

Strand 2: Food production processes

2.1: Kitchen and backyard gardening

Section A

1. D.
2. C.
3. B.

Section B

1.
 - (a) Mulching.
 - (b) Conserves soil moisture; improves soil fertility upon decomposition; smothers weeds.
2.
 - (a) A kitchen garden is smaller in size and is located close to the kitchen, while a backyard garden is larger and often located behind buildings or in open compound areas.
 - (b) Requires limited spaces and are locally available.
3. Promotes production of fresh healthy foods therefore reducing dependency on processed foods; saves time spent shopping and saves money; makes good use of limited space; crops are grown close to the kitchen, making harvesting quick and convenient when preparing meals; these gardens provide hands-on learning opportunities for basic farming skills such as planting, watering and weeding.
4.
 - (a) Select a suitable site that receives adequate sunlight and has access to water.
 - (b) Clear vegetation using appropriate tools.
 - (c) Measure the garden area using a tape measure.
 - (d) Mark boundaries and planting sections using pegs and strings.
 - (e) Divide the garden into plots for different crops.
 - (f) Dig the soil to obtain a suitable tilth depending on the planting materials.
 - (g) Add well-decomposed organic manure to improve soil fertility.
 - (h) Make planting holes for seedlings such as kales, tomatoes and spinach. Make shallow furrows for small seeds such as carrots, onions and coriander. Plant seeds or transplant seedlings at correct spacing and depth.
 - (i) Water the garden adequately. Apply mulch to conserve moisture.
5.
 - (a) Old tyres.
 - (b) Select a suitable site; clear vegetation and prepare a level surface; cut and remove the sides of the tyres; lay a protective polythene sheet if the tyres are placed on surfaces like verandas; lay the tires according to your design; fill tyres with a mixture of garden soil and well-decomposed manure; water the soil; make planting holes or shallow furrows; plant seedlings or sow seeds at appropriate spacing; water regularly

and apply mulch where necessary; protect plants from pests and animals; carry out routine practices such as weeding, gapping and disease control.

2.2: Poultry rearing in a fold

Section A

1. B.
2. A.
3. B.

Section B

1.
 - (a) The fold is movable, so birds are shifted to fresh ground daily, preventing accumulation of droppings and bad smell. Movement reduces buildup of parasites and disease-causing organisms.
 - (b) By moving the fold, birds are not exposed to contaminated ground for long. Limits contact with droppings, reducing spread of worms and infections.
2. Enclosing the run section with sturdy mesh protects the birds from predators while still letting in sunlight and air.
A fully enclosed sleeping compartment/solid wooden structure provides a secure place where the birds can hide out of sight from hawks and be safe from stray dogs.
3.
 - (a) The grass will be completely depleted or dried up due to overgrazing, trampling and being scorched by the concentrated accumulation of bird droppings.
 - (b) The buildup of droppings creates a damp, dirty environment that favors the multiplication of pests like mites and internal parasites (worms), leading to poor bird health and high infection rates.
4.
 - (a) Securely anchoring or hanging the water troughs so they cannot be tipped over easily by the birds.
Cleaning and refilling the water troughs with fresh, clean water at least once or twice every day.
 - (b) Prevents spread of diseases and infections. Keeps birds hydrated and healthy, especially in hot weather.

2.3: Crop pest and disease control

Section A

1. A.
2. B.
3. C.
4. A.

Section B

1.
 - (a) Infested with pests.
 - (b) Removing affected crop parts; uprooting heavily infested crops; applying natural pesticides such as ash.
2.
 - (a) Caterpillars.
 - (b) Hand picking; removing affected crop part; uprooting heavily infested crop; using organic pesticides such as ash.
3.
 - (a) Cutworms.
 - (b) Cutworms feed on and cut the young stems at the base just above the ground mostly at night.
 - (c) Scratch the soil around the damaged seedlings to locate the cutworms hiding near the stem. The farmer should then remove them by hand and dispose of them safely. Alternatively, applying a thick layer of ash around the base of the seedlings to control cutworms.
4. (d), (b), (a), (c).
5.
 - (a) Prevents the spread of pests and diseases to healthy crops.
 - (b) Reduces crop losses and improves yield.
 - (c) Maintains the quality of vegetables.
 - (d) Reduces the cost of managing severe infestations.
 - (e) Increases farmers' income through higher yields and quality produce.
 - (f) Improves food security by ensuring a steady supply of vegetables.
 - (g) Enhances the market value of produce because healthy vegetables attract higher prices.
6.
 - (a) Application of or using natural pesticides such as ash.
 - (b) Cut-worms, aphids and caterpillars.
 - (c) Identify vegetable crops with signs of pest attack then apply a thick layer of ash around the base of the seedlings to control cutworms. Sprinkle ash on the upper and lower surfaces of vegetable leaves to control caterpillars and aphids.

2.4: Preparation of animal products

Section A

1. C.
2. B.
3. D.
4. B.

Section B

1. Removes hard, inedible scales that can spoil the texture of the dish.
Ensures better presentation and makes seasoning penetrate easily.
2.
 - (a) Gutting.
 - (b) Removes intestines and other internal organs that decay quickly.
Prevents contamination and bad smell, improving safety and freshness.
3. Prevents tearing of the skin, which affects presentation.
Ensures cleanliness and avoids leaving small feather shafts that reduce quality.
4. Wash hands and utensils thoroughly before and after handling poultry and fish products.
Use clean water and maintain hygiene during preparation.
Store fish and poultry products properly to avoid contamination.
5.
 - (a) Beheading - Severing and removing the head of the poultry.
 - (b) Defeathering- Dipping the bird in hot water and carefully pulling out the feathers.
 - (c) Singeing - Exposing the bird briefly to an open flame to burn off any tiny, hair-like pinfeathers left on the skin.
 - (d) Gutting/removal of offals - Making an incision near the vent to carefully pull out all the internal organs without puncturing them.
 - (e) Washing and final cleaning - Rinse thoroughly for hygiene and presentation.
6.
 - (a) Scaling removes inedible scales, improving texture and appearance.
 - (b) Gutting prevents spoilage and contamination by removing decaying organs.
 - (c) Frying kills harmful microorganisms and enhances flavor, making fish safe and tasty.

2.5: Preserving milk and meat

Section A

1. B.
2. B.
3. C.
4. C.

Section B

1. It keeps the meat fresh for longer; it prevents spoilage during long-distance transport.
2.
 - (a) The meat will spoil due to rapid bacterial growth.
 - (b) Preservation stops bacteria from multiplying and causing severe food poisoning.
3.
 - (a) Smoking.

- (b) Smoking inhibits microbial growth through the chemical compounds in wood smoke.
Smoking dries the outer layer and removes moisture from the surface of the meat. This creates a protective barrier that extends shelf life since bacteria require moisture to survive and multiply.
- 4.
 - (a) The unclean container introduces harmful bacteria and dirt into the fresh milk.
 - (b) The milk will turn sour and spoil very quickly.
- 5.
 - (a) Home cooling.
 - (b) Placing the milk in a clean container to prevent bacterial contamination.
Covering the milk to prevent contamination.

2.6: Cooking – Preparing a balanced meal

Section A

1. D.
2. C.
3. B.
4. C.
5. B.

Section B

1. Age of the learners and gender of the learners.
2.
 - (a) Carbohydrate provides adequate energy since they are very active and playful.
 - (b) Protein supports growth and development since they are at a stage of rapid growth.
 - (c) Protective food builds a strong immune system to protect them from illnesses.
3. Carbohydrates due to increased physical activity. Proteins for growth of muscles, other body tissues, antibodies, hormones and enzymes
4.
 - (a) Protein (meat), Carbohydrates (roast potatoes), Vitamins (steamed vegetables).
 - (b) It has more vegetables and proteins and less of carbohydrates. It looks appealing (varied colour and texture) which is important to stimulate the digestive juices for the elderly. Digestion is slower for them.
 - (c) The potatoes can be boiled or mashed instead of roasting to make them easier to digest. Beef can be replaced with white meat like fish or chicken which is easier to digest. Add a fruit.
5.
 - Level of activity – Her activity level is reduced and therefore does not require much carbohydrates.
 - Doctor's instruction -The doctor may have made certain recommendations on her diet which need to be considered when preparing her meals.

- Adequate calcium, phosphorus and Vitamin D to promote quick healing of the fracture.
6. Girls lose iron during menstruation.
 7.
 - Higher proportions of carbohydrates to supply him with enough energy for his physical activities.
 - Enough fluids to keep his body hydrated.
 - Enough proteins to support muscle growth and recovery.
 8. Choose foods that are suitable for the occasion; variety to cater for different groups of people in attendance; meal service that will be used.
 9. Blue plate because the learners may be too many to eat around a table.
Reasons:
 - Quick and convenient to serve.
 - Each person gets a complete portion.
 - The setting is casual and friendly; learners can eat anywhere after been served.
 10.
 - (a) Age, gender, activities, occupation.
 - (b) Age, activities.
 - (c) The adult and the child have different nutritional and energy requirements due to differences in age, body size and activity level.
 11.
 - (a) Yes. Rice provides carbohydrates, beans provide proteins, spinach provides vitamins and minerals, while mango provides vitamins and fibre, making the meal balanced.
 - (b) Spinach provides vitamins and minerals needed for good health; Mango provides dietary fibre, which aids digestion.
 - (c) Steaming.
 12.
 - (a) It may be difficult for elderly people to chew the boiled maize; It does not provide enough variety to make the meal appealing and balanced.
 - (b) Vegetables, fresh fruits.