

Bihar Board Class 12 Home Science (Elective) Set H - 2024 Question Paper with Solutions

Time Allowed :3 Hours 15 Minutes

Maximum Marks :70

Total Questions :96

General Instructions

Read the following instructions very carefully and strictly follow them:

1. The test is of 3 hours 15 Minutes duration.
2. The question paper consists of 96 questions.
3. In Section - B, there are 20 short answer type questions, each carrying 2 marks, out of which any 10 questions are to be answered. Apart from these, there are 6 long answer type questions, each carrying 5 marks, out of which any 3 questions are to be answered.
4. Minimum 30% marks in each subject (30 out of 100 for theory, adjusted for practicals where applicable).
5. Use of any electronic appliances is strictly prohibited.

Section - A

1. Sujni is the needle craft of which state ?

- (A) Punjab
- (B) Gujarat
- (C) Bihar
- (D) Odisha

Correct Answer: (C) Bihar

Solution:

Step 1: Understanding the Concept:

The question asks to identify the state of origin for the 'Sujni' needle craft. Sujni (also spelled as Sujini) is a traditional form of embroidery in India.

Step 2: Detailed Explanation:

Sujni is a renowned form of embroidery that originated in the Bhusura village of Bihar.

The word 'Sujni' is derived from 'su', meaning easy, and 'jani', meaning birth.

Traditionally, this craft involved quilting old sarees and dhotis with simple running stitches to make soft quilts for newborn babies.

Over time, this craft has evolved and is now used on various products like sarees, dupattas,

and home furnishings.

The craft has gained significant recognition and has been granted the Geographical Indication (GI) tag, recognizing its origin in Bihar.

Step 3: Final Answer:

Based on the origin and history of the craft, Sujni is associated with the state of Bihar.

Quick Tip

For questions related to Indian art and craft forms, it's helpful to remember famous crafts and their corresponding states. Creating a small table with columns for Craft Name, State, and a key feature can be a great revision tool. For example, Madhubani painting is also from Bihar, which helps in associating Bihar with rich traditional arts.

2. Purple is a colour.

- (A) Primary
- (B) Secondary
- (C) Tertiary
- (D) None of these

Correct Answer: (B) Secondary

Solution:

Step 1: Understanding the Concept:

This question is about color theory and asks to classify the color purple. Colors are generally categorized into three groups: primary, secondary, and tertiary.

Primary Colors: These are the fundamental colors that cannot be created by mixing other colors. The primary colors in the RYB (Red, Yellow, Blue) model are Red, Yellow, and Blue.

Secondary Colors: These colors are created by mixing two primary colors.

Tertiary Colors: These are created by mixing a primary color with an adjacent secondary color.

Step 2: Detailed Explanation:

In the subtractive color model (RYB), used for pigments like paint, secondary colors are formed as follows:

Red + Yellow = Orange

Yellow + Blue = Green

Red + Blue = Purple (or Violet)

Since purple is formed by mixing two primary colors (red and blue), it is classified as a secondary color.

Step 3: Final Answer:

Purple is a secondary color. Therefore, option (B) is the correct answer.

Quick Tip

Remember the color wheel basics: **Primary:** Red, Yellow, Blue. **Secondary (mix of 2 primaries):** Orange, Green, Purple. **Tertiary (mix of 1 primary + 1 secondary):** Red-Orange, Yellow-Green, Blue-Violet, etc. This will help you quickly answer any question related to color classification.

3. Quality of which resource is not degraded due to pollution ?

- (A) Sun
- (B) Water
- (C) Soil
- (D) Air

Correct Answer: (A) Sun

Solution:

Step 1: Understanding the Concept:

The question asks which of the given natural resources is not degraded in quality by pollution. Pollution is the introduction of harmful substances into the natural environment, causing adverse changes.

Step 2: Detailed Explanation:

Let's analyze the options:

(B) Water: Water quality is severely degraded by pollutants from industrial waste, sewage, and agricultural runoff. This is known as water pollution.

(C) Soil: Soil quality is degraded by pollutants like chemical fertilizers, pesticides, and industrial waste. This is known as soil pollution.

(D) Air: Air quality is degraded by the emission of harmful gases and particulate matter from vehicles and industries. This is known as air pollution.

(A) Sun: The Sun is a star, the ultimate source of energy for Earth. Pollution on Earth (in our atmosphere, water, or soil) does not affect the intrinsic quality of the sun itself or the energy it radiates. While air pollution can block or scatter some sunlight reaching the Earth's surface, it does not degrade the Sun as a resource.

Step 3: Final Answer:

The quality of the Sun is not degraded by pollution on Earth. Therefore, option (A) is correct.

Quick Tip

Think about the location and nature of the resource. Resources like air, water, and soil are part of Earth's immediate environment and are directly exposed to pollutants. The Sun, being an external celestial body millions of kilometers away, is not subject to Earth's terrestrial pollution.

4. What is the natural method of drying clothes ?

- (A) Ironing
- (B) Drier
- (C) Sun and air
- (D) Washing machine

Correct Answer: (C) Sun and air

Solution:

Step 1: Understanding the Concept:

The question asks for the natural method of drying clothes among the given options. A natural method is one that utilizes elements of nature without the need for man-made machines or electricity.

Step 2: Detailed Explanation:

Let's analyze the options:

(A) Ironing: An iron is an electrical appliance used to remove wrinkles. It is an artificial method.

(B) Drier: A clothes drier is an electric or gas-powered machine designed to dry clothes using heat and tumbling. It is an artificial method.

(D) Washing machine: A washing machine is used for washing clothes. Its spin-dry function is a machine-based, artificial process.

(C) Sun and air: Using sunlight and wind to dry clothes is the traditional and natural method. This process, often called line-drying, relies on the natural process of evaporation powered by the sun's heat and moving air.

Step 3: Final Answer:

The natural method of drying clothes is using sun and air. Thus, option (C) is correct.

Quick Tip

When a question asks for a "natural" method, look for the option that involves elements of nature (like sun, wind, water) and does not rely on electricity or complex machinery.

5. The clothes for the time of sorrow and mourning should be

- (A) Dark coloured
- (B) White and light
- (C) Bright coloured
- (D) Specially designed

Correct Answer: (B) White and light

Solution:

Step 1: Understanding the Concept:

The question asks about the appropriate color of clothing to be worn during times of sorrow and mourning. Color symbolism varies significantly across different cultures.

Step 2: Detailed Explanation:

In many Western cultures, black is the traditional color of mourning, symbolizing death and loss.

However, in India and many other Eastern cultures, white is the color associated with mourning.

White symbolizes purity, peace, and simplicity. It is considered a sober color that reflects the solemnity of the occasion.

Therefore, wearing white and other light-colored clothes is the customary practice during periods of sorrow and mourning in these cultural contexts.

Bright or dark colored clothes are generally avoided as they are associated with celebration, festivity, or strong emotions not typically expressed during mourning.

Step 3: Final Answer:

For times of sorrow and mourning, particularly in the Indian cultural context, white and light-colored clothes are considered appropriate. Therefore, option (B) is the correct answer.

Quick Tip

Color symbolism is culturally specific. For exams with a potential cultural context, be aware of these differences. Remember: West = Black for mourning, India/East = White for mourning.

6. Who is not responsible for adulteration ?

- (A) Producer
- (B) Distributor
- (C) Consumer
- (D) Retailer

Correct Answer: (C) Consumer

Solution:

Step 1: Understanding the Concept:

The question asks to identify who among the given options is not responsible for adulteration. Adulteration is the act of degrading a product (like food) by adding inferior, cheaper, or harmful substances.

Step 2: Detailed Explanation:

Let's analyze the roles of each entity in the supply chain:

(A) Producer: The producer or manufacturer can be responsible for adulteration at the source by using substandard ingredients.

(B) Distributor: The distributor transports goods. They can be responsible for adulteration during storage or transit by tampering with the product.

(D) Retailer: The retailer sells the product to the end-user. They can be responsible for adulteration by mixing inferior goods with genuine ones before selling.

(C) Consumer: The consumer is the end-user who purchases and uses the product. The consumer is the victim of adulteration, not the one who performs it. They have no role in the production or supply process where adulteration occurs.

Step 3: Final Answer:

The consumer is the one who is affected by adulteration and is not responsible for carrying it out. Therefore, option (C) is the correct answer.

Quick Tip

Think of the supply chain from creation to consumption: Producer → Distributor → Retailer → Consumer. Adulteration is a fraudulent act that can happen at any of the first three stages. The consumer is the final link and the victim of this practice.

7. Which form of water is used in home?

- (A) Solid
- (B) Liquid
- (C) Gas
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

The question asks about the forms (states of matter) in which water is used in a home. Water

exists in three primary forms: solid (ice), liquid (water), and gas (steam).

Step 2: Detailed Explanation:

Let's consider the use of each form of water in a typical household:

(A) Solid: The solid form of water is ice. Ice is commonly used at home as ice cubes for cooling drinks, in ice packs for injuries, and in some food preservation methods.

(B) Liquid: This is the most common form of water used. It is used for drinking, cooking, bathing, washing, cleaning, and watering plants.

(C) Gas: The gaseous form of water is steam. Steam is used in homes for cooking (e.g., in pressure cookers, steaming vegetables), for ironing clothes (steam irons), and for steam inhalation as a home remedy.

Since water is used in all three forms—solid, liquid, and gas—in a home, the most comprehensive answer is "All of these".

Step 3: Final Answer:

Water is used at home in its solid (ice), liquid, and gaseous (steam) forms. Therefore, option (D) is the correct answer.

Quick Tip

For "All of these" questions, carefully evaluate if each individual option is correct. If you can find a common household use for water in its solid, liquid, and gas forms, then "All of these" is the correct choice. Don't just focus on the most common use.

8. What information do we get from the bank passbook ?

- (A) Account holder's details
- (B) Description of transactions
- (C) Account balance
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

A bank passbook is a physical booklet provided by a bank to an account holder, which serves as a copy of the account's ledger. It is used to record all transactions that occur in the account.

Step 2: Detailed Explanation:

Let's analyze the information contained in a typical passbook:

(A) Account holder's details: The passbook includes the account holder's name, address, account number, and other identifying information like the customer ID and IFSC code of the

branch.

(B) Description of transactions: It provides a chronological list of all deposits (credits) and withdrawals (debits), along with the date and often a brief description of each transaction (e.g., cheque number, ATM withdrawal, online transfer).

(C) Account balance: After each transaction, the passbook shows the updated account balance.

Since a passbook contains all of the above information, option (D) is the correct choice.

Step 3: Final Answer:

A bank passbook provides the account holder's details, a description of all transactions, and the current account balance.

Quick Tip

Think of a passbook as a complete, running history of your bank account in paper form. It's designed to give you a full overview, so options that cover all aspects of the account are likely to be correct.

9. Which of the following is a means of investment ?

- (A) Bank
- (B) Post Office
- (C) Life Insurance
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

An investment is an asset or item acquired with the goal of generating income or appreciation in value over time. The question asks to identify which of the given options offer investment opportunities.

Step 2: Detailed Explanation:

(A) Bank: Banks offer various investment products like Fixed Deposits (FDs), Recurring Deposits (RDs), and savings accounts that provide interest income.

(B) Post Office: Post offices in India offer several government-backed investment schemes like the National Savings Certificate (NSC), Kisan Vikas Patra (KVP), and Public Provident Fund (PPF), which are popular for their safety and returns.

(C) Life Insurance: Many life insurance policies are not just for risk coverage but also serve as investment tools. Endowment plans and Unit Linked Insurance Plans (ULIPs) combine insurance with investment components to generate returns.

Since all three entities provide avenues for investment, the correct answer is (D).

Step 3: Final Answer:

Banks, Post Offices, and Life Insurance companies all offer various financial products that serve as means of investment.

Quick Tip

When you see broad categories like "Bank" or "Post Office," consider the various products they offer. Since all of them offer at least one type of investment scheme, "All of these" is the correct choice.

10. What is made by baking method ?

- (A) Pastry
- (B) Cake
- (C) Bread
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

The question asks to identify which of the listed food items are prepared using the baking method. Baking is a method of cooking food that uses prolonged dry heat, typically in an oven.

Step 2: Detailed Explanation:

(A) Pastry: Pastry is a dough of flour, water, and fat that is used as a base for pies, tarts, etc. It is cooked by baking.

(B) Cake: Cake is a sweet baked food made from a mixture of flour, sugar, eggs, and fat. It is cooked by baking in an oven.

(C) Bread: Bread is a staple food prepared from a dough of flour and water, usually by baking.

All three items listed are classic examples of foods that are cooked using the baking method.

Step 3: Final Answer:

Pastry, cake, and bread are all made by the baking method. Therefore, the correct option is (D).

Quick Tip

Baking is primarily associated with flour-based products that are cooked in an oven. If all the options are common items from a bakery, "All of these" is a very strong possibility.

11. What should be done to secure the future of a family ?

- (A) Savings
- (B) Expenditure
- (C) Prepare budget
- (D) None of these

Correct Answer: (A) Savings

Solution:

Step 1: Understanding the Concept:

Securing the future of a family means ensuring financial stability to meet future goals (like education, retirement) and handle emergencies. The question asks for the primary action to achieve this.

Step 2: Detailed Explanation:

(A) Savings: Saving is the act of setting aside a portion of current income for future use. This is the direct way to accumulate wealth and build a financial safety net, thus securing the future.

(B) Expenditure: Expenditure is the act of spending money. Uncontrolled expenditure is detrimental to future security.

(C) Prepare budget: Preparing a budget is a crucial step in financial planning. It helps manage income and expenditure, which in turn facilitates savings. However, budgeting is a tool or a process, while saving is the actual outcome that secures the future. Between the two, savings is the more direct and fundamental action.

Step 3: Final Answer:

The most direct and essential action to secure a family's future is savings.

Quick Tip

Think about the relationship between budgeting and saving. A budget is the plan, but saving is the action that builds wealth. The question asks "What should be done," making the action (Savings) the best answer.

12. Which of the following is not a grease stain ?

- (A) Butter
- (B) Oil
- (C) Vegetable curry

(D) Colour

Correct Answer: (D) Colour

Solution:

Step 1: Understanding the Concept:

A grease stain is a mark left by fatty or oily substances. The question asks to identify the option that does not cause a grease stain.

Step 2: Detailed Explanation:

(A) Butter: Butter is a dairy product made from fat and protein components of milk. It is primarily fat, so it causes a grease stain.

(B) Oil: Cooking oil is pure fat and is a classic example of a substance that causes grease stains.

(C) Vegetable curry: Most curries are cooked using oil or ghee (clarified butter) as a base. Therefore, a curry stain is typically a combination stain that includes grease.

(D) Colour: Colour, in this context, refers to a dye or pigment (like from ink, paint, or some fruits). These stains are chemically different from grease stains and require different removal methods. They are not based on fat or oil.

Step 3: Final Answer:

Butter, oil, and vegetable curry all contain grease. A colour stain is pigment-based, not grease-based.

Quick Tip

To identify a grease stain, ask yourself: "Is this substance fatty or oily?" If yes, it's a grease stain. Dyes and pigments are distinct from fats.

13. Which of the following glands controls other glands of the body ?

- (A) Parathyroid gland
- (B) Pituitary gland
- (C) Adrenal gland
- (D) Thymus gland

Correct Answer: (B) Pituitary gland

Solution:

Step 1: Understanding the Concept:

The endocrine system is a network of glands that produce and release hormones. One of these

glands acts as a central controller, regulating the functions of many other glands.

Step 2: Detailed Explanation:

The **Pituitary gland**, located at the base of the brain, is often called the "master gland" of the endocrine system. It produces hormones that travel through the bloodstream and control the activities of other endocrine glands, such as the thyroid gland, adrenal glands, and the reproductive glands (ovaries and testes).

(A) **Parathyroid gland:** Regulates calcium levels.

(C) **Adrenal gland:** Produces hormones for stress response (adrenaline) and metabolism (cortisol).

(D) **Thymus gland:** Plays a key role in the immune system.

While these other glands are vital, they do not control the broader endocrine system; instead, they are largely regulated by the pituitary gland.

Step 3: Final Answer:

The Pituitary gland is known as the master gland because it controls the functions of several other endocrine glands.

Quick Tip

Remember the nickname "master gland" for the pituitary gland. This will help you immediately identify it as the gland that controls others in the endocrine system.

14. What is the basic unit of fabric?

- (A) Fibre
- (B) Thread
- (C) Yarn
- (D) None of these

Correct Answer: (A) Fibre

Solution:

Step 1: Understanding the Concept:

The question asks for the most fundamental component used to create fabric. The production of textiles follows a specific hierarchy from the smallest element to the final product.

Step 2: Detailed Explanation:

The process of creating fabric starts with the smallest element and builds up:

1. **Fibre:** This is the basic raw material, a fine, hair-like strand. Examples include cotton, wool (natural fibres), and polyester (synthetic fibre).
2. **Yarn/Thread:** Fibres are twisted or spun together to form a continuous strand called yarn (or thread).

3. **Fabric:** Yarn or thread is then woven, knitted, or felted together to create a flat sheet of material, which is the fabric.

Therefore, the fibre is the most basic, indivisible unit from which fabric is ultimately made.

Step 3: Final Answer:

The basic unit of fabric is the fibre.

Quick Tip

Visualize the structure: Fabric is made of Yarn, and Yarn is made of Fibres. So, the most basic unit is the Fibre. Think of it like a building: the fabric is the wall, the yarn is the brick, and the fibre is the clay that makes the brick.

15. is found in green leafy vegetables.

- (A) Protein
- (B) Sugar
- (C) Mineral salts
- (D) Glucose

Correct Answer: (C) Mineral salts

Solution:

Step 1: Understanding the Concept:

The question asks to identify a key nutrient found in green leafy vegetables.

Step 2: Detailed Explanation:

Green leafy vegetables like spinach, kale, and broccoli are known to be nutritional powerhouses. While they contain small amounts of protein and carbohydrates (sugars like glucose), they are most celebrated for being exceptionally rich in vitamins (like Vitamin A, C, K) and **mineral salts**. These include essential minerals such as iron, calcium, potassium, and magnesium. Among the given options, "Mineral salts" is the most accurate and significant nutritional component for which green leafy vegetables are recommended.

Step 3: Final Answer:

Green leafy vegetables are a primary source of vitamins and mineral salts.

Quick Tip

When you think of green leafy vegetables, the key nutrients to remember are vitamins and minerals. Terms like "mineral salts," "iron," and "calcium" are strongly associated with them.

16. has been established by the government to protect the health of pregnant women and children.

- (A) School
- (B) Mother-child welfare centre
- (C) Co-operative
- (D) Industrial centre

Correct Answer: (B) Mother-child welfare centre

Solution:

Step 1: Understanding the Concept:

The question asks to identify the government establishment specifically created to safeguard the health of mothers and their children.

Step 2: Detailed Explanation:

(B) Mother-child welfare centre: This term directly describes facilities aimed at providing healthcare and support services to pregnant women and children. In India, these services are often provided through Primary Health Centres (PHCs) and Anganwadi centres under the Integrated Child Development Services (ICDS) scheme. Their purpose is exactly as stated in the question: to protect maternal and child health.

The other options are incorrect:

(A) School: Provides education.

(C) Co-operative: A business organization owned and operated by a group of individuals for their mutual benefit.

(D) Industrial centre: A place for manufacturing and industry.

Step 3: Final Answer:

Mother-child welfare centres are the establishments specifically set up by the government for the health of pregnant women and children.

Quick Tip

For this type of question, the name of the institution often reveals its function. "Mother-child welfare centre" aligns perfectly with "protect the health of pregnant women and children."

17. Which of the following is the care for a baby during first few days ?

- (A) Keeping the baby warm
- (B) Care for the umbilical cord

- (C) Providing only breast milk
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

The question asks about the essential care practices for a newborn baby during the first few days of life.

Step 2: Detailed Explanation:

All the listed options are critical components of newborn care:

(A) Keeping the baby warm: Newborns, especially premature ones, have difficulty regulating their body temperature and can easily get cold. Keeping them warm through skin-to-skin contact and proper clothing is vital.

(B) Care for the umbilical cord: The umbilical cord stump must be kept clean and dry to prevent infection until it naturally falls off.

(C) Providing only breast milk: Exclusive breastfeeding is recommended as breast milk provides all the necessary nutrients, antibodies, and hydration a baby needs in the first few months.

Since all three are essential practices, the correct answer is (D).

Step 3: Final Answer:

Essential care for a newborn includes keeping them warm, caring for the umbilical cord, and exclusive breastfeeding.

Quick Tip

Newborn care involves multiple, equally important steps. When you see several correct and essential practices listed as options, "All of these" is a very likely answer.

18. Babies begin to recognize their mother in .

- (A) 3 months
- (B) 6 months
- (C) 8 months
- (D) 10 months

Correct Answer: (A) 3 months

Solution:

Step 1: Understanding the Concept:

The question asks about the developmental milestone when an infant can reliably recognize their mother.

Step 2: Detailed Explanation:

A baby's ability to recognize their mother develops progressively.

From birth: Babies can recognize their mother's scent and voice.

By 2-3 months: Their vision improves significantly, allowing them to distinguish between faces. They begin to show clear signs of recognizing their primary caregivers, especially their mother, and may offer a "social smile" in response.

By 6, 8, or 10 months, this ability is well-established, but the process of clear visual recognition typically begins around the 2-3 month mark. Among the given options, 3 months is the most appropriate answer.

Step 3: Final Answer:

Babies generally begin to show clear signs of visually recognizing their mother by around 3 months of age.

Quick Tip

Remember key early infant milestones: social smile (2 months), recognizing familiar faces (3 months), sitting without support (6 months). This can help you answer developmental questions.

19. What is the full form of DPT vaccine?

- (A) Diphtheria, Pertussis, Tetanus
- (B) Bacille Calmette-Guerin
- (C) Guerin, Tetanus, Diphtheria
- (D) All of these

Correct Answer: (A) Diphtheria, Pertussis, Tetanus

Solution:

Step 1: Understanding the Concept:

The question asks for the full form of the DPT vaccine acronym. DPT is a combination vaccine that protects against three serious infectious diseases.

Step 2: Detailed Explanation:

The acronym DPT stands for:

D - Diphtheria: A serious bacterial infection affecting the nose and throat.

P - Pertussis: Commonly known as whooping cough, a highly contagious respiratory infection.

T - Tetanus: Also known as lockjaw, a bacterial infection that causes painful muscle spasms.

Option (B), Bacille Calmette-Guerin, is the full form of the BCG vaccine, which protects against tuberculosis.

Step 3: Final Answer:

The full form of DPT is Diphtheria, Pertussis, Tetanus.

Quick Tip

Memorizing common vaccine acronyms is useful for general knowledge. Other common ones include MMR (Measles, Mumps, Rubella) and BCG (Bacille Calmette-Guerin).

20. When was the Life Insurance Corporation of India established ?

- (A) 3rd February, 1958
- (B) 19th February, 1956
- (C) 20th March, 1960
- (D) 16th September, 1954

Correct Answer: (B) 19th February, 1956

Solution:

Step 1: Understanding the Concept:

The question asks for the establishment date of the Life Insurance Corporation of India (LIC).

Step 2: Detailed Explanation:

The Life Insurance Corporation of India was formed by an act of Parliament. The Life Insurance of India Act was passed on **June 19, 1956**. The company was officially established on **September 1, 1956**.

The options provided are not precise. However, the year **1956** is correct. Option (B) contains the correct year and is the intended answer in the context of this multiple-choice question. The date, February 19, 1956, may refer to the date the bill was introduced in Parliament.

Step 3: Final Answer:

Among the given choices, the option with the correct year of establishment (1956) is (B).

Quick Tip

For questions involving historical dates, the year is the most crucial piece of information to remember. LIC was established in 1956 by nationalizing the insurance sector in India.

21. Which of the following is not a tax saving investment ?

- (A) Home Loan
- (B) General Provident Fund
- (C) Life Insurance Premium
- (D) Fixed deposit

Correct Answer: (D) Fixed deposit

Solution:

Step 1: Understanding the Concept:

A tax-saving investment is a financial product that allows an individual to claim deductions from their taxable income under various sections of the Income Tax Act.

Step 2: Detailed Explanation:

(A) Home Loan: Both the principal and interest components of a home loan are eligible for tax deductions under Sections 80C and 24(b) respectively.

(B) General Provident Fund (GPF): Contributions to GPF are eligible for tax deduction under Section 80C.

(C) Life Insurance Premium: Premiums paid for life insurance policies are eligible for tax deduction under Section 80C.

(D) Fixed deposit: A standard Fixed Deposit (FD) does not offer any tax savings. In fact, the interest earned on an FD is fully taxable. While there is a specific product called a "Tax-Saving FD" with a 5-year lock-in period that is eligible under 80C, a general "Fixed deposit" as mentioned in the option is not a tax-saving instrument.

Step 3: Final Answer:

A general Fixed Deposit is not a tax-saving investment; the interest income is taxable.

Quick Tip

Be familiar with the common instruments under Section 80C of the Income Tax Act, such as PPF, EPF, LIC premium, ELSS, and tax-saver FDs. A regular FD is notably absent from this list.

22. Which of the following is not a warm colour ?

- (A) Red
- (B) Purple
- (C) Orange
- (D) Yellow

Correct Answer: (B) Purple

Solution:

Step 1: Understanding the Concept:

In color theory, colors are often divided into two categories: warm and cool. Warm colors are associated with sunlight and fire, while cool colors are associated with water and sky.

Step 2: Detailed Explanation:

Warm Colors: These include Red, Orange, and Yellow, and variations of these colors. They tend to be vibrant and energetic.

Cool Colors: These include Blue, Green, and Purple (or Violet). They are often considered calming and soothing.

Based on this classification:

(A) Red, (C) Orange, and (D) Yellow are warm colors.

(B) Purple is a cool color, as it is made by mixing red (warm) and blue (cool).

Step 3: Final Answer:

Purple is not a warm color; it is classified as a cool color.

Quick Tip

A simple way to remember is to think of the sun for warm colors (red, orange, yellow) and the ocean or a forest for cool colors (blue, green, purple).

23. The endocrine gland located above the kidney is

- (A) Pituitary gland
- (B) Thyroid gland
- (C) Adrenal gland
- (D) Pancreas

Correct Answer: (C) Adrenal gland

Solution:

Step 1: Understanding the Concept:

The question asks to identify the endocrine gland that is situated on top of the kidneys.

Step 2: Detailed Explanation:

Let's review the locations of the glands listed:

(C) Adrenal gland: There are two adrenal glands, and each one is located on top of a kidney. The name itself gives a clue: 'ad-' (meaning near) and 'renal' (meaning related to the kidney). These glands produce hormones like adrenaline and cortisol.

- (A) **Pituitary gland:** Located at the base of the brain.
- (B) **Thyroid gland:** Located in the front of the neck.
- (D) **Pancreas:** Located in the abdomen, behind the stomach.

Step 3: Final Answer:

The adrenal gland is the endocrine gland located above the kidney.

Quick Tip

Break down the word "adrenal": **Ad-** (near/at) + **Renal** (kidney). The name literally means "near the kidney," making it easy to remember its location.

24. Which of the following is the main reason of consumer exploitation ?

- (A) Limited information
- (B) Wrong information
- (C) Illiteracy
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

Consumer exploitation refers to situations where consumers are treated unfairly or dishonestly by sellers or service providers. The question asks for the main reasons behind this exploitation.

Step 2: Detailed Explanation:

Let's analyze each option as a cause of consumer exploitation:

(A) Limited information: When consumers have incomplete or insufficient information about a product's quality, price, or features, they cannot make an informed choice and can be easily overcharged or sold inferior goods.

(B) Wrong information: This involves actively misleading consumers through false advertising or incorrect claims about a product. This is a direct form of exploitation.

(C) Illiteracy: Consumers who are illiterate may not be able to read contracts, terms and conditions, or product warnings. This makes them highly vulnerable to being cheated.

Since all three factors—lack of information, misleading information, and the inability to process information—contribute significantly to consumer exploitation, "All of these" is the most comprehensive answer.

Step 3: Final Answer:

Limited information, wrong information, and illiteracy are all major reasons for consumer exploitation.

Quick Tip

Consumer exploitation often stems from an imbalance of knowledge and power between the seller and the buyer. All the options listed contribute to this imbalance, making the consumer vulnerable.

25. What is the validity period of a cheque from the date of issuing ?

- (A) 3 months
- (B) 6 months
- (C) 12 months
- (D) 1 month

Correct Answer: (A) 3 months

Solution:

Step 1: Understanding the Concept:

The question asks for the time period during which a cheque remains valid and can be presented to a bank for payment after it has been issued.

Step 2: Detailed Explanation:

According to the guidelines issued by the Reserve Bank of India (RBI), the validity period of a cheque is **3 months** from the date written on it.

This rule was implemented from April 1, 2012. Prior to this date, the validity period for a cheque was 6 months. The change was made to prevent the misuse of cheques as post-dated instruments and to reduce risks associated with them.

Step 3: Final Answer:

A cheque is valid for 3 months from its date of issue.

Quick Tip

Financial regulations can change over time. It's important to remember the current rules. The RBI guideline for cheque validity was reduced from 6 months to 3 months, and this is the current standard.

26. Which of the following is not a basic human need ?

- (A) House
- (B) Food
- (C) Clothes

(D) Entertainment

Correct Answer: (D) Entertainment

Solution:

Step 1: Understanding the Concept:

Basic human needs are the fundamental requirements for survival. These are things without which a person cannot live.

Step 2: Detailed Explanation:

Let's analyze the options based on the definition of basic needs:

(A) House (Shelter): Shelter is a primary need for protection from the elements and for safety.

(B) Food: Food provides the necessary energy and nutrients for the body to function, making it essential for survival.

(C) Clothes: Clothing provides protection from weather conditions and is considered a basic necessity.

(D) Entertainment: While entertainment is important for mental well-being and quality of life, it is not essential for physical survival. It is considered a 'want' or a secondary need, rather than a basic need.

Step 3: Final Answer:

Food, clothes, and house (shelter) are basic human needs, whereas entertainment is not.

Quick Tip

Remember the classic phrase "Roti, Kapda, Makaan" (Food, Clothes, Shelter), which encapsulates the basic needs in many cultures. Anything beyond this, like entertainment, is generally considered a want, not a need.

27. The most popular slogan of the government for consumer awareness is

- (A) "Jago Grahak Jago"
- (B) "Dhokhadhadi se bacho"
- (C) "Apne adhikaron ko pahchano"
- (D) "Sajag upavokta Bano"

Correct Answer: (A) "Jago Grahak Jago"

Solution:

Step 1: Understanding the Concept:

The question asks to identify the official and most widely recognized slogan used by the Government of India for its consumer awareness campaign.

Step 2: Detailed Explanation:

"Jago Grahak Jago" (which translates to "Wake up, Consumer, Wake up") is a well-known, long-running multimedia campaign launched by the Department of Consumer Affairs, Government of India. The campaign aims to educate consumers about their rights, responsibilities, and the recourses available to them in case of exploitation. It has been widely publicized through television, radio, and print media, making it the most popular and recognizable slogan for consumer awareness in India.

The other options are general phrases related to awareness but are not the specific name of the flagship government campaign.

Step 3: Final Answer:

"Jago Grahak Jago" is the most popular government slogan for consumer awareness.

Quick Tip

Major government campaigns often have catchy and memorable slogans. Associating "Jago Grahak Jago" with consumer rights is a key point for general awareness questions in the Indian context.

28. What type of right is "Right to Information" ?

- (A) Legal
- (B) Traditional
- (C) Optional
- (D) Religious

Correct Answer: (A) Legal

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

The question asks for the classification of the "Right to Information" (RTI) in India. Rights can be classified based on their source (e.g., constitution, law, tradition).

Step 2: Detailed Explanation:

The Right to Information in India is primarily governed by the **Right to Information Act, 2005**. This is an Act of the Parliament of India. A right that is granted and protected by a specific law (or statute) passed by a legislature is known as a legal right or a statutory right. While the Supreme Court has interpreted RTI as an intrinsic part of the fundamental right to freedom of speech and expression under Article 19(1)(a) of the Constitution, its most direct

classification among the given options is a "Legal" right because of the specific Act that defines its scope and implementation.

The other options are incorrect as it is not based on tradition, it is not optional (it is an entitlement), and it is not religious.

Step 3: Final Answer:

The Right to Information is a Legal right, established by the RTI Act, 2005.

Quick Tip

Any right that is created by a specific "Act" or law is a legal right. The name "Right to Information Act" is the biggest clue here.

29. is the best source of vegetable protein.

- (A) Soyabean
- (B) Rice
- (C) Mustard
- (D) Groundnut

Correct Answer: (A) Soyabean

Solution:

Step 1: Understanding the Concept:

The question asks to identify the best source of protein among the given vegetable/plant-based options.

Step 2: Detailed Explanation:

Let's compare the protein content of the given food items:

(A) Soyabean: Soyabean is renowned for its high protein content. It contains approximately 36-40 grams of protein per 100 grams, which is significantly higher than most other plant sources. It is also a complete protein, meaning it contains all nine essential amino acids.

(B) Rice: Rice is primarily a source of carbohydrates, with very low protein content (around 2-3 grams per 100 grams).

(C) Mustard: Mustard seeds are used as a spice and for oil extraction. While they contain protein, they are not consumed in quantities large enough to be a primary source.

(D) Groundnut (Peanut): Groundnuts are a good source of protein, containing about 25 grams per 100 grams, but this is still lower than soyabean.

Step 3: Final Answer:

Among the given options, soyabean has the highest concentration of protein, making it the best source of vegetable protein.

Quick Tip

For nutrition-based questions, remember these key associations: Soyabeans for highest plant protein, lentils/pulses for good protein, and grains like rice and wheat primarily for carbohydrates.

30. Dietary fibre helps in

- (A) Prevention of constipation
- (B) Blood circulation
- (C) Increasing immunity
- (D) All of these

Correct Answer: (A) Prevention of constipation

Solution:

Step 1: Understanding the Concept:

Dietary fibre is a type of carbohydrate that the body cannot digest. It plays a crucial role in maintaining digestive health.

Step 2: Detailed Explanation:

The primary function of dietary fibre is in the digestive system. It works by:

1. Adding bulk to the stool, which helps it move more quickly through the intestines.
2. Absorbing water, which makes the stool softer and easier to pass.

Both of these actions directly contribute to the **prevention of constipation**.

While a high-fibre diet is part of an overall healthy lifestyle that can support good blood circulation and immunity, the most direct and well-established role of fibre is maintaining regular bowel movements. Therefore, (A) is the most accurate and primary function.

Step 3: Final Answer:

The main and most direct benefit of dietary fibre is helping in the prevention of constipation.

Quick Tip

When answering questions about biological functions, look for the most direct cause-and-effect relationship. The most immediate impact of dietary fibre is on the digestive system and stool formation.

31. Which nutrient is mainly deficient in women during pregnancy ?

- (A) Iodine
- (B) Fat

- (C) Vitamin
- (D) Iron

Correct Answer: (D) Iron

Solution:

Step 1: Understanding the Concept:

During pregnancy, a woman's body undergoes significant changes to support the growing fetus, leading to increased demand for certain nutrients. The question asks for the most common nutrient deficiency.

Step 2: Detailed Explanation:

During pregnancy, the volume of blood in a woman's body increases by almost 50%. This requires more **iron** to make more hemoglobin, the protein in red blood cells that carries oxygen. The fetus and placenta also have their own iron requirements. Because the demand for iron increases so dramatically, many women become deficient, leading to iron-deficiency anemia. This is the most common nutritional deficiency during pregnancy worldwide.

While other nutrients like iodine, folic acid (a vitamin), and calcium are also crucial, iron deficiency is the most prevalent.

Step 3: Final Answer:

Iron is the nutrient that is most commonly deficient in women during pregnancy.

Quick Tip

A key part of prenatal care is the prescription of iron and folic acid supplements. This is a direct measure to prevent the most common deficiencies associated with pregnancy. Remember the link: Pregnancy → Increased Blood → Increased need for Iron.

32. The process of removing water from food is called

- (A) Preservation
- (B) Disinfection
- (C) Dehydration
- (D) Freezing

Correct Answer: (C) Dehydration

Solution:

Step 1: Understanding the Concept:

The question asks for the specific term for the removal of water content from food.

Step 2: Detailed Explanation:

Let's define the terms:

(A) Preservation: This is a general term for any process used to prevent food from spoiling. Dehydration is one method of preservation.

(B) Disinfection: This is the process of killing or inactivating harmful microorganisms.

(C) Dehydration: This is the specific process of removing water or moisture from a substance. The word literally means to take water away ('de-' meaning remove, 'hydro' meaning water).

(D) Freezing: This is the process of lowering the temperature of food to below its freezing point, which slows down spoilage.

The most precise term for removing water is dehydration.

Step 3: Final Answer:

The process of removing water from food is called dehydration.

Quick Tip

Break down the scientific terms. "Dehydration" comes from "de-" (remove) and "hydro" (water). The word itself provides the definition.

33. Clean water is

- (A) Colourless
- (B) Odourless
- (C) Germ free
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

The question asks for the properties that define clean, safe water (potable water).

Step 2: Detailed Explanation:

For water to be considered clean and safe for consumption, it must meet several criteria:

(A) Colourless: It should be clear and transparent, without any suspended particles or colour.

(B) Odourless: It should not have any smell, which could indicate the presence of chemicals or decaying organic matter.

(C) Germ free: It must be free from harmful microorganisms (pathogens) like bacteria and viruses that can cause diseases.

Since all three properties are essential characteristics of clean water, the correct answer is "All of these".

Step 3: Final Answer:

Clean water is colourless, odourless, and germ-free.

Quick Tip

Think about the ideal glass of drinking water. You would expect it to have no color, no smell, and you trust it won't make you sick (is germ-free). All these conditions must be met for water to be truly clean.

34. Water requirement of a person depends on

- (A) Climate
- (B) Activity
- (C) Dietary habits
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

The question asks about the factors that influence an individual's daily water needs.

Step 2: Detailed Explanation:

A person's water requirement is not a fixed amount and varies based on several factors:

(A) Climate: In a hot and humid climate, a person sweats more to cool down, leading to greater water loss and a higher need for hydration compared to a cold climate.

(B) Activity: Physical activity and exercise increase sweat rate, requiring increased water intake to replenish lost fluids. A sedentary person needs less water than an active person.

(C) Dietary habits: A diet high in salt, sugar, or protein can increase the body's need for water to process these substances. Conversely, eating water-rich foods like fruits and vegetables can contribute to hydration.

Since all these factors influence water needs, the correct answer is "All of these".

Step 3: Final Answer:

A person's water requirement depends on climate, activity level, and dietary habits.

Quick Tip

When a question asks what something "depends on," consider all possible variables. If multiple options are valid influencing factors, "All of these" is a strong candidate for the correct answer.

35. Which of the following methods is used to make idli ?

- (A) Steaming
- (B) Frying
- (C) Boiling
- (D) Roasting

Correct Answer: (A) Steaming

Solution:

Step 1: Understanding the Concept:

The question asks for the cooking method used to prepare Idli, a popular South Indian breakfast dish.

Step 2: Detailed Explanation:

Idli is made from a fermented batter of rice and lentils. The process involves:

1. Pouring the batter into molds in an Idli stand.
2. Placing the stand in a special pot with a small amount of water at the bottom.
3. Heating the pot so the water turns to steam, which then cooks the batter.

This method of cooking with moist heat from steam is called **steaming**.

(B) **Frying** uses hot oil, (C) **Boiling** involves submerging in water, and (D) **Roasting** uses dry heat. None of these are used for making idli.

Step 3: Final Answer:

The method used to make idli is steaming.

Quick Tip

Think about the texture of the food. Idlis are soft, moist, and spongy, which are characteristic results of the steaming method. Fried foods are crispy, and roasted foods are dry and browned.

36. What is the secretion from an endocrine gland called ?

- (A) Enzyme
- (B) Hormone
- (C) Water
- (D) None of these

Correct Answer: (B) Hormone

Solution:

Step 1: Understanding the Concept:

The question asks for the name of the chemical substances secreted by endocrine glands.

Step 2: Detailed Explanation:

The body has two main types of glands:

1. **Exocrine glands:** These glands have ducts and secrete substances like enzymes (e.g., salivary glands), sweat, and oil onto a surface.
2. **Endocrine glands:** These are ductless glands that secrete chemical messengers directly into the bloodstream. These chemical messengers are called **hormones**. Hormones travel through the blood to target cells and regulate various bodily functions like growth, metabolism, and mood.

Therefore, the secretion of an endocrine gland is a hormone.

Step 3: Final Answer:

The secretion from an endocrine gland is called a hormone.

Quick Tip

A simple way to remember the difference: **Endocrine** glands secrete hormones **into** the blood. **Exocrine** glands secrete enzymes that **exit** through ducts.

37. Male scrotum is located

- (A) in thoracic cavity
- (B) in abdominal cavity
- (C) outside the abdominal cavity
- (D) none of these

Correct Answer: (C) outside the abdominal cavity

Solution:

Step 1: Understanding the Concept:

The question asks for the anatomical location of the male scrotum.

Step 2: Detailed Explanation:

The scrotum is a pouch of skin that contains the testes. It is located externally, hanging outside the main body trunk, and thus **outside the abdominal cavity**.

This external location is physiologically crucial. The production of healthy sperm (spermatogenesis) requires a temperature that is slightly lower (about 2-3°C cooler) than the core body temperature. Locating the testes outside the warmer abdominal cavity allows for this necessary temperature regulation.

The thoracic cavity contains the heart and lungs.

Step 3: Final Answer:

The male scrotum is located outside the abdominal cavity.

Quick Tip

Remember the primary reason for the scrotum's location: temperature control. The testes need to be cooler than the rest of the body for sperm production, so they are housed in an external sac.

38. Where does the process of fertilization take place in females ?

- (A) Uterus
- (B) Fallopian tube
- (C) Ovary
- (D) Vagina

Correct Answer: (B) Fallopian tube

Solution:

Step 1: Understanding the Concept:

Fertilization is the process where a male sperm cell fuses with a female egg cell (ovum). The question asks where this event occurs in the female reproductive system.

Step 2: Detailed Explanation:

Let's trace the journey of the egg and sperm:

1. The **Ovary (C)** produces and releases the egg (ovulation).
2. The egg travels into the **Fallopian tube (B)**.
3. Sperm travel from the **Vagina (D)** through the **Uterus (A)** and into the fallopian tubes.
4. Fertilization typically occurs in the fallopian tube, where the sperm meets the egg.

After fertilization, the resulting zygote travels down the fallopian tube to the uterus, where it implants and develops.

Step 3: Final Answer:

The process of fertilization takes place in the Fallopian tube.

Quick Tip

Think of the female reproductive organs by their function: Ovary = egg factory, Fallopian tube = meeting place for egg and sperm, Uterus = nursery where the baby grows. Fertilization happens at the "meeting place."

39. Which gland secretes growth hormone ?

- (A) Thyroid
- (B) Adrenal
- (C) Pituitary
- (D) Hypothalamus

Correct Answer: (C) Pituitary

Solution:

Step 1: Understanding the Concept:

The question asks to identify the endocrine gland responsible for producing and secreting growth hormone (GH).

Step 2: Detailed Explanation:

(C) Pituitary gland: The anterior lobe of the pituitary gland, often called the "master gland," secretes several key hormones, including Growth Hormone (somatotropin). GH is essential for growth and development, particularly in childhood and adolescence.

Let's look at the other glands:

(A) Thyroid gland: Secretes hormones that regulate metabolism (thyroxine).

(B) Adrenal gland: Secretes hormones related to stress response (adrenaline) and metabolism (cortisol).

(D) Hypothalamus: Produces releasing and inhibiting hormones that control the pituitary gland, but it does not secrete GH itself.

Step 3: Final Answer:

The pituitary gland secretes growth hormone.

Quick Tip

The pituitary gland is the "master gland" for a reason—it controls many bodily functions by secreting critical hormones like Growth Hormone (GH), Thyroid-Stimulating Hormone (TSH), and others.

40. The main source of river pollution in India is

- (A) Industrial waste
- (B) Untreated sewage
- (C) Solid waste
- (D) Human and animal bath

Correct Answer: (B) Untreated sewage

Solution:

Step 1: Understanding the Concept:

The question asks to identify the single largest contributor to the pollution of rivers in India.

Step 2: Detailed Explanation:

While all the options listed contribute to water pollution, numerous environmental assessments and government reports have consistently identified **untreated sewage** as the primary source by volume.

A large percentage of sewage generated in Indian cities and towns is discharged directly into rivers without any treatment. This domestic wastewater contains organic matter and harmful pathogens, leading to a severe decline in water quality, depletion of dissolved oxygen, and the spread of waterborne diseases.

(A) **Industrial waste** is also a major polluter and often contains highly toxic chemicals, but in terms of sheer volume, it is surpassed by domestic sewage. (C) **Solid waste** and (D) **bathing** are also sources, but their overall impact is less than that of the massive quantities of untreated sewage.

Step 3: Final Answer:

The main source of river pollution in India is untreated sewage from domestic and municipal sources.

Quick Tip

When considering environmental issues in India, remember the scale. The massive volume of wastewater from a large population often makes untreated sewage the biggest polluter of water bodies, even though industrial waste can be more toxic per unit.

41. Diseases related to the respiratory system are caused by

- (A) Noise pollution
- (B) Land pollution
- (C) Air pollution
- (D) Water pollution

Correct Answer: (C) Air pollution

Solution:

Step 1: Understanding the Concept:

The respiratory system is responsible for breathing, which involves taking in air from the environment. The question asks for the type of pollution that directly affects this system.

Step 2: Detailed Explanation:

The respiratory system includes the lungs, airways, and blood vessels. Its primary function is to exchange gases by inhaling oxygen and exhaling carbon dioxide.

Air pollution consists of harmful substances like particulate matter (PM_{2.5}, PM₁₀), toxic gases (SO₂, NO_x, CO), and allergens suspended in the air. When this polluted air is inhaled, these substances directly enter the lungs and airways, causing irritation, inflammation, and various respiratory diseases such as asthma, bronchitis, and lung cancer.

The other forms of pollution do not directly impact the respiratory system:

- **Noise pollution** affects the auditory system (hearing).
- **Land pollution** contaminates soil.
- **Water pollution** affects the body when contaminated water is consumed, primarily impacting the digestive system.

Step 3: Final Answer:

Diseases of the respiratory system are caused by inhaling harmful substances, which is a direct result of air pollution.

Quick Tip

To answer questions like this, connect the type of pollution to the body system it most directly interacts with. Respiratory System → Air; Digestive System → Water/Food; Auditory System → Noise.

42. Which disease spreads through open defecation ?

- (A) Diarrhoea, Typhoid, Jaundice
- (B) Diabetes, Heart disease, Arthritis
- (C) Haemorrhoid, Goitre, Cataract
- (D) None of these

Correct Answer: (A) Diarrhoea, Typhoid, Jaundice

Solution:

Step 1: Understanding the Concept:

Open defecation contaminates the environment (soil, water sources) with human faeces, which can contain numerous disease-causing pathogens. The question asks which set of diseases is spread through this route.

Step 2: Detailed Explanation:

The diseases spread by open defecation are primarily transmitted through the faecal-oral route. This means pathogens from faeces get into the mouth, usually via contaminated hands, water, or food (often contaminated by flies).

Let's analyze the options:

(A) Diarrhoea, Typhoid, Jaundice: These are classic faecal-oral diseases. Diarrhoea is often caused by bacteria like *E. coli* found in faeces. Typhoid fever is caused by the bacterium *Salmonella Typhi*, spread through contaminated food and water. Jaundice can be caused by Hepatitis A and E viruses, which are also transmitted via the faecal-oral route.

(B) Diabetes, Heart disease, Arthritis: These are non-communicable, lifestyle-related diseases. They are not caused by pathogens and cannot be spread through open defecation.

(C) Haemorrhoid, Goitre, Cataract: These are not infectious diseases spread this way. Haemorrhoids are swollen veins, Goitre is caused by iodine deficiency, and Cataract is a clouding of the eye lens.

Step 3: Final Answer:

Diarrhoea, Typhoid, and Jaundice are all diseases that can be spread through the contamination of water and food resulting from open defecation.

Quick Tip

Associate "open defecation" with diseases that affect the digestive system or are known to be "water-borne." These are typically transmitted when pathogens from faeces contaminate drinking water or food supplies.

43. Which of the following is an animal fibre ?

- (A) Silk
- (B) Cotton
- (C) Jute
- (D) Coir

Correct Answer: (A) Silk

Solution:

Step 1: Understanding the Concept:

Fibres are classified based on their origin. Animal fibres are derived from animals, while plant fibres are derived from plants.

Step 2: Detailed Explanation:

Let's analyze the origin of each fibre:

(A) Silk: Silk is a natural protein fibre obtained from the cocoons of the larvae of the mulberry silkworm (*Bombyx mori*). Since the silkworm is an insect, silk is an animal fibre.

(B) Cotton: Cotton is a soft fibre that grows in a boll, or protective case, around the seeds of cotton plants. It is a plant fibre.

(C) Jute: Jute is a long, soft, shiny vegetable fibre that is spun into coarse, strong threads. It is obtained from the stem of the jute plant. It is a plant fibre.

(D) Coir: Coir is a natural fibre extracted from the outer husk of coconuts. It is a plant fibre.

Step 3: Final Answer:

Among the given options, only silk is derived from an animal source.

Quick Tip

The two most common animal fibres are wool (from sheep) and silk (from silkworms). The most common plant fibres are cotton, jute, and linen. Memorizing these key examples helps in quick identification.

44. The process of converting waste materials into new products is called

- (A) Design
- (B) Pattern
- (C) Recycling
- (D) Knitting

Correct Answer: (C) Recycling

Solution:

Step 1: Understanding the Concept:

The question asks for the specific term that describes the conversion of waste into new, usable materials.

Step 2: Detailed Explanation:

(C) Recycling: This is the exact definition of the process. Recycling involves collecting and processing materials that would otherwise be thrown away as trash and turning them into new products. For example, recycling old newspapers to make new paper products or melting plastic bottles to create new plastic goods.

The other options are incorrect:

(A) Design: The process of planning the look and function of something.

(B) Pattern: A template or model used to create something.

(D) Knitting: A method of making fabric by interlocking loops of yarn.

Step 3: Final Answer:

The process of converting waste materials into new products is called recycling.

Quick Tip

Remember the "3 R's" of environmental conservation: Reduce, Reuse, and Recycle. Recycling specifically refers to the reprocessing of old materials into new ones.

45. Who of the following does not require uniform ?

- (A) Doctor
- (B) College teacher
- (C) Nurse
- (D) School children

Correct Answer: (B) College teacher

Solution:

Step 1: Understanding the Concept:

A uniform is a particular set of clothes worn by all members of a group or organization. The question asks which of the listed professions or groups typically does not have a mandatory uniform.

Step 2: Detailed Explanation:

Let's analyze the common practices for each group:

(A) Doctor: Doctors often wear a white coat or scrubs in a hospital setting, which serves as a uniform for identification, professionalism, and hygiene.

(C) Nurse: Nurses almost universally wear a specific uniform (often scrubs) for the same reasons as doctors.

(D) School children: In many countries, including India, wearing a school uniform is mandatory to promote discipline, equality, and a sense of identity.

(B) College teacher: College teachers and university professors are generally not required to wear a uniform. They are expected to adhere to a professional dress code, but they have the freedom to choose their own attire within those guidelines.

Step 3: Final Answer:

A college teacher is the individual among the choices who typically does not require a uniform.

Quick Tip

Think about the environment where these individuals work. Uniforms are common in structured environments like hospitals and schools for reasons of discipline, hygiene, and identification. Higher education environments typically allow for more individual expression in attire.

46. Interior decoration is not done at

- (A) Home
- (B) Shop
- (C) Public place
- (D) Office

Correct Answer: (C) Public place

Solution:

Step 1: Understanding the Concept:

Interior decoration refers to the art and science of enhancing the interior of a building to achieve a healthier and more aesthetically pleasing environment. The question asks where this is typically not applied.

Step 2: Detailed Explanation:

(A) Home, (B) Shop, (D) Office: These are all specific types of enclosed interiors (residences, retail spaces, workplaces) that are very commonly the subject of interior decoration to make them functional and attractive.

(C) Public place: This is a very broad and general term. While some specific public buildings like libraries, museums, or government lobbies undergo interior decoration, the term "public place" also includes open areas like streets, parks, and bus stops where the concept of "interior decoration" does not apply. Compared to the other specific options, it is the most likely answer.

Step 3: Final Answer:

While specific public buildings are decorated, the general category of "Public place" includes many areas where interior decoration is not done.

Quick Tip

Focus on the specificity of the terms. "Home," "shop," and "office" refer to interiors. "Public place" is a much broader term that includes both interiors and exteriors, making it the odd one out.

47. Which of the following types of water should be used to wash woolen clothes ?

- (A) Cold
- (B) Hot
- (C) Lukewarm
- (D) All of these

Correct Answer: (A) Cold

Solution:

Step 1: Understanding the Concept:

Wool is a natural animal fibre made of protein. Its structure is sensitive to heat and agitation, which can cause the fibres to lock together and shrink.

Step 2: Detailed Explanation:

(B) Hot water: Hot water is the most damaging to wool. The combination of heat and moisture causes the scales on the wool fibres to open up and interlock, resulting in irreversible shrinkage and felting.

(C) Lukewarm water: Lukewarm water is sometimes recommended as it can be more effective at removing dirt than cold water, but it still carries a small risk of shrinkage if it's too warm.

(A) Cold water: Cold water is the safest option for washing wool. It minimizes the risk of shrinkage and damage to the delicate protein fibres, helping the garment maintain its shape and size. Most modern detergents are formulated to work effectively in cold water.

Step 3: Final Answer:

To prevent shrinkage and damage, cold water is the most recommended and safest option for washing woolen clothes.

Quick Tip

For delicate animal fibres like wool and silk, the rule of thumb is to avoid heat. Always opt for cold water and gentle washing cycles or hand washing.

48. How many additional calories is needed per day for breast feeding mother ?

- (A) 500 calories
- (B) 700 calories
- (C) 900 calories
- (D) 1000 calories

Correct Answer: (D) 500 calories

Solution:

Step 1: Understanding the Concept:

Breastfeeding (lactation) is an energy-intensive process. The mother's body needs extra energy, in the form of calories, to produce nutritious milk for the baby.

Step 2: Detailed Explanation:

The exact number of additional calories required can vary based on the mother's metabolism, body composition, and the baby's demand for milk.

Most international health organizations, such as the CDC and Mayo Clinic, recommend an additional **450 to 500 calories per day** for a breastfeeding mother. Some guidelines may suggest slightly higher numbers, around 650-700 calories, especially during peak lactation.

Step 3: Final Answer:

According to the provided test, a breastfeeding mother needs an additional 500 calories per day.

Quick Tip

For most health and nutrition exams, the standard answer for additional calories during breastfeeding is around 500 kcal/day. Be aware that specific exams or curricula might use different values, so it's good to be familiar with the context of the test material if possible.

49. Which certification mark is not for food product ?

- (A) FPO
- (B) Brown and Green dot
- (C) Hallmark
- (D) FSSAI

Correct Answer: (C) Hallmark

Solution:

Step 1: Understanding the Concept:

The question asks to identify a certification mark from the list that is not used for food items.

Step 2: Detailed Explanation:

Let's define each mark:

(A) FPO Mark (Fruit Products Order): This is a mandatory certification for processed fruit products sold in India, such as juices, jams, and pickles. It ensures the product was manufactured in a hygienic environment and meets quality standards.

(B) Brown and Green dot: This is a mandatory symbol on the packaging of all food products in India to indicate whether the food is vegetarian (green dot) or non-vegetarian (brown dot).

(D) FSSAI (Food Safety and Standards Authority of India): This is the main body for regulating food safety in India. Every food business operator needs an FSSAI license or registration, and the license number is often displayed on the product.

(C) Hallmark (BIS Hallmark): This is a certification system from the Bureau of Indian Standards (BIS) that certifies the purity of precious metals like gold and silver. It is used for jewelry, not food products.

Step 3: Final Answer:

The Hallmark is a certification for precious metals and is not used for food products.

Quick Tip

Associate common certification marks with their product categories: Hallmark → Jewellery; ISI Mark → Industrial/Electronic Products; Agmark → Agricultural Products; FPO Mark → Processed Fruit Products.

50. Which of the following is an example of adulteration ?

- (A) Selling fake as real
- (B) Selling stale food as fresh
- (C) Selling with wrong label
- (D) All of these

Correct Answer: (D) All of these

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

Food adulteration is the practice of adding a substance to a food item to increase the quantity of the food item in raw or prepared form, which may result in the loss of actual quality of the food item. It also includes misbranding and deception.

Step 2: Detailed Explanation:

All the given options are forms of adulteration or fraudulent practices in selling food:

(A) Selling fake as real: This is a form of substitution, such as selling margarine as butter, or artificial honey as pure honey.

(B) Selling stale food as fresh: This involves concealing the poor quality of a product, for example, by adding artificial colours to old vegetables to make them look fresh.

(C) Selling with wrong label: This is known as misbranding. An example is labelling a product with incorrect nutritional information, a false manufacturing date, or claiming it is "organic" when it is not.

Since all these practices are meant to deceive the consumer about the quality and nature of the product, they are all considered examples of adulteration.

Step 3: Final Answer:

All the mentioned activities are examples of adulteration and misbranding.

Quick Tip

Adulteration isn't just about mixing things. It's a broad term that covers any act of lowering the quality or misrepresenting a product to deceive the consumer. This includes substitution, concealment of quality, and incorrect labelling.

51. Where should the biodegradable waste be put generally ?

- (A) Red bin
- (B) Black bin
- (C) Yellow bin
- (D) Green bin

Correct Answer: (D) Green bin

Solution:

Step 1: Understanding the Concept:

Biodegradable waste is organic waste that can be broken down by microorganisms into natural elements. This typically includes kitchen waste like fruit and vegetable peels, leftover food, and garden waste. The question refers to the standard color-coding for waste segregation.

Step 2: Detailed Explanation:

Under the Swachh Bharat Mission (Clean India Mission), the Government of India has promoted a two-bin system for waste segregation at the source:

(D) Green bin: This bin is designated for wet or biodegradable waste. This waste can then be composted or used in biogas plants.

Blue bin (not an option): This bin is for dry recyclable waste, such as paper, plastic, metal, and glass.

Other colors have specific uses:

(A) Red bin: Typically used for biomedical or hazardous waste like syringes, expired medicines, and sanitary pads.

(B) Black bin: Often used for hazardous domestic waste like e-waste (batteries, electronics).

(C) Yellow bin: Primarily used in hospitals for infectious biomedical waste.

Step 3: Final Answer:

Biodegradable waste should be disposed of in the green bin.

Quick Tip

Remember the basic waste segregation code for households in India: **Green** is for **Wet** (biodegradable) waste, and **Blue** is for **Dry** (recyclable) waste.

52. Which of the following diseases is caused by iron deficiency ?

- (A) Night blindness
- (B) Beriberi
- (C) Anaemia
- (D) All of these

Correct Answer: (C) Anaemia

Solution:

Step 1: Understanding the Concept:

The question asks to identify the disease caused by a lack of iron in the diet.

Step 2: Detailed Explanation:

(C) Anaemia: Iron is a crucial component of hemoglobin, the protein in red blood cells that carries oxygen from the lungs to the rest of the body. A deficiency of iron leads to a decrease in hemoglobin production, resulting in a condition called iron-deficiency anaemia. Symptoms include fatigue, weakness, and shortness of breath.

The other diseases are caused by different nutrient deficiencies:

(A) Night blindness: Caused by a deficiency of Vitamin A.

(B) Beriberi: Caused by a deficiency of Vitamin B1 (Thiamine).

Step 3: Final Answer:

Iron deficiency causes Anaemia.

Quick Tip

It is helpful to memorize a list of common vitamins and minerals and their associated deficiency diseases. Key pairs include: Iron → Anaemia; Vitamin A → Night Blindness; Vitamin B1 → Beriberi; Vitamin C → Scurvy; Vitamin D → Rickets; Iodine → Goitre.

53. Which of the following is a function of food ?

- (A) Nutrition of the body
- (B) Providing energy to the body
- (C) Protecting the body from diseases
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

The question asks for the functions that food performs for the human body. Food provides the essential substances (nutrients) required for life.

Step 2: Detailed Explanation:

Food has three primary physiological functions:

1. **Energy-giving:** Foods rich in carbohydrates and fats provide the energy required for all bodily activities, from metabolic processes to physical work. This corresponds to option **(B)**.
2. **Body-building:** Foods rich in proteins are essential for the growth of new cells and the repair of tissues. This is a key aspect of **(A) Nutrition of the body**.
3. **Protective and Regulatory:** Foods containing vitamins and minerals are crucial for regulating bodily functions and protecting the body against various diseases and infections. This corresponds to option **(C)**.

Since all three options describe essential functions of food, the correct answer is **(D)**.

Step 3: Final Answer:

Food provides nutrition and energy, and it helps protect the body from diseases. Therefore, all the given options are functions of food.

Quick Tip

Remember the three main roles of nutrients from food: to provide **Energy** (carbs, fats), to facilitate **Growth** and repair (proteins), and to **Protect** and regulate (vitamins, minerals).

54. Which of the following is a natural way of purifying polluted environment ?

- (A) Sunlight
- (B) Rain
- (C) Wind speed
- (D) All of these

Correct Answer: (D) All of these

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

The question asks for natural processes that help to clean or reduce pollution in the environment.

Step 2: Detailed Explanation:

All the listed natural phenomena play a role in the environment's self-purification processes:

(A) Sunlight: The ultraviolet (UV) radiation in sunlight acts as a natural disinfectant, killing harmful bacteria and viruses. It also drives photochemical reactions that can break down some

pollutants.

(B) Rain: Rain can wash away pollutants from the atmosphere (a process called wet deposition) and can also dilute pollutants in rivers and lakes, reducing their concentration.

(C) Wind speed: Wind helps to disperse and dilute air pollutants from a concentrated area, carrying them away and lowering their concentration at the source.

Since all three are natural processes that contribute to purifying the environment, the correct answer is (D).

Step 3: Final Answer:

Sunlight, rain, and wind are all natural ways that help in purifying a polluted environment.

Quick Tip

The environment has several self-cleansing mechanisms. Think about how the elements—sun, wind, and rain—can act to break down, dilute, or disperse pollutants naturally.

55. How does bank give interest on savings account ?

- (A) Quarterly
- (B) Monthly
- (C) Yearly
- (D) Half-yearly

Correct Answer: (A) Quarterly

Solution:

Step 1: Understanding the Concept:

The question asks about the frequency at which banks credit or pay interest to a savings account.

Step 2: Detailed Explanation:

As per the regulations of the Reserve Bank of India (RBI), the interest on a savings bank account must be calculated on the daily closing balance. However, the crediting (payment) of this accumulated interest into the account is done at specified intervals.

For most banks in India, this interval is **quarterly**. The interest is typically credited at the end of each quarter of the financial year (i.e., end of June, September, December, and March). While banks have the option to pay it more frequently (e.g., monthly), the standard and most common practice is quarterly.

Step 3: Final Answer:

Banks generally give interest on savings accounts on a quarterly basis.

Quick Tip

Remember the distinction: interest on a savings account is *calculated* daily but *paid* (credited) quarterly. This is a common point of confusion.

56. Which of the following is not a natural fibre ?

- (A) Terylene
- (B) Jute
- (C) Silk
- (D) Wool

Correct Answer: (A) Terylene

Solution:

Step 1: Understanding the Concept:

Natural fibres are obtained from natural sources (plants and animals). Man-made or synthetic fibres are created through chemical processes. The question asks to identify the synthetic fibre.

Step 2: Detailed Explanation:

Let's classify the given fibres:

(B) Jute: A natural fibre obtained from the stem of the jute plant.

(C) Silk: A natural fibre obtained from the cocoons of silkworms.

(D) Wool: A natural fibre obtained from the fleece of sheep or other animals.

(A) Terylene: This is a popular brand name for a type of polyester. Polyester is a synthetic polymer, made through a chemical process involving petroleum derivatives. Therefore, it is not a natural fibre.

Step 3: Final Answer:

Terylene is a synthetic fibre, while jute, silk, and wool are natural fibres.

Quick Tip

Common synthetic fibres include polyester (like Terylene), nylon, rayon, and acrylic. Being able to recognize these names is key to distinguishing them from natural fibres like cotton, wool, silk, and linen.

57. What is the reason for health problems in India ?

- (A) Growing population
- (B) Pollution

- (C) Infectious disease
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

The question asks for the causes of health problems in India. Health is a complex issue influenced by multiple socio-economic and environmental factors.

Step 2: Detailed Explanation:

All the given options are significant contributors to India's public health challenges:

(A) Growing population: A large and dense population puts immense pressure on health-care infrastructure, sanitation, clean water supply, and nutrition, making it harder to provide adequate services for everyone.

(B) Pollution: Air and water pollution are major causes of illness. Air pollution leads to respiratory diseases, while water pollution causes a high incidence of water-borne diseases like cholera and typhoid.

(C) Infectious disease: Despite progress, infectious diseases like tuberculosis, malaria, and diarrhoeal diseases continue to be a major cause of sickness and death.

Since all these factors are interconnected and play a major role, the most appropriate answer is (D).

Step 3: Final Answer:

Growing population, pollution, and infectious diseases are all major reasons for health problems in India.

Quick Tip

Public health issues in large, developing nations are almost always multi-factorial. When options list major societal and environmental challenges, it is likely that all of them contribute to the problem.

58. Water pollution is harmful for

- (A) Aquatic creatures
- (B) Human
- (C) Agriculture
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

Water pollution is the contamination of water bodies, which makes the water unsafe and unusable. The question asks who or what is affected by this pollution.

Step 2: Detailed Explanation:

Water pollution has wide-ranging harmful effects:

(A) Aquatic creatures: Pollutants like industrial chemicals, sewage, and plastics can poison fish and other aquatic life, while organic waste can deplete oxygen in the water, leading to their death.

(B) Human: Humans who drink or come into contact with polluted water can suffer from a variety of water-borne diseases, such as cholera, typhoid, and dysentery. Toxic chemicals can also lead to long-term health issues.

(C) Agriculture: When polluted water is used for irrigation, it can contaminate soil and crops with harmful chemicals and pathogens. This can reduce crop yields and make the food produced unsafe for consumption.

Since water pollution negatively impacts all of these, the correct answer is (D).

Step 3: Final Answer:

Water pollution is harmful to aquatic creatures, humans, and agriculture.

Quick Tip

Pollution of a fundamental resource like water will have a cascading effect, harming the entire ecosystem and all the activities that depend on it.

59. is a FPO marked food item.

- (A) Jam
- (B) Jelly
- (C) Pickle
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

The FPO mark stands for the Fruit Products Order. It is a certification mark that is mandatory for all processed fruit products sold in India. This ensures that the products are manufactured under hygienic conditions and meet specified quality standards.

Step 2: Detailed Explanation:

Let's analyze the options:

(A) Jam: A thick spread made from fruit pulp and sugar. It is a processed fruit product and requires the FPO mark.

(B) Jelly: A clear or translucent fruit spread made from fruit juice and sugar. It is also a processed fruit product requiring the FPO mark.

(C) Pickle: Pickles, especially those made from fruits like mangoes or lemons, are covered under the FPO.

Since Jam, Jelly, and Pickle are all categories of processed fruit/vegetable products, they all require the FPO mark for sale in India.

Step 3: Final Answer:

Jam, Jelly, and Pickle are all food items that should carry the FPO mark.

Quick Tip

Remember that FPO stands for Fruit Products Order. Any commercially sold product that is primarily made from processed fruits (or often vegetables), like jams, jellies, sauces, squashes, and pickles, falls under this certification.

60. Which of the following is a protective nutrient ?

- (A) Carbohydrate
- (B) Fat
- (C) Vitamin
- (D) All of these

Correct Answer: (C) Vitamin

Solution:

Step 1: Understanding the Concept:

Nutrients are broadly classified by their function. "Protective nutrients" are those that help defend the body against diseases.

Step 2: Detailed Explanation:

In standard nutritional science, **Vitamins and Minerals** are primarily known as protective nutrients. They are essential for a strong immune system and prevent specific deficiency diseases (e.g., Vitamin C prevents scurvy). Therefore, option (C) is the most accurate answer in a strict sense.

Step 3: Final Answer:

The Correct Answer is Option C Vitamin.

Quick Tip

For nutrition questions, first recall the primary function: Carbs/Fats = Energy, Protein = Building, Vitamins/Minerals = Protection.

61. is the best source of protein.

- (A) Meat, Fish and Egg
- (B) Vegetables
- (C) Rice
- (D) All of these

Correct Answer: (A) Meat, Fish and Egg

Solution:

Step 1: Understanding the Concept:

The question asks to identify the best source of protein among the given options. "Best" in this context usually refers to both the quantity and quality (completeness) of the protein.

Step 2: Detailed Explanation:

Let's compare the options:

(A) Meat, Fish and Egg: These animal products are considered high-quality protein sources. They are protein-dense and contain all nine essential amino acids that the human body cannot produce on its own, making them "complete" proteins.

(B) Vegetables: While many vegetables contain protein, the concentration is generally much lower than in animal products. Also, most vegetable proteins are "incomplete," meaning they lack one or more essential amino acids.

(C) Rice: Rice is primarily a source of carbohydrates. Its protein content is very low.

Step 3: Final Answer:

Meat, fish, and eggs are the best sources of high-quality, complete protein among the choices provided.

Quick Tip

When a question asks for the "best source" of protein, animal-based foods are generally the expected answer due to their high concentration and complete amino acid profiles. For plant-based protein, soybeans and quinoa are notable exceptions as complete proteins.

62. Which of the following is used as a preservative ?

- (A) Vinegar
- (B) Oil
- (C) Salt
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

A food preservative is a substance added to food to prevent or slow down spoilage caused by microbial growth or chemical changes.

Step 2: Detailed Explanation:

All the given options are common, traditional food preservatives:

(A) Vinegar: The acetic acid in vinegar creates a highly acidic environment where most bacteria and molds cannot survive. It is the key ingredient in pickling.

(B) Oil: Oil acts as a preservative by creating a protective layer on top of food (like pickles), cutting off the oxygen supply required by many spoilage-causing microbes.

(C) Salt: Salt preserves food through osmosis. It draws water out of the food and out of microbial cells, dehydrating them and making the environment unsuitable for their growth. This is used in curing meat and making pickles.

Since all three are effective preservatives, the correct answer is (D).

Step 3: Final Answer:

Vinegar, oil, and salt are all used as food preservatives.

Quick Tip

Many common kitchen staples have preservative properties. The "big four" natural preservatives are salt, sugar, vinegar, and oil. Remember that they work by making the food environment hostile to microbes.

63. Which of the following is a type of malnutrition ?

- (A) Undernutrition
- (B) Overnutrition
- (C) Both (A) and (B)
- (D) None of these

Correct Answer: (C) Both (A) and (B)

Solution:

Step 1: Understanding the Concept:

Malnutrition refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients. The term covers two broad groups of conditions.

Step 2: Detailed Explanation:

Malnutrition is a double-edged sword and includes both not getting enough nutrients and getting too many.

(A) Undernutrition: This is one type of malnutrition. It includes stunting (low height for age), wasting (low weight for height), and underweight (low weight for age), as well as micronutrient deficiencies. It is caused by not getting enough food or nutrients.

(B) Overnutrition: This is the other type of malnutrition. It is caused by consuming too many calories, which can lead to overweight, obesity, and diet-related non-communicable diseases (such as heart disease, stroke, diabetes).

Since malnutrition encompasses both undernutrition and overnutrition, the correct answer is (C).

Step 3: Final Answer:

Both undernutrition and overnutrition are types of malnutrition.

Quick Tip

Do not confuse "malnutrition" with only starvation. The prefix "mal-" means "bad." Therefore, malnutrition means "bad nutrition," which can be either too little or too much.

64. Which of the following is not an advantage of saving for future ?

- (A) Protection during old age
- (B) Fulfilment of emergency needs
- (C) Economic protection during retirement
- (D) Assistance after the death of bread winner

Correct Answer: (B) Fulfilment of emergency needs

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

Saving is the act of setting aside money for future use. The question asks to identify which option is not considered a primary advantage or benefit of this practice. This question is based on a subtle interpretation.

Step 2: Detailed Explanation:

Let's analyze the options as advantages of saving:

(A) Protection during old age and (C) Economic protection during retirement:

These are synonymous and represent a key long-term goal and advantage of saving money over a lifetime.

(D) Assistance after the death of bread winner: Savings, often in the form of an inheritance or life insurance (which is a form of saving/investment), provide financial support to the family, which is a major advantage.

(B) Fulfilment of emergency needs: Building an emergency fund is universally considered a primary and crucial advantage of saving.

However, this question is likely flawed, or requires a very specific interpretation. Given that the answer key points to (B), the possible (though weak) logic is that options A, C, and D represent planned, long-term security benefits, while using savings for an emergency is a reactive, short-term *use* rather than a planned *advantage*. This distinguishes it from the proactive goals of retirement and inheritance planning. This is a highly debatable distinction.

Step 3: Final Answer:

Based on the provided key, "Fulfilment of emergency needs" is considered not to be an advantage, possibly by distinguishing it as an immediate use rather than a long-term planned benefit like retirement or inheritance.

Quick Tip

Be aware that exam questions can sometimes be ambiguous. While building an emergency fund is a key advantage of saving, try to look for distinctions between options. Here, three options relate to long-term life events (old age, retirement, death) while one relates to short-term, unplanned events (emergency). This might be the intended line of reasoning.

65. Which of the following helps in digestion of food ?

- (A) Hormone
- (B) Digestive juice
- (C) Water
- (D) Blood

Correct Answer: (B) Digestive juice

Solution:

Step 1: Understanding the Concept:

Digestion is the complex process of turning the food we eat into nutrients, which the body uses for energy, growth, and cell repair. This involves the mechanical and chemical breakdown of food.

Step 2: Detailed Explanation:

Let's analyze the role of each option:

(B) Digestive juice: This is the primary agent of chemical digestion. Digestive juices (such

as saliva, gastric juice, pancreatic juice, and intestinal juice) contain enzymes that break down large food molecules (like carbohydrates, proteins, and fats) into smaller molecules that can be absorbed by the body.

(A) Hormone: Hormones like gastrin and secretin are chemical messengers that regulate the digestive process (e.g., by stimulating the release of digestive juices), but they do not break down food directly.

(C) Water: Water is essential for digestion (e.g., it helps break down soluble fibre and prevents constipation), but it is a medium, not the active agent of chemical breakdown.

(D) Blood: Blood is responsible for transporting the absorbed nutrients from the digestive system to the rest of the body; it does not participate in the digestion process itself.

Step 3: Final Answer:

Digestive juice is what directly helps in the chemical digestion of food.

Quick Tip

Remember the key players in digestion: the main actors are the **enzymes** which are found in the **digestive juices**. Hormones are the directors, and blood is the delivery truck.

66. Sperms are formed in

- (A) Testes
- (B) Penis
- (C) Prostate gland
- (D) Epididymis

Correct Answer: (A) Testes

Solution:

Step 1: Understanding the Concept:

The question asks for the location of sperm production in the male reproductive system. This process is called spermatogenesis.

Step 2: Detailed Explanation:

Let's look at the functions of the listed organs:

(A) Testes (singular: testis): These are the primary male reproductive organs, and their main function is to produce sperm and the male sex hormone, testosterone. The sperm are specifically formed within tiny coiled tubes inside the testes called seminiferous tubules.

(B) Penis: This is the external male organ used for urination and sexual intercourse. It does not produce sperm.

(C) Prostate gland: This gland produces a fluid that mixes with sperm to create semen. It provides nourishment and motility to the sperm but does not form them.

(D) Epididymis: This is a long, coiled tube located on the back of each testis. Sperm are transported from the testes to the epididymis to mature and be stored.

Step 3: Final Answer:

Sperms are formed in the testes.

Quick Tip

A helpful analogy: The **Testes** are the "sperm factory." The **Epididymis** is the "sperm warehouse and training center" where they mature and are stored. The other glands add packaging and fuel (semen fluid).

67. What is the shape of the uterus like ?

- (A) Pear shaped
- (B) Bean seed shaped
- (C) Coconut shaped
- (D) Almond shaped

Correct Answer: (A) Pear shaped

Solution:

Step 1: Understanding the Concept:

The question asks for the anatomical shape of the human uterus.

Step 2: Detailed Explanation:

The uterus is a hollow, muscular organ in the female pelvis where a fetus develops during pregnancy.

(A) Pear shaped: The standard and most common anatomical description of the uterus is that it is shaped like an inverted pear. It has a broader upper part (the fundus) and tapers down to a narrower lower part (the cervix).

(B) Bean seed shaped: This shape is characteristic of the kidneys, not the uterus.

(C) Coconut shaped and (D) Almond shaped: These are not accurate descriptions. The ovaries are sometimes described as being almond-shaped.

Step 3: Final Answer:

The uterus is shaped like an Pear shaped.

Quick Tip

To remember the shapes of reproductive organs: Uterus → Inverted Pear; Ovaries → Almond.

68. Which of the following is located between the larynx and the windpipe ?

- (A) Pituitary gland
- (B) Adrenal gland
- (C) Thyroid gland
- (D) Sex gland

Correct Answer: (C) Thyroid gland

Solution:

Step 1: Understanding the Concept:

The question asks to identify a gland located in the neck area near the larynx (voice box) and the trachea (windpipe).

Step 2: Detailed Explanation:

The anatomy of the neck includes the larynx sitting on top of the trachea. The phrasing "between the larynx and the windpipe" is slightly imprecise, as they are connected parts of the same structure. The question likely means in the region where they join.

(C) Thyroid gland: This butterfly-shaped endocrine gland is located in the front of the neck. It wraps around the front of the trachea, just below the larynx. This position perfectly fits the description.

Let's check the location of other glands:

(A) Pituitary gland: Located at the base of the brain.

(B) Adrenal gland: Located on top of the kidneys.

(D) Sex gland (gonads): Located in the pelvic region.

By elimination, the thyroid gland is the only option located in the correct area.

Step 3: Final Answer:

The thyroid gland is located in the neck, just below the larynx and in front of the windpipe.

Quick Tip

Remember the locations of the major endocrine glands: Pituitary (brain), Thyroid (neck), Adrenals (on kidneys), Pancreas (abdomen), Gonads (pelvis). This will help you answer many anatomy questions quickly.

69. Which method of food preservation is used in making sauce ?

- (A) Heat
- (B) Refrigeration
- (C) Dehydration

(D) Chemical preservation

Correct Answer: (D) Chemical preservation

Solution:

Step 1: Understanding the Concept:

The question asks about the food preservation method used for sauces (like ketchup or tomato sauce), which have a long shelf life at room temperature.

Step 2: Detailed Explanation:

The preservation of commercially produced sauces typically involves multiple methods, but one is key for long-term stability.

(A) Heat: Sauces are cooked and pasteurized (a heat treatment) to kill microbes. This is a critical step.

However, for long shelf-life in a sealed bottle, and to prevent spoilage after opening, other methods are needed.

(D) Chemical preservation: This is a vital method for shelf-stable sauces. They contain natural chemical preservatives like salt, sugar, and vinegar (acetic acid). In addition, commercial sauces often contain added chemical preservatives like sodium benzoate (Class II preservative) to inhibit the growth of molds, yeasts, and bacteria.

While heat is used in the process, the long-term stability, which is the essence of preservation, relies heavily on these chemical agents. Therefore, chemical preservation is a more complete answer for how sauces are preserved for a long shelf life.

Step 3: Final Answer:

In making sauce, chemical preservation (using salt, sugar, vinegar, and other additives) is a key method used to ensure long-term stability.

Quick Tip

When considering preserved foods with a long shelf life like sauces, jams, and pickles, remember that they usually rely on a combination of methods. The key for long stability is often creating an environment hostile to microbes, which is achieved through high concentrations of sugar, salt, acid (vinegar), and sometimes specific chemical additives.

70. Clothing is essential for

- (A) Providing cover for the body
- (B) Keeping the body warm
- (C) Social prestige
- (D) All of these

Correct Answer: (D) All of these

Solution:

Step 1: Understanding the Concept:

The question asks for the reasons why clothing is essential for humans. The functions of clothing extend beyond basic physical needs.

Step 2: Detailed Explanation:

Let's analyze the functions listed:

(A) Providing cover for the body: This is a primary function of clothing, offering protection from the elements (sun, rain, wind), insects, and injuries. It also serves the purpose of modesty.

(B) Keeping the body warm: Clothing acts as insulation, trapping a layer of air next to the skin, which helps to retain body heat and maintain a stable body temperature, especially in cold climates.

(C) Social prestige: Throughout history and across cultures, clothing has been used as a means of communication. It can signify a person's status, occupation, wealth, and social prestige. Uniforms, ceremonial robes, and designer labels are all examples of this.

Since clothing serves physical, protective, and social functions, all the given options are correct.

Step 3: Final Answer:

Clothing is essential for providing cover, keeping the body warm, and as a symbol of social prestige.

Quick Tip

Think of the functions of clothing in three categories: **Protection** (from weather, injury), **Modesty** (covering the body), and **Communication** (indicating status, identity, or role). This covers all the key reasons why clothing is essential.

Section - B

Write Short Notes on the following:

1. Insulin

Solution:

Insulin is a vital hormone produced by the beta cells of the pancreas. Its primary role is to regulate the metabolism of carbohydrates, fats, and proteins by promoting the absorption of glucose from the blood into the liver, fat, and skeletal muscle cells.

- **Function:** It lowers blood glucose levels by allowing cells to take in glucose to be used for energy. When the body has sufficient energy, insulin signals the liver to take up excess glucose and store it as glycogen.
- **Regulation:** Blood sugar levels control the secretion of insulin. High blood sugar stimulates insulin release, while low blood sugar inhibits it.
- **Medical Significance:** In diabetes mellitus, the body either does not produce enough insulin (Type 1) or cannot effectively use the insulin it produces (Type 2). People with diabetes often require insulin injections to manage their blood sugar levels.

Quick Tip

To easily remember its function, think: "Insulin puts glucose **IN**-to the cells." This helps recall that its primary job is to lower blood sugar by moving it out of the bloodstream and into the body's cells for energy or storage.

2. Home industry

Solution:

A home industry, also known as a cottage industry, is a small-scale, decentralized manufacturing business that is often operated out of a person's home rather than a purpose-built facility.

- **Characteristics:** These industries typically use traditional techniques, rely on local raw materials, and require minimal capital investment. The workforce usually consists of family members.
- **Examples:** Common examples include handicrafts, handloom weaving, pottery, food processing (making pickles, jams), and assembling small electronic components.
- **Importance:** Home industries play a crucial role in the economy, especially in rural areas. They provide self-employment opportunities, supplement family income, empower women, and help preserve traditional arts and crafts.

Quick Tip

For exams, associate "Home Industry" with keywords like "rural employment," "low capital," "traditional skills," and "women empowerment." These are the key socio-economic impacts often tested.

3. Food poisoning

Solution:

Food poisoning, also called foodborne illness, is an illness caused by eating food contaminated with harmful bacteria, viruses, parasites, or toxins produced by these microorganisms.

- **Causes:** Common pathogens include bacteria like *Salmonella*, *E. coli*, and *Listeria*, and viruses like Norovirus. Contamination can occur at any point during production, processing, storage, or preparation.
- **Symptoms:** Symptoms can range from mild to severe and typically include nausea, vomiting, watery or bloody diarrhoea, abdominal pain, and fever. The onset of symptoms can be within hours or days of consuming the contaminated food.
- **Prevention:** Key prevention strategies include practicing good hygiene (washing hands and surfaces), cooking foods to safe temperatures, avoiding cross-contamination between raw and cooked foods, and refrigerating perishable foods promptly.

Quick Tip

Remember the 4 C's of food safety to prevent food poisoning: **C**lean (hands and surfaces), **C**ook (to the right temperature), **C**hill (refrigerate properly), and don't **C**ross-contaminate (keep raw and cooked foods separate).

4. Family income

Solution:

Family income is the total amount of monetary and non-monetary earnings received by all members of a family unit over a specific period. It is a key determinant of a family's standard of living and financial well-being.

- **Types of Income:**
 - **Money Income:** The actual cash received (e.g., salary, wages, profit).
 - **Real Income:** The goods and services that a family can obtain with its money income. This also includes services from assets the family owns (like living in their own house).
 - **Psychic Income:** The intangible satisfaction and well-being derived from the use of money and real income.

- **Importance:** Family income is crucial for budgeting, financial planning, and meeting the family's needs (food, housing) and wants (leisure, luxuries), ultimately influencing their quality of life.

Quick Tip

The distinction between the three types of income is a common question. Remember: **Money** is cash, **Real** is the goods/services you get, and **Psychic** is the feeling of satisfaction.

5. Casual work

Solution:

Casual work is a type of employment where the work is irregular, intermittent, and not guaranteed to be ongoing. Casual workers are employed on an as-needed basis, often for short periods, and do not have a firm commitment to long-term employment from the employer.

- **Characteristics:** Casual employment is characterized by a lack of a fixed work schedule, inconsistent hours, and often payment on an hourly or daily rate.
- **Rights and Benefits:** Typically, casual workers do not receive the same benefits as permanent employees, such as paid sick leave, annual leave, or retirement benefits, though they are entitled to minimum wage.
- **Examples:** This type of work is common in industries with fluctuating demand, such as hospitality (event staff), construction (labourers for a specific project), retail (seasonal holiday staff), and agriculture (harvest workers).

Quick Tip

The key difference to remember is 'job security.' Casual work offers flexibility but lacks the security and benefits (like paid leave) that are typically associated with permanent employment.

6. Water pollution

Solution:

Water pollution is the contamination of water bodies, such as rivers, lakes, oceans, aquifers, and groundwater, usually as a result of human activities. It occurs when harmful substances are introduced into the water, degrading its quality and making it toxic to humans or the environment.

- **Sources of Pollution:**

- **Domestic Sewage:** Untreated wastewater from households is the largest source by volume.
- **Industrial Effluents:** Chemical waste discharged from factories can be highly toxic.
- **Agricultural Runoff:** Pesticides and fertilizers washed away from farms.
- **Solid Waste:** Improper disposal of plastics and other garbage.

- **Effects:** Water pollution harms aquatic life, disrupts ecosystems, causes water-borne diseases (like cholera, typhoid) in humans, and can contaminate the food chain.

Quick Tip

For exams, remember the top sources of water pollution in India: 1. **Domestic Sewage** (largest volume), 2. **Industrial Waste** (most toxic), and 3. **Agricultural Runoff** (widespread non-point source).

7. Quality of clothes

Solution:

The quality of clothes refers to the standard of a garment and its ability to meet expectations for appearance, durability, comfort, and performance. High-quality clothing is well-made and lasts longer.

- **Determinants of Quality:**

- **Fibre and Fabric:** The quality of the raw material (e.g., long-staple cotton is better than short-staple) and the density of the fabric's weave.
- **Construction:** The precision of the stitching (straight, even stitches with high density), strength of the seams, and quality of buttons and zippers.
- **Colour and Finish:** The fastness of the dye (resistance to fading) and the quality of any prints or finishes.
- **Durability:** How the garment maintains its shape, size, and appearance after repeated washing and wearing.

Quick Tip

To quickly judge the quality of a garment, check the seams and stitches. High-quality clothes have a high number of stitches per inch, straight seam lines, and no loose threads.

8. Primary colour

Solution:

Primary colours are a set of fundamental colours that can be combined in different amounts to produce a full spectrum of other colours. They are called "primary" because they cannot be created by mixing other colours.

- **Additive Primary Colours (for Light):** The primary colours are **Red, Green, and Blue (RGB)**. This model is used for digital displays like televisions and computer monitors. When combined, they create white light.
- **Subtractive Primary Colours (for Pigment):** This model is used for paint and ink. The traditional primary colours are **Red, Yellow, and Blue (RYB)**. In printing, **Cyan, Magenta, and Yellow (CMY)** are used. When mixed, they create darker colours.

Quick Tip

A simple way to remember the two systems is: **Additive (Light)** starts with darkness and adds light to make white (e.g., a TV screen). **Subtractive (Paint)** starts with a white surface and adds pigment to make black.

9. Breast feeding

Solution:

Breastfeeding is the natural way of providing infants with the nutrients they need for healthy growth and development. The World Health Organization (WHO) recommends exclusive breastfeeding for the first six months of life.

- **Benefits for the Infant:**
 - **Perfect Nutrition:** Breast milk contains the ideal mix of vitamins, protein, and fat.
 - **Immunity:** It is rich in antibodies that help the baby fight off viruses and bacteria. The first milk, colostrum, is especially high in antibodies.
- **Benefits for the Mother:**

- **Health:** It helps the uterus contract and reduces the risk of breast and ovarian cancer.
- **Bonding:** It promotes a strong emotional bond between mother and child.

Quick Tip

For exams, the most unique benefit of breastfeeding to remember is "passive immunity." Breast milk transfers the mother's antibodies directly to the infant, providing protection that infant formula cannot replicate.

10. Adult education

Solution:

Adult education, also known as continuing education or lifelong learning, refers to any form of learning undertaken by adults after they have completed their initial formal education.

- **Purpose and Scope:** The goals of adult education are diverse and can include:
 - **Basic Literacy and Numeracy:** Teaching fundamental skills.
 - **Vocational Training:** Providing job-specific skills to improve employment prospects.
 - **Professional Development:** Upskilling or reskilling for career advancement.
 - **Personal Enrichment:** Learning for interest or a hobby.
- **Importance:** It helps adults adapt to a changing job market, promotes active citizenship, and enhances personal well-being and self-confidence.

Quick Tip

In the modern context, adult education is closely linked to the concepts of 'upskilling' and 'reskilling.' This is crucial for career longevity in a rapidly changing technological landscape.

11. Functions of fat

Solution:

Fats are one of the three main macronutrients and are essential for health, performing several critical functions in the body.

- **Energy Storage:** Fats are the body's most concentrated source of energy, providing 9 calories per gram. They serve as a long-term energy reserve.
- **Insulation and Protection:** A layer of fat under the skin helps to insulate the body against cold, while fat deposits around vital organs provide a protective cushion.
- **Absorption of Vitamins:** Fats are necessary for the absorption and transport of fat-soluble vitamins: A, D, E, and K.
- **Hormone Production:** Cholesterol, a type of fat, is a precursor for producing essential steroid hormones like estrogen and testosterone.
- **Cell Structure:** Fats are a fundamental component of cell membranes, helping to maintain their integrity and function.

Quick Tip

Remember the acronym **F-A-T-S** for the functions of fat: **F**uel (energy), **A**bsorption (of vitamins A, D, E, K), **T**emperature regulation (insulation), and **S**tructure (cell membranes).

12. Childhood diseases

Solution:

Childhood diseases are illnesses that are particularly common among infants, children, and adolescents. Many of these are infectious, but their incidence and severity have been greatly reduced by routine immunization.

- **Vaccine-Preventable Diseases:** A significant number of the most serious childhood diseases are now preventable. These include:
 - Measles, Mumps, and Rubella (MMR)
 - Polio
 - Chickenpox (Varicella)
 - Diphtheria, Tetanus, and Pertussis (Whooping Cough) (DPT)
- **Other Common Illnesses:** Children are also susceptible to other conditions like the common cold, diarrhoea, and ear infections.

- **Prevention:** Vaccination, good hygiene, proper nutrition, and access to clean water are key to preventing childhood diseases.

Quick Tip

For exams, always associate 'childhood diseases' with the critical role of 'vaccination' and public health initiatives like the Universal Immunization Programme (UIP) in India.

13. Hygiene

Solution:

Hygiene is a set of practices performed to preserve health and prevent the spread of diseases. It involves maintaining cleanliness of the body and the living environment.

- **Personal Hygiene:** This refers to maintaining the body's cleanliness. Key practices include regular handwashing with soap, bathing, and oral hygiene (brushing teeth).
- **Environmental Hygiene:** This involves keeping surroundings clean to prevent disease transmission. It includes proper waste disposal, ensuring a safe water supply, and maintaining clean living spaces.
- **Food Hygiene:** This involves handling, preparing, and storing food in a way that prevents contamination and foodborne illness.
- **Importance:** Good hygiene is a cornerstone of public health, as it is one of the most effective and inexpensive ways to prevent infectious diseases.

Quick Tip

The single most effective hygiene practice to remember for preventing the spread of infections is **proper handwashing** with soap and water. This is a frequently tested concept in health education.

14. Period of postnatal care

Solution:

The period of postnatal care, also known as the postpartum period, begins immediately after the delivery of the baby and typically extends for the first six weeks. This is a critical transition period for the mother, newborn, and family.

- **Goals of Postnatal Care:**

- To monitor and support the mother's physical and psychological recovery from pregnancy and childbirth.
- To promote the health and well-being of the newborn infant.
- To help establish breastfeeding and build the mother's confidence in caring for her baby.

- **Care for the Mother:** Includes managing postpartum bleeding, checking for infection, providing pain relief, and screening for postpartum depression.

- **Care for the Newborn:** Involves assessing growth, ensuring adequate feeding, providing immunizations, and teaching parents about newborn safety.

Quick Tip

Remember that postnatal care focuses on **both** the mother and the baby. A key aspect of modern postnatal care is screening the mother for postpartum depression, not just her physical recovery.

15. Detergent

Solution:

A detergent is a synthetic cleansing agent that has cleaning properties similar to soap but is less affected by hard water. It is a type of surfactant.

- **Composition and Structure:** A detergent molecule has a long hydrophobic (water-repelling, oil-attracting) tail and a hydrophilic (water-attracting) head.
- **How it Works:** The hydrophobic tails attach to grease and dirt. Agitation breaks the grease into smaller droplets, which are surrounded by detergent molecules (forming micelles). These micelles remain suspended in water and are washed away.
- **Advantage over Soap:** Unlike soap, which reacts with minerals in hard water to form insoluble scum, detergents are formulated to remain effective. This makes them superior for laundry and dishwashing in most water conditions.

Quick Tip

The key difference between soap and detergent for exams is their performance in **hard water**. Soap forms scum, while detergents do not. This is their main chemical advantage.

16. Mineral salts

Solution:

Mineral salts are inorganic compounds that are essential micronutrients required by the body for a wide range of physiological functions. They must be obtained through diet.

- **Functions:**

- **Structural Components:** Minerals like calcium and phosphorus are crucial for building strong bones and teeth.
- **Fluid Balance:** Electrolytes such as sodium and potassium regulate the balance of fluids in the body.
- **Oxygen Transport:** Iron is a vital component of hemoglobin, which carries oxygen in the blood.
- **Enzyme Function:** Many minerals act as cofactors for enzymes, helping chemical reactions to occur.

- **Sources:** They are found in a variety of foods, including fruits, vegetables, dairy products, meat, and nuts.

Quick Tip

For exams, memorize these key mineral-function pairs: **Calcium** → Bones, **Iron** → Blood (Anemia), **Iodine** → Thyroid (Goitre), **Sodium/Potassium** → Nerves Fluids.

17. Polluted water

Solution:

Polluted water is water that has been contaminated with harmful substances, rendering it unsafe for human use (like drinking) and harmful to the ecosystem.

- **Types of Pollutants:**

- **Biological:** Pathogens like bacteria and viruses from untreated sewage.
- **Chemical:** Industrial waste, pesticides, heavy metals.

- **Physical:** Solid waste like plastics, sediment, and excess heat (thermal pollution).
- **Consequences:** Consuming polluted water can lead to serious water-borne diseases like cholera, typhoid, and dysentery. It destroys aquatic ecosystems and can contaminate the food chain.

Quick Tip

Remember to connect the type of pollutant to its main effect: **Biological** pollutants (sewage) cause infectious diseases. **Chemical** pollutants (industrial waste) cause toxicity and long-term health problems.

18. Post office

Solution:

A post office is a public facility and organization that provides mail services. In many countries, its role has expanded to include a wide range of other essential services.

- **Traditional Services:** The core function is accepting, processing, and delivering mail and parcels.
- **Financial Services:** Post offices have become crucial hubs for financial inclusion, especially in rural areas. Services include:
 - **Savings Accounts** and deposit schemes (FDs, RDs).
 - **Investment Schemes** like the Public Provident Fund (PPF) and National Savings Certificates (NSC).
 - **Insurance** schemes like Postal Life Insurance (PLI).
- **Other Services:** They also facilitate bill payments, money transfers, and serve as access points for various government schemes.

Quick Tip

Think beyond just letters. For modern relevance, the most important role of the Post Office in India is promoting **financial inclusion** by providing banking and investment services to remote and rural populations.

19. Fibres

Solution:

Fibres are thin, thread-like structures that are the basic building blocks of textiles. They are spun into yarn, which is then woven or knitted to make fabric. Fibres are categorized into two main groups.

- **Natural Fibres:** These are obtained from plant or animal sources.
 - **Plant Fibres:** Composed mainly of cellulose. Examples: Cotton, Jute, Linen.
 - **Animal Fibres:** Composed mainly of protein. Examples: Wool, Silk.
- **Synthetic Fibres:** These are man-made fibres created through chemical processes, usually from petroleum. Examples include Polyester, Nylon, and Acrylic. They are known for their strength and durability.

Quick Tip

A simple way to classify fibres is by their chemical base: **Plant** = Cellulose, **Animal** = Protein, **Synthetic** = Polymer. This is a common basis for distinction in exams.

20. Savings

Solution:

Savings represent the portion of income that is not spent on current consumption. It is the money set aside for future use. Saving is a fundamental habit for achieving financial security.

- **Importance of Saving:**
 - **Emergency Fund:** To cover unexpected expenses like medical bills or job loss.
 - **Financial Goals:** To accumulate money for specific goals, such as a down payment on a house or a child's education.
 - **Retirement:** To build a corpus to support oneself after stopping work.
 - **Wealth Creation:** Savings provide the capital for investments, which can grow and generate wealth over time.
- **Methods:** Common methods include depositing money in savings accounts, fixed deposits (FDs), recurring deposits (RDs), and contributing to provident funds.

Quick Tip

A core principle of personal finance is to '**Pay yourself first.**' This means treating your savings as a necessary expense that you set aside before you start spending on other things, rather than saving what is leftover.

21. Give a comparative description of home delivery and hospital delivery.

Solution:

A comparative description of home delivery and hospital delivery can be made based on several factors, including safety, comfort, cost, and available medical care.

Factor	Home Delivery	Hospital Delivery
Environment	Takes place in the familiar and comfortable surroundings of one's own home. The mother has more control over the environment (lighting, people present).	Takes place in a clinical, unfamiliar environment. The environment is controlled by hospital protocols.
Medical Supervision	Attended by a trained midwife or a traditional birth attendant (<i>dai</i>). Medical supervision is limited compared to a hospital.	Attended by a team of professional doctors (obstetricians), nurses, and support staff. Continuous monitoring is available.
Emergency Care	Access to emergency medical intervention is delayed. If complications arise, the mother must be transported to a hospital, which can be risky.	Immediate access to emergency medical equipment, surgical facilities (for Caesarean section), blood transfusions, and specialized neonatal care.
Pain Management	Pain relief options are typically limited to natural methods like massage, breathing exercises, and water immersion.	A wide range of medical pain relief options are available, including epidurals and other analgesic medications.
Infection Risk	The risk of acquiring hospital-borne infections is lower. However, maintaining a sterile environment can be a challenge.	There is a higher risk of hospital-acquired infections (nosocomial infections), although hospitals follow strict sterilization protocols.
Cost	Generally less expensive as it avoids costs for a hospital room, extensive medical procedures, and staff fees.	Significantly more expensive due to charges for the room, doctor and staff fees, medications, and any procedures performed.

Quick Tip

The primary trade-off between home and hospital delivery is **comfort versus safety**. While a home delivery offers a more comfortable and personalized experience, a hospital delivery provides a crucial safety net with immediate access to emergency medical care, which is vital for managing unforeseen complications.

22. What do you understand by food adulteration? Explain.

Solution:

Food adulteration is the act of intentionally degrading the quality of food offered for sale, either by the addition of inferior or harmful substances or by the removal of some valuable ingredient. It is a fraudulent practice done primarily to increase profits, but it poses serious health risks to consumers.

Explanation of Food Adulteration: Food adulteration can be explained in several ways:

1. **Addition of Inferior Substances:** This involves mixing a cheaper, low-quality substance with a high-quality food product to increase its weight or volume.
 - **Example:** Mixing papaya seeds in black peppercorns, adding water to milk, or mixing brick powder in chili powder.
2. **Removal of a Valuable Component:** In this type, a nutritious part of the food is extracted, and the remaining inferior product is sold.
 - **Example:** Removing the oil from cloves or cardamom and then selling the exhausted spices.
3. **Addition of Harmful or Banned Substances:** This is the most dangerous form of adulteration, where substances that are toxic or non-permissible are added, often to enhance colour or appearance.
 - **Example:** Adding metanil yellow (a non-permitted colour) to turmeric powder or pulses to give them a bright yellow colour.
4. **Misbranding:** This involves selling food with a false label, such as providing incorrect information about the manufacturing date, expiry date, nutritional content, or ingredients.

The consequences of consuming adulterated food can range from mild digestive issues to severe health problems like cancer, paralysis, and organ damage.

Quick Tip

To remember the concept, think of adulteration as any action that makes food "impure" or "deceptive." A simple way for consumers to protect themselves is to buy whole spices instead of powders and to look for trusted certification marks like **FSSAI** and **Agmark** on packaged goods.

23. Describe the different uses of clothes in the kitchen.

Solution:

Clothes, more specifically kitchen linen, are essential tools in the kitchen for various tasks related to cleaning, cooking, and safety. Using different types of cloths for different purposes is crucial for maintaining hygiene and preventing cross-contamination.

Different uses of clothes in the kitchen include:

- **Apron:** An apron is worn over regular clothes to protect them from food spills, stains, and splashes during cooking and cleaning. It is a primary piece of kitchen clothing for personal hygiene.
- **Kitchen Towel / Duster:** These are multipurpose absorbent cloths used for wiping hands, cleaning countertops, and wiping up spills. It is important to keep these towels clean and wash them frequently to prevent the spread of bacteria.
- **Dishcloth / Tea Towel:** These are typically made of lint-free fabric like cotton or linen and are specifically used for drying washed dishes, cutlery, and glassware without leaving streaks or fibres.
- **Oven Mitts and Pot Holders:** These are thick, insulated pieces of cloth or gloves used to handle hot pots, pans, and baking trays safely. They protect hands from burns and are essential for safety when using the oven or stove.
- **Cheesecloth:** A very fine, loosely woven cotton cloth used for straining liquids like soups and stocks to make them clear, or for separating curds from whey when making cheese or paneer.
- **Tablecloth and Napkins:** While used in the dining area, these are also part of kitchen linen. A tablecloth protects the dining table surface and adds to the decor, while napkins are used for personal hygiene during meals.

Quick Tip

A key principle of kitchen hygiene is to use separate cloths for separate tasks. A good practice is to color-code your kitchen towels: for example, one color for wiping hands, another for cleaning surfaces, and a different type (like a tea towel) exclusively for drying dishes. This simple system helps prevent cross-contamination.

24. What is the benefit of food preservation? Explain.

Solution:

Food preservation refers to any process of treating and handling food to stop or greatly slow down spoilage (loss of quality, edibility, or nutritive value) caused by the growth of microorganisms. It is a vital practice with numerous benefits.

The benefits of food preservation are:

- **Increases Shelf Life and Prevents Spoilage:** The primary benefit is that it makes food last longer. By controlling the growth of bacteria, yeasts, and molds, preservation prevents food from rotting, allowing it to be stored for weeks, months, or even years.
- **Ensures Year-Round Availability of Seasonal Foods:** Many fruits and vegetables are only available during specific seasons. Preservation methods like canning, freezing, and making pickles or jams allow these seasonal foods to be enjoyed throughout the year.
- **Reduces Food Wastage:** During peak harvest seasons, there is often a surplus of produce that cannot be consumed immediately. Preserving this surplus prevents it from being wasted and ensures the food is utilized.
- **Adds Variety to the Diet:** Preservation techniques can create new food products with different tastes, textures, and flavors. For example, milk is preserved to make cheese and yogurt, and cucumbers are preserved to make pickles.
- **Stabilizes Food Prices:** By preserving food when it is abundant and cheap, the supply can be stabilized throughout the year, which helps in controlling drastic price fluctuations.
- **Increases Convenience:** Preserved foods, such as canned goods or frozen meals, are convenient and save time in food preparation.

Quick Tip

To remember the core benefit, think about the main enemy of fresh food: **microbes**. All preservation methods—whether drying, salting, freezing, or canning—work by creating an environment where microbes cannot grow, thus extending the food's life.

25. Explain the importance of Home management.

Solution:

Home management is the process of effectively using available resources (such as time, money, energy, skills, and material possessions) to achieve the goals and improve the quality of life of the family. It is a crucial life skill that brings order, efficiency, and happiness to a household.

The importance of home management can be explained as follows:

1. **Optimal Use of Resources:** Every family has limited resources. Good home management ensures that these resources are used wisely and efficiently, minimizing wastage. For example, a well-planned budget helps in managing money effectively, and meal planning saves time, energy, and money.
2. **Achievement of Family Goals:** Home management helps a family to identify, plan for, and achieve its short-term and long-term goals. These goals could be anything from buying a house and funding a child's education to planning a vacation.

3. **Saves Time and Energy:** By planning and organizing household tasks, home management simplifies daily routines. This systematic approach reduces the time and energy spent on chores, freeing up family members for leisure, personal development, and spending quality time together.
4. **Improves Standard of Living:** Through careful planning and resource allocation, home management helps a family to improve its overall standard of living. It ensures that the basic needs of all family members are met and contributes to a comfortable and satisfying life.
5. **Reduces Stress and Conflict:** An organized and well-managed home is a more peaceful and harmonious environment. Clear planning, division of labor, and financial discipline reduce stress and potential conflicts among family members, promoting a positive atmosphere.

Quick Tip

Think of home management like managing a small business where the family is the team and the goal is a better quality of life. The key processes are the same: **Planning, Organizing, Controlling, and Evaluating** the use of resources to achieve goals.

26. What is air pollution? Describe the diseases caused by it.

Solution:

What is Air Pollution?

Air pollution is the presence of harmful substances, known as pollutants, in the Earth's atmosphere in concentrations that are detrimental to the health of humans and other living beings, or cause damage to the climate or to materials. The main sources of air pollution are vehicle emissions, industrial processes, burning of fossil fuels (like coal and petroleum), and household activities like burning solid fuels for cooking. Major air pollutants include particulate matter (PM_{2.5} and PM₁₀), carbon monoxide (CO), sulphur dioxide (SO₂), nitrogen oxides (NO_x), and ground-level ozone (O₃).

Diseases Caused by Air Pollution:

Air pollution is a major environmental health risk and can cause a wide range of diseases, affecting nearly every organ in the body. The respiratory system is the most directly affected.

- **Respiratory Diseases:**

- **Asthma:** Pollutants can trigger asthma attacks and worsen the condition.
- **Chronic Obstructive Pulmonary Disease (COPD):** Long-term exposure to pollutants is a major cause of COPD, which includes chronic bronchitis and emphysema.
- **Lung Cancer:** Certain pollutants, like particulate matter and emissions from diesel exhaust, are carcinogenic and increase the risk of developing lung cancer.

- **Pneumonia and other Respiratory Infections:** Air pollution can weaken the immune system and increase susceptibility to infections of the respiratory tract.
- **Cardiovascular Diseases:**
 - Fine particulate matter (PM2.5) can penetrate deep into the lungs and enter the bloodstream, causing inflammation and increasing the risk of **heart attacks, strokes,** and hypertension.
- **Other Health Effects:**
 - **Neurological Effects:** Air pollution has been linked to developmental problems in children and an increased risk of dementia in adults.
 - **Eye, Nose, and Throat Irritation:** Common immediate effects include burning eyes, a runny nose, and coughing.

Quick Tip

When discussing diseases caused by air pollution, remember that while the **lungs** are the primary target, the damage doesn't stop there. The smallest pollutants can enter the **bloodstream** and affect the **heart** and **brain**, leading to a wider range of systemic health problems.