

Board Class 10 Home Science (Elective) Question Paper 2026 with Solutions

Time Allowed :3 Hours	Maximum Marks :80	Total Questions :38
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General Instructions

1. The paper is divided into Section A and Section B.
2. Section A includes objective-type, short answer, and long answer questions.
3. All questions in Section A are compulsory.
4. Section B contains elective questions based on the chosen topic.
5. Answers must be written legibly within the word limit.
6. Use of unfair means or electronic devices is prohibited.
7. Follow the correct format and instructions for each section.

1. Which of the following substances is not used for preservation?

- (A) Salt
- (B) Sugar
- (C) Water
- (D) Acid

Correct Answer: (C) Water

Solution:

Step 1: Understanding the Concept:

Food preservation refers to the techniques used to prevent food spoilage by inhibiting the growth of microorganisms and slowing down the oxidation of fats.

Step 2: Detailed Explanation:

Preservation methods work by removing moisture, changing the pH, or adding chemicals that stop bacterial growth.

1. **Salt:** It preserves food by drawing out water through osmosis, a process called dehydration. It is commonly used in pickles and meat.
2. **Sugar:** Like salt, high concentrations of sugar bind with water, making it unavailable for microbial growth. It is used in jams and jellies.
3. **Acid:** Acids like vinegar (acetic acid) or citric acid lower the pH of food, creating an environment where most bacteria cannot survive.
4. **Water:** Water is the primary requirement for the growth of bacteria, yeast, and molds. Adding water promotes spoilage rather than preventing it.

Step 3: Final Answer:

Therefore, water is the substance that is NOT used for preservation.

💡 Quick Tip

Preservation is about managing the "AW" (Activity of Water). The lower the free water content in food, the longer its shelf life will be.

2. What should be the diet of a patient?

- (A) Spicy
- (B) Piquant
- (C) Rich
- (D) Digestible

Correct Answer: (D) Digestible

Solution:

Step 1: Understanding the Concept:

A patient's diet (therapeutic diet) is a meal plan that is modified to meet the specific nutritional needs and digestive capacity of an individual suffering from an illness.

Step 2: Detailed Explanation:

During illness, the body's metabolic processes and digestive strength are often compromised.

1. **Spicy/Piquant foods:** These contain irritants that can inflame the digestive tract and increase discomfort or acidity.
2. **Rich foods:** These are high in fats and oils, which are heavy and require significant effort and enzymes to digest.
3. **Digestible foods:** These are light, low in fiber (if needed), and low in fat. They provide nutrients without straining the weakened digestive system, allowing the body to focus its energy on recovery.

Step 3: Final Answer:

A patient's diet should be easily digestible to support recovery and avoid digestive stress.

💡 Quick Tip

Liquid and semi-solid diets (like khichdi or clear soup) are the best examples of easily digestible food for patients.

3. What should be the type of home appliances?

- (A) Heavy
- (B) Light

- (C) Useful
- (D) Both B and C

Correct Answer: (D) Both B and C

Solution:

Step 1: Understanding the Concept:

Home management involves selecting tools and appliances that increase work efficiency and reduce human fatigue.

Step 2: Detailed Explanation:

When choosing home appliances, several factors are considered:

1. **Weight (Light):** Modern appliances should be lightweight so they can be easily moved, stored, and operated without causing physical strain.
2. **Utility (Useful):** An appliance must be functional and perform the task it is designed for effectively. There is no point in having an appliance that does not add value to the household work.
3. **Heavy:** Heavy appliances are often difficult to maintain and move, which is generally not a desired trait in small household gadgets.

Step 3: Final Answer:

Ideally, home appliances should be both light for ease of handling and useful for performing tasks.

 Quick Tip

When buying appliances, look for the 'ISI' mark to ensure safety and quality standards along with functional utility.

4. What is the substance secreted from oil glands called?

- (A) Sebum
- (B) Urine
- (C) Blood
- (D) Sweat

Correct Answer: (A) Sebum

Solution:

Step 1: Understanding the Concept:

The skin contains various exocrine glands that secrete substances to protect and maintain the health of the integumentary system.

Step 2: Detailed Explanation:

1. **Oil Glands (Sebaceous Glands):** These glands are found all over the body except on the palms and soles. They secrete an oily substance called **sebum**. Sebum helps to lubricate the skin and hair, making them waterproof and protecting them from drying out.
2. **Sweat Glands:** These secrete sweat to regulate body temperature.
3. **Urine/Blood:** These are not secretions from skin glands; urine is a waste product from the kidneys, and blood is a circulatory fluid.

Step 3: Final Answer:

The secretion from oil glands is scientifically known as Sebum.

💡 Quick Tip

Excessive production of sebum, especially during puberty, can block pores and lead to the development of acne.

5. Which disease is caused by Vitamin D deficiency?

- (A) Beriberi
- (B) Scurvy
- (C) Rickets
- (D) Blindness

Correct Answer: (C) Rickets

Solution:**Step 1: Understanding the Concept:**

Vitamins are essential micronutrients. Lack of a specific vitamin in the diet leads to particular deficiency diseases.

Step 2: Detailed Explanation:

1. **Beriberi:** Caused by a lack of Vitamin B_1 (Thiamine).
2. **Scurvy:** Caused by a lack of Vitamin C (Ascorbic Acid).
3. **Rickets:** This is caused by a deficiency of **Vitamin D** in children. Vitamin D is essential for the absorption of calcium. Without it, bones become soft and weak, leading to skeletal deformities like bowed legs.
4. **Blindness:** Usually refers to Night Blindness, which is caused by a lack of Vitamin A.

Step 3: Final Answer:

Vitamin D deficiency in children results in Rickets.

💡 Quick Tip

In adults, Vitamin D deficiency leads to a condition called Osteomalacia, which is characterized by bone softening and pain.

6. Which of following is not a function of Teeth?

- (A) Biting
- (B) Tasting
- (C) Grinding
- (D) Breaking

Correct Answer: (B) Tasting

Solution:

Step 1: Understanding the Concept:

Teeth are hard structures found in the mouth that are specialized for the mechanical breakdown of food (mastication).

Step 2: Detailed Explanation:

1. **Biting/Breaking/Grinding:** These are the primary mechanical functions of different types of teeth (Incisors for biting, Molars for grinding). They break down large food particles into smaller ones.
2. **Tasting:** This is NOT a function of the teeth. Tasting is the function of the **tongue**, which contains specialized sensory structures called taste buds that detect flavors like sweet, sour, salty, and bitter.

Step 3: Final Answer:

Tasting is the function of the tongue, hence it is not a function of the teeth.

💡 Quick Tip

Humans have two sets of teeth in their lifetime: Milk teeth (temporary) and Permanent teeth.

7. What is secreted from salivary glands?

- (A) Water
- (B) Saliva
- (C) Bile juice
- (D) Pancreatic Juice

Correct Answer: (B) Saliva

Solution:

Step 1: Understanding the Concept:

The digestive system includes several glands that secrete fluids containing enzymes to help in the breakdown of food molecules.

Step 2: Detailed Explanation:

1. **Salivary Glands:** Located in the mouth, these glands secrete a watery fluid called **saliva**. Saliva contains the enzyme 'ptyalin' (salivary amylase), which begins the digestion of starch into maltose.
2. **Bile Juice:** Secreted by the liver and stored in the gallbladder. It helps in fat emulsification.
3. **Pancreatic Juice:** Secreted by the pancreas, containing various enzymes for protein and fat digestion.

Step 3: Final Answer:

The secretion from salivary glands is Saliva.

 Quick Tip

Saliva also contains "lysozyme," an enzyme that helps in killing bacteria present in the food.

8. Which organ has a bean seed like shape?

- (A) Kidney
- (B) Urinary bladder
- (C) Heart
- (D) Lungs

Correct Answer: (A) Kidney

Solution:

Step 1: Understanding the Concept:

Organs in the human body have specific anatomical shapes that help identify them during medical studies.

Step 2: Detailed Explanation:

1. **Kidneys:** These are two reddish-brown, **bean-shaped** organs located on either side of the spine in the abdominal cavity. Their primary function is blood filtration.
2. **Urinary bladder:** A muscular sac that is pear-shaped when empty.
3. **Heart:** A muscular organ roughly the size of a closed fist, shaped somewhat like a cone.
4. **Lungs:** Two sponge-like, cone-shaped organs located in the chest.

Step 3: Final Answer:

The kidney is the human organ characterized by its bean-like shape.

💡 Quick Tip

The right kidney is usually slightly lower than the left one to accommodate the liver.

9. What type of fuel is suitable to avoid pollution?

- (A) Firewood
- (B) Coal
- (C) Gas
- (D) Cow dung Cake

Correct Answer: (C) Gas

Solution:**Step 1: Understanding the Concept:**

Pollution from fuel occurs when substances undergo incomplete combustion, releasing smoke, ash, and toxic gases.

Step 2: Detailed Explanation:

1. **Firewood, Coal, Cow dung Cake:** These are solid fuels. When burned, they produce significant amounts of smoke, particulate matter, and ash, which heavily pollute both indoor and outdoor air.
2. **Gas (LPG/CNG):** Liquefied Petroleum Gas (LPG) or Compressed Natural Gas (CNG) are gaseous fuels. They undergo nearly complete combustion, releasing very little smoke or carbon monoxide and no ash. They are classified as "clean fuels."

Step 3: Final Answer:

Gas is the most suitable fuel among the options to prevent air pollution.

💡 Quick Tip

LPG stands for Liquefied Petroleum Gas, which is the standard clean-burning fuel used for cooking in Indian households.

10. Which of the following is a mechanism of human breathing?

- (A) Inhalation
- (B) Exhalation

- (C) Exchange of gases
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

Breathing (Pulmonary Ventilation) is the physical process of moving air into and out of the lungs.

Step 2: Detailed Explanation:

The mechanism of breathing involves several integrated steps:

1. **Inhalation:** The intake of oxygen-rich air into the lungs.
2. **Exhalation:** The expulsion of carbon dioxide-rich air from the lungs.
3. **Exchange of gases:** The actual diffusion of oxygen into the blood and carbon dioxide into the lungs at the alveolar level.

Since all these components work together to form the respiratory process, they are all mechanisms of breathing.

Step 3: Final Answer:

The mechanism of human breathing includes inhalation, exhalation, and gas exchange.

 Quick Tip

The Diaphragm is the primary muscle responsible for the physical changes in lung volume during breathing.

11. Which of the following should not be used in kitchen garden?

- (A) Compost
- (B) Organic manure
- (C) Chemical fertilizer
- (D) Kitchen waste

Correct Answer: (C) Chemical fertilizer

Solution:

Step 1: Understanding the Concept:

A kitchen garden is a small plot used to grow household vegetables. The focus is usually on growing organic, healthy, and chemical-free food.

Step 2: Detailed Explanation:

1. **Compost/Organic manure/Kitchen waste:** These are natural sources of nutrients.

Using them recycles waste and improves soil health without leaving harmful chemical residues on the food.

2. **Chemical fertilizer:** While they boost growth quickly, they can damage soil texture over time, kill beneficial soil organisms, and may leave chemical traces in the vegetables we consume. For a healthy home kitchen garden, they are generally avoided.

Step 3: Final Answer:

To maintain the organic nature of a kitchen garden, chemical fertilizers should NOT be used.

 Quick Tip

Using kitchen waste (like peels) to make compost is a great way to practice sustainable "Waste to Wealth" management.

12. Which of the following is not a personal use of water?

- (A) Drinking water
- (B) Brushing teeth
- (C) Watering plants
- (D) Bathing

Correct Answer: (C) Watering plants

Solution:

Step 1: Understanding the Concept:

Personal use of water refers to activities directly related to an individual's body, health, and hygiene.

Step 2: Detailed Explanation:

1. **Drinking/Bathing/Brushing:** These are purely personal activities that maintain the life and cleanliness of the person.
2. **Watering plants:** This is a domestic, environmental, or agricultural use. While a person carries out the action, the water is being used by the plants, not for the person's own biological or hygiene needs.

Step 3: Final Answer:

Watering plants is categorized as domestic or gardening use, not personal use.

 Quick Tip

Average water consumption per person in a household includes both personal and domestic uses.

13. Which of the following is a communicable disease?

- (A) Diabetes
- (B) Measles
- (C) Cancer
- (D) Blood Pressure

Correct Answer: (B) Measles

Solution:

Step 1: Understanding the Concept:

Communicable diseases are infectious diseases that can spread from one person to another through various media like air, water, food, or direct contact.

Step 2: Detailed Explanation:

1. **Measles:** It is a highly contagious viral disease that spreads through respiratory droplets in the air. Therefore, it is a communicable disease.
2. **Diabetes/Cancer/Blood Pressure:** these are non-communicable diseases. They are caused by lifestyle factors, genetics, or internal bodily malfunctions and cannot be caught by another person.

Step 3: Final Answer:

Measles is the only communicable disease listed in the options.

 Quick Tip

Immunization (Vaccination) is the most effective way to prevent the spread of communicable diseases like Measles.

14. What is the purpose of curtain in the Room?

- (A) Privacy
- (B) Security
- (C) Beauty
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

In interior decoration and home management, furnishings like curtains serve multiple functional

and aesthetic purposes.

Step 2: Detailed Explanation:

1. **Privacy:** Curtains block the view from the outside, ensuring the residents have a private living space.
2. **Security:** They prevent outsiders from seeing what is inside the house, providing a sense of security. They also help keep out dust and insects.
3. **Beauty:** Curtains add color, pattern, and texture to a room, making it look visually appealing and "finished."

Step 3: Final Answer:

Since curtains serve all the mentioned purposes, the correct option is "All of these."

 Quick Tip

Curtains also provide thermal insulation, helping to keep rooms cooler in summer and warmer in winter.

15. Which of the following is found most in soybean?

- (A) Carbohydrate
- (B) Protein
- (C) Iodine
- (D) Vitamin

Correct Answer: (B) Protein

Solution:

Step 1: Understanding the Concept:

Foods are categorized as energy-giving, body-building, or protective based on their dominant nutrient.

Step 2: Detailed Explanation:

Soybean is considered a "superfood" for vegetarians.

1. **Protein:** Soybean contains about 36% – 40% protein, which is significantly higher than most other pulses and even meat. It is a complete protein source containing all essential amino acids.
2. **Other nutrients:** While it has some carbohydrates, vitamins, and minerals, protein is its primary and most abundant nutrient.

Step 3: Final Answer:

Protein is the nutrient found in the highest quantity in soybean.

💡 Quick Tip

Soy protein is an excellent substitute for meat and dairy for individuals who are lactose intolerant or vegan.

16. Which of the following are true about vitamin D?

- (A) It is a fat-soluble vitamin.
- (B) It is essential for bone health.
- (C) It is necessary for muscle contraction.
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

Vitamin D (Calciferol) is a unique vitamin that the human body can synthesize when exposed to sunlight.

Step 2: Detailed Explanation:

1. **Fat-soluble:** Vitamins are divided into water-soluble (B, C) and fat-soluble (A, D, E, K). Vitamin D is fat-soluble.
2. **Bone Health:** Its main role is to facilitate the absorption of calcium from the gut, which is vital for building strong bones.
3. **Muscle Contraction:** Calcium regulated by Vitamin D is essential for the electrical signaling that causes muscles to contract.

Step 3: Final Answer:

All the given statements regarding Vitamin D are scientifically correct.

💡 Quick Tip

Vitamins A, D, E, and K can be remembered with the acronym "KEDA" as the fat-soluble group.

17. Which of the following is not a daily work of a homemaker?

- (A) Cooking food
- (B) Cleaning of the house
- (C) Preparing budget
- (D) Taking care of children

Correct Answer: (C) Preparing budget

Solution:

Step 1: Understanding the Concept:

Household tasks are classified into daily, weekly, monthly, and seasonal tasks based on their frequency.

Step 2: Detailed Explanation:

1. **Daily tasks:** Cooking, cleaning, and childcare are essential activities that must be performed every day for the smooth functioning of the home.
2. **Periodic tasks:** Preparing a budget is usually a **monthly** activity. A family plan for income and expenditure is made once at the beginning of the month. It is not something done every single day.

Step 3: Final Answer:

Preparing a budget is a monthly/periodic task, hence it is not a daily work.

 Quick Tip

Effective home management involves distinguishing between "urgent" daily tasks and "important" periodic planning tasks like budgeting.

18. In which disease a membrane is formed in a patient's throat?

- (A) Chickenpox
- (B) Whooping cough
- (C) Diphtheria
- (D) Mumps

Correct Answer: (C) Diphtheria

Solution:

Step 1: Understanding the Concept:

Different infectious diseases have specific "hallmark" symptoms that help in clinical diagnosis.

Step 2: Detailed Explanation:

1. **Diphtheria:** It is a bacterial infection. The most characteristic symptom is the formation of a thick, gray **pseudo-membrane** over the throat and tonsils. This can cause severe breathing difficulty.
2. **Chickenpox:** Results in itchy skin rashes and blisters.
3. **Whooping cough:** Characterized by severe coughing fits followed by a high-pitched "whooping" sound.

4. **Mumps:** Causes painful swelling of the salivary glands (parotid glands).

Step 3: Final Answer:

Diphtheria is the disease where a membrane forms in the throat.

 Quick Tip

The 'D' in the DPT vaccine given to infants stands for Diphtheria.

19. What is used to dig soil in a kitchen garden?

- (A) Spade
- (B) Hazara
- (C) Dakar
- (D) Roote feeder

Correct Answer: (A) Spade

Solution:

Step 1: Understanding the Concept:

Specific manual tools are required for various gardening activities like digging, weeding, and watering.

Step 2: Detailed Explanation:

1. **Spade/Khurpi:** A spade (or a smaller hand-spade like a khurpi) is the primary tool used for turning the soil, digging holes for planting, and weeding.
2. **Hazara:** This is the Hindi term for a watering can with a perforated nozzle (sprinkler head).
3. **Other options:** "Dakar" or "Roote feeder" are specialized or less common terms for digging in a small kitchen garden.

Step 3: Final Answer:

A spade is the most common tool used for digging soil.

 Quick Tip

Always clean gardening tools like spades after use to prevent rust and the spread of soil-borne diseases.

20. Which disease is caused by iron deficiency?

- (A) Beriberi
- (B) Marasmus
- (C) Anaemia
- (D) Tuberculosis

Correct Answer: (C) Anaemia

Solution:

Step 1: Understanding the Concept:

Iron is a mineral required for the synthesis of hemoglobin, the protein in Red Blood Cells (RBCs) that carries oxygen throughout the body.

Step 2: Detailed Explanation:

1. **Anaemia:** Lack of iron leads to low hemoglobin levels, which means the blood cannot transport enough oxygen. This results in fatigue and paleness, a condition called iron-deficiency anaemia.
2. **Beriberi:** Caused by Vitamin B_1 deficiency.
3. **Marasmus:** Caused by overall calorie/energy deficiency.
4. **Tuberculosis:** A bacterial infection, not a nutritional deficiency.

Step 3: Final Answer:

Iron deficiency directly causes Anaemia.

 Quick Tip

Consuming iron-rich foods like spinach, beetroots, and jaggery can help prevent and treat nutritional anaemia.

21. What should be the quality of a first aider?

- (A) Prompt and quick service provider
- (B) Calm and controlled
- (C) Skillful and tactful
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

A first aider is someone who gives immediate assistance to an injured person before professional medical help arrives.

Step 2: Detailed Explanation:

To be effective in an emergency, a first aider needs specific traits:

1. **Prompt and Quick:** Since time is critical in emergencies (like heavy bleeding), the person must act immediately.
2. **Calm and Controlled:** Panicking can worsen the situation. A calm person can think clearly and reassure the victim.
3. **Skillful and Tactful:** They should know the correct techniques (like bandaging) and handle the victim with care and sensitivity.

Step 3: Final Answer:

A good first aider should possess all the qualities mentioned above.

💡 Quick Tip

The first rule for a first aider is "DR ABC": Danger (check), Response (check), Airway, Breathing, and Circulation.

22. Which of the following is an excretory organ of the human body?

- (A) Kidney
- (B) Lungs
- (C) Skin
- (D) All of these

Correct Answer: (D) All of these

Solution:**Step 1: Understanding the Concept:**

Excretion is the physiological process of removing toxic metabolic waste products from the body.

Step 2: Detailed Explanation:

Different organs participate in removing different types of waste:

1. **Kidneys:** They filter the blood and remove nitrogenous wastes like urea in the form of urine.
2. **Lungs:** They excrete gaseous wastes like carbon dioxide and water vapor during respiration.
3. **Skin:** It excretes water, salts, and small amounts of urea through sweat.

Step 3: Final Answer:

Since all these organs help in removing waste from the body, they are all part of the excretory system.

 Quick Tip

The Kidney is considered the "primary" excretory organ, while the skin and lungs are "accessory" excretory organs.

23. Which of the following is a family budget?

- (A) Balanced Budget
- (B) Surplus Budget
- (C) Deficit Budget
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

A family budget is a financial plan that estimates a family's income and expenditure for a specific period (usually a month).

Step 2: Detailed Explanation:

Budgets are classified based on the relationship between income and spending:

1. **Balanced Budget:** Where Income equals Expenditure.
2. **Surplus Budget:** Where Income is greater than Expenditure (ideal for savings).
3. **Deficit Budget:** Where Expenditure is greater than Income (leads to debt).

These are the three types of financial conditions a family budget can reflect.

Step 3: Final Answer:

Balanced, surplus, and deficit budgets are all forms of a family budget.

 Quick Tip

A surplus budget is considered the best for a family's long-term financial health and security.

24. Why is sports important for children?

- (A) Physical Development
- (B) Mental Development
- (C) Social Development
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

Holistic development in children involves growth across physical, cognitive, and social domains.

Step 2: Detailed Explanation:

1. **Physical Development:** Sports build muscles, improve cardiovascular health, and enhance physical fitness.
2. **Mental Development:** Sports require focus, strategy, and discipline, which improves brain function and reduces stress.
3. **Social Development:** Playing in teams teaches cooperation, leadership, and how to interact with others.

Step 3: Final Answer:

Sports contribute to the overall physical, mental, and social growth of a child.

Quick Tip

Play is often called the "work of children" because it is through play and sports that they learn life skills.