the soil from the direct impact of raindrops, reducing splash erosion. They also slow down surface runoff, allowing more water to infiltrate the soil and reducing soil loss.** (Also acceptable: Add organic matter to the soil, suppress weeds, improve soil structure, fix nitrogen in the soil.)

32. You are learning about how plants get the nutrients they need to grow well.

(a) Name two essential plant nutrients that crops require in large quantities for healthy growth. (2 marks)

1. Nitrogen (N)
2. Phosphorus (P)
3. Potassium (K)

(b) If a maize plant's older leaves show a yellowing starting from the tip and moving along the middle vein, while the edges remain green, this is a sign of deficiency of which specific nutrient? (1 mark)

- **Nitrogen**

33. Pests and diseases are a major challenge for farmers. Your teacher discussed different ways to manage them.

(a) Give two methods of controlling crop pests that involve using farming practices, rather than chemicals or other organisms. (2 marks)

1. Crop rotation
2. Timely planting
3. Timely harvesting
4. use of resistant varieties
5. proper weeding
6. proper cultivation
7. proper tillage,
8. field sanitation
9. intercropping
10. destruction of affected plants

(b) While effective, using chemical pesticides has drawbacks. What is one major disadvantage of relying heavily on chemical pesticides for pest control? (1 mark)

- **They can harm beneficial insects and other non-target organisms, lead to pesticide resistance in pests, cause environmental pollution (soil, water), or pose health risks to humans and animals.**

34. A farmer is planning the feeding schedule for their dairy cows. They need to provide a balanced diet using different feeding systems.

(a) Name two common systems or methods used to feed dairy cattle. (2 marks)

1. **Paddock grazing/rotational grazing**
2. **Zero grazing/stall feeding**
3. **strip grazing**
4. **tethering**

(b) What is meant by providing animals with a "balanced ration"? (1 mark)

- **A balanced ration is a diet that provides all the necessary nutrients (e.g., carbohydrates, proteins, fats, vitamins, minerals) in the correct proportions and amounts required for an animal's specific physiological needs, such as growth, milk production, or maintenance.**

35. On a farm, various structures are needed for housing animals and storing materials.

(a) State two important factors a farmer should consider when choosing the best location on their farm to build a house for chickens. (2 marks)

1. **Drainage:** The site should be well-drained to prevent dampness and disease.
2. **Shelter from strong winds/predators:** The location should offer protection from harsh weather and be secure from predators. (Also acceptable: Proximity to water source, accessibility, expansion possibilities, away from residential areas to manage odors, availability of electricity).

(b) Give two purposes for having a general farm store building. (2 marks)

3. **To store farm tools and equipment:** This helps in organizing and protecting tools from damage and theft.
4. **To store farm inputs:** Such as fertilizers, seeds, and animal feeds, keeping them safe and dry. (Also acceptable: Store harvested produce, store chemicals safely).

36. Understanding basic agricultural economics helps farmers make smart decisions.

(a) Differentiate between the activities of "production" (growing/raising farm items) and "consumption" (using farm items) in agriculture. (2 marks)

- **Production in agriculture refers to the process of growing crops or raising animals to create goods and services for sale or use. Consumption, on the other hand, is the act of using or utilizing these agricultural products to satisfy human needs and wants.**

(b) Outline two factors, other than price, that can influence how much of a particular agricultural product (like tomatoes) consumers want to buy (demand). (2 marks)

2. **Consumer tastes and preferences:** Changes in popularity or dietary trends can increase or decrease demand.
3. **Consumer income:** Higher incomes generally lead to increased demand for certain products, while lower incomes might reduce it. (Also acceptable: Population size, prices of substitute goods, prices of complementary goods, expectations of future prices/availability, advertising/marketing).

37. After harvesting maize, a farmer needs to handle and sell it properly.

(a) Name two common traditional or modern methods used by farmers to store harvested maize on the farm before selling it. (2 marks)

1. **Granaries/cribs** (traditional)
2. **Silos/sealed bags** (modern, e.g., hermetic bags) (Also acceptable: act as a communal store, heaps in shaded areas, drying on raised platforms/tarpaulins).

(b) Give two reasons why farmers should sort their maize to remove damaged grains and grade it according to quality before taking it to the market. (2 marks)

3. **To fetch a better price:** Graded maize of good quality commands higher prices in the market.
4. **To meet market standards/consumer expectations:** Buyers often have quality requirements, and sorting ensures the maize meets these standards, making it more marketable. (Also acceptable: Reduces spoilage during storage/transport, improves efficiency in handling, builds buyer trust).

38. Before starting to prepare food for your family meal, ensuring personal cleanliness is vital.

Outline two hygienic practices you should always observe regarding your hands and appearance before you begin handling food ingredients. (2 marks)

1. **Wash your hands thoroughly with soap and clean running water:** Ensure hands are clean before touching any food.
2. **Tie back long hair or wear a hairnet/cap:** This prevents hair from falling into the food. (Also acceptable: Remove jewelry, wear a clean apron, ensure fingernails are short and clean, avoid coughing/sneezing over food).

39. To reduce food wastage, it is often necessary to preserve food.

State two advantages or benefits of preserving food items. (2 marks)

1. **Extends shelf life:** Preserved food can be stored for longer periods, reducing spoilage and waste.
2. **Ensures food availability year-round:** Allows consumption of seasonal foods even when they are out of season. (Also acceptable: Retains nutritional value, allows for bulk purchase savings, provides convenience, enables transportation over long distances).

40. Planning meals helps ensure everyone's nutritional needs are met.

(a) State two important reasons why planning meals in advance is a good practice for a household. (2 marks)

1. **Ensures balanced nutrition:** Helps to ensure that all essential nutrients are included in the diet.

2. **Saves time and money:** Reduces last-minute trips to the shop and allows for efficient use of ingredients. (Also acceptable: Reduces food waste, caters to dietary needs/preferences, reduces stress, allows for variety).

(b) Outline three different factors, other than age, that should be considered when planning meals for a family. (3 marks)

3. **Activity levels:** People with higher physical activity levels require more energy-rich foods.
4. **Health status/dietary restrictions:** Considerations for individuals with allergies, illnesses (e.g., diabetes), or specific dietary needs (e.g., vegetarianism).
5. **Financial budget:** The cost of ingredients needs to align with the family's financial resources. (Also acceptable: Availability of ingredients, family preferences/likes and dislikes, cultural/religious practices, cooking skills/equipment available).

41. You accidentally spilled some juice on your shirt, causing a stain. Different stains require specific treatments.

Give two general steps you should follow immediately or soon after getting a stain on fabric before attempting to wash it normally. (2 marks)

1. **Act quickly:** Treat the stain as soon as possible, as fresh stains are easier to remove.
2. **Blot, do not rub:** Gently blot the stain with a clean cloth or paper towel to absorb as much of the substance as possible, avoiding rubbing which can spread the stain. (Also acceptable: Scrape off any excess solid material, rinse from the back of the fabric for certain stains).

42. Keeping the kitchen clean is essential for health and safety. You have just finished preparing and eating a meal, and the kitchen surfaces need cleaning.

(a) Outline two reasons why regularly cleaning your kitchen, especially the work surfaces, is important. (2 marks)

1. **Prevents the growth and spread of bacteria/germs:** Food spills and crumbs can harbor harmful microorganisms, leading to foodborne illnesses.
2. **Maintains hygiene and safety:** A clean kitchen reduces the risk of pest infestations and creates a safe environment for food preparation. (Also acceptable: Prevents cross-contamination, eliminates unpleasant odors, keeps the kitchen visually appealing).

(b) Describe three steps you would follow to safely and effectively clean a kitchen work surface after preparing food. (3 marks)

3. **Clear the surface:** Remove all food scraps, dishes, and other items from the work surface.
4. **Wipe down with a damp cloth and detergent:** Use a clean cloth dampened with warm soapy water to wipe away any visible food residue and grease.
5. **Rinse and dry thoroughly:** Use a clean, damp cloth to remove any soap residue, then dry the surface completely with a clean, dry cloth or paper towel to prevent bacterial growth. (Also acceptable: Use a disinfectant spray after wiping down, use separate cloths for different areas)

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