

AISSEE General Science

Sample Paper – 2

Duration: 30 Minutes

Maximum Marks: 50

Instructions

- This paper has **25 questions** carrying **2 marks** each. Total: **50 marks**.
- All questions are MCQs with four options (A/B/C/D). Choose the single correct answer.
- **No negative marking**. Wrong or blank answers carry zero marks.
- Attempt all questions. Do not leave any answer blank.

Section A: Human Body

Q1. Which of the following correctly shows the order in which food passes through the human digestive system?

- (A) Mouth → Lungs → Heart → Stomach
- (B) Mouth → Kidney → Bladder → Intestines
- (C) Mouth → Oesophagus → Stomach → Small Intestine → Large Intestine
- (D) Mouth → Liver → Blood → Body Cells

Answer: (C)

Solution

Food travels in this order: **Mouth** (chewing and saliva begin digestion) → **Oesophagus** (food pipe) → **Stomach** (acid digestion of proteins) → **Small Intestine** (most nutrient absorption) → **Large Intestine** (water absorption and waste removal). The kidneys, lungs, and liver serve other functions.



Q2. White blood cells (WBCs) play a vital role in protecting the body. What is their main function?

- (A) Carry oxygen from the lungs to all body cells
- (B) Form blood clots to stop bleeding at wounds
- (C) Produce digestive enzymes in the stomach
- (D) Fight infections and destroy harmful germs

Answer: (D)

Solution

White blood cells (WBCs) are part of the immune system. They identify and destroy bacteria, viruses, and other harmful pathogens. Red blood cells (RBCs) carry oxygen; platelets form clots. WBCs are sometimes called the body's soldiers or defenders.

Q3. The heart is the central organ of the circulatory system. What is its main function?

- (A) Filter blood and remove waste products as urine
- (B) Pump blood continuously to all parts of the body
- (C) Produce digestive juices for breaking down food
- (D) Control all nervous system impulses in the body

Answer: (B)

Solution

The **heart** acts as a muscular pump, continuously pushing blood through arteries, veins, and capillaries to all body organs. This is called **circulation**. The kidneys filter waste, the stomach produces digestive juices, and the brain controls the nervous system.



Q4. The excretory system removes waste products from the body. Which combination of organs is involved in excretion?

- (A) Lungs, stomach, and brain
- (B) Heart, eyes, and liver
- (C) Pancreas, spleen, and tongue
- (D) Kidneys, skin, and lungs

Answer: (D)

Solution

The **excretory system** removes waste through three main organs: **kidneys** (remove urea and excess water as urine), **skin** (removes salts and water through sweat), and **lungs** (expel carbon dioxide and water vapour during exhalation). Together they keep the body's internal environment stable.

Q5. The nervous system consists of the brain, spinal cord, and nerves. Which organ is the *main control centre* that processes all information and coordinates body activities?

- (A) Spinal cord
- (B) Brain
- (C) Sensory nerves
- (D) Motor nerves

Answer: (B)

Solution

The **brain** is the main control centre of the nervous system. It processes information from the senses, coordinates movement, stores memories, and regulates body functions. The spinal cord relays signals between the brain and the rest of the body; nerves carry signals to and from the brain and spinal cord.



Q6. When food enters the mouth, salivary glands release saliva. Which type of food does saliva begin to digest?

- (A) Carbohydrates (starch)
- (B) Proteins (meat, eggs)
- (C) Fats and oils
- (D) Vitamins and minerals

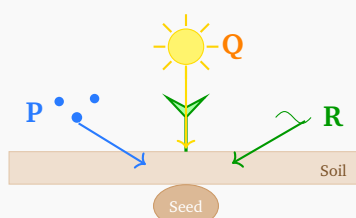
Answer: (A)

Solution

Saliva contains an enzyme called **amylase** that starts the chemical digestion of **carbohydrates (starch)** in the mouth, breaking starch into simpler sugars. Proteins are mainly digested in the stomach; fats are digested in the small intestine with the help of bile from the liver.

Section B: Plants and Animals

Q7. The diagram shows a seed beginning to sprout. Three conditions (P, Q, R) point to what the seed requires for germination. Which option correctly identifies P, Q, and R?



- (A) P = Fertiliser, Q = Cold temperature, R = Carbon dioxide
- (B) P = Water, Q = Warmth, R = Soil nutrients
- (C) P = Water, Q = Warmth, R = Air (oxygen)
- (D) P = Salt water, Q = Intense heat, R = Sunlight

Answer: (C)



Solution

Seeds need three conditions to germinate: **water (P)** to soften the seed coat and activate enzymes, **warmth (Q)** to speed up chemical reactions, and **air/oxygen (R)** for cellular respiration. Most seeds can germinate without direct sunlight; the seedling uses stored food in the seed (cotyledon) until it grows leaves.

Q8. Plants have two main types of root systems: taproot (one large main root) and fibrous (many thin roots of similar size). Which of the following plants has a *taproot* system?

- (A) Grass
- (B) Wheat
- (C) Maize (corn)
- (D) Carrot

Answer: (D)

Solution

The **carrot** is itself the taproot – a single large main root that stores food for the plant. Grass, wheat, and maize (corn) all have **fibrous root systems** consisting of many thin, branching roots of similar size that spread widely through the soil to anchor the plant and absorb water.

Q9. The Venus flytrap is a plant found in nutrient-poor, boggy soils. It is described as *carnivorous* because it:

- (A) Can survive without sunlight or water
- (B) Grows only in deserts with no rainfall
- (C) Traps and digests insects to obtain nutrients
- (D) Produces fruits without ever flowering

Answer: (C)

Solution

The **Venus flytrap** catches insects in its hinged, clamping leaves and secretes digestive juices to absorb their nutrients – especially nitrogen, which is scarce in the poor soil where it grows. It still carries out photosynthesis normally. Other carnivorous plants



include the sundew and pitcher plant.

Q10. What gives most plant leaves their characteristic green colour?

- (A) Chlorophyll present in the cells of leaves
- (B) Water absorbed from the soil by roots
- (C) Carbon dioxide taken in from the air
- (D) Glucose produced during photosynthesis

Answer: (A)

Solution

Chlorophyll is the green pigment found inside **chloroplasts** in leaf cells. It absorbs red and blue light for photosynthesis and reflects green light, making leaves appear green. In autumn, chlorophyll breaks down and disappears, revealing the yellow and orange pigments that were hidden beneath.

Q11. Stomata are tiny pores on the surface of leaves, surrounded by guard cells. What is their main function?

- (A) Allow gas exchange (CO_2 in, O_2 out) and release of water vapour
- (B) Absorb water directly from rainfall onto the leaf surface
- (C) Transport glucose (food) from leaves down to the roots
- (D) Trap sunlight and convert it directly to chemical energy

Answer: (A)

Solution

Stomata (singular: stoma) are pores that allow **gas exchange**: CO_2 enters for photosynthesis and O_2 exits as a by-product. Water vapour also escapes through stomata in a process called **transpiration**. Guard cells control the opening and closing of stomata – they open during the day and close at night.

Section C: Force, Motion, and Simple Machines



Q12. Newton's First Law of Motion is also called the *Law of Inertia*. Which statement best describes this law?

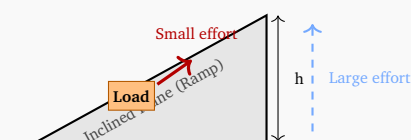
- (A) Every action force has an equal and opposite reaction force
- (B) The force on an object equals its mass multiplied by its acceleration
- (C) An object at rest stays at rest, and an object in motion stays in motion, unless acted on by an external force
- (D) Objects always fall towards the Earth because of gravitational attraction

Answer: (C)

Solution

Newton's First Law (Inertia): objects resist changes in their state of motion. A ball at rest stays still until kicked; a hockey puck sliding on frictionless ice keeps moving. This resistance to change is called **inertia**. Option A is Newton's Third Law; Option B is Newton's Second Law ($F = ma$).

Q13. The diagram shows a ramp (inclined plane) being used to slide a heavy load to a higher level. Compared to lifting the load straight up to the same height, the inclined plane:



- (A) Increases the effort needed to raise the load
- (B) Reduces the effort needed to raise the load to that height
- (C) Has no effect on the amount of effort required
- (D) Doubles the weight of the load being moved

Answer: (B)

Solution

An **inclined plane (ramp)** spreads the work over a longer distance, requiring **less force (effort)** to move a load to a given height. This is called **mechanical advantage**. Ramps



are used at loading docks, wheelchair access ramps, and mountain roads. The total work done remains the same – you use less force but over a greater distance.

Q14. An apple falling from a tree always falls downward. Which force pulls all objects towards the centre of the Earth?

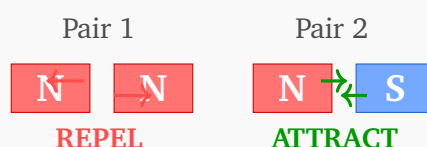
- (A) Magnetic force
- (B) Friction
- (C) Gravity
- (D) Tension

Answer: (C)

Solution

Gravity is the force of attraction that pulls all objects towards the centre of the Earth (and towards any other massive body). It gives objects their **weight**. Magnetic force attracts iron objects; friction opposes relative motion between surfaces; tension is the pulling force in a string or rope.

Q15. The diagram shows two pairs of bar magnets placed near each other. In which pair do the magnets *attract* each other?



- (A) Pair 1 (North–North poles facing each other)
- (B) Pair 1 (South–South poles facing each other)
- (C) Any two poles from different magnets repel each other
- (D) Pair 2 (North–South poles facing each other)

Answer: (D)

Solution

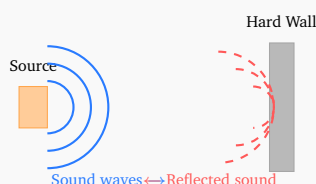
In magnets, **unlike poles attract** and **like poles repel**. In Pair 2, the North (N) and South (S) poles face each other – they are unlike, so they attract. In Pair 1, two North



poles face each other – they are like poles, so they repel. This is summarised as: “North and South attract; North and North (or South and South) repel.”

Section D: Light, Sound, Heat, and Chemistry

Q16. The diagram shows sound waves from a source travelling towards a hard wall and bouncing back. What is the name of this phenomenon?



- (A) Refraction of sound
- (B) Absorption of sound
- (C) Amplification of sound
- (D) Reflection of sound (Echo)

Answer: (D)

Solution

When sound waves hit a hard surface and bounce back, the returned sound is called an **echo** – the process is **reflection of sound**. Echoes are heard in large halls or mountains. **Refraction** is bending of a wave; **absorption** is when a material soaks up sound; **amplification** is increasing the loudness of sound.

Q17. A shadow is formed on the wall behind an object when a torch is shone at it. How is a shadow formed?

- (A) Light passes through the object and scatters inside it
- (B) An opaque object blocks the path of light, creating a dark region
- (C) Light bends around the corner of the object
- (D) Light is reflected off a shiny surface behind the object

Answer: (B)



Solution

A **shadow** is a dark area formed when an **opaque object blocks** a beam of light, preventing light from reaching the surface behind it. Light travels in straight lines, so it cannot bend around the object. Transparent objects (like glass) let light through and cast little or no shadow.

Q18. Blue litmus paper is dipped into an unknown liquid. The paper turns red. This indicates that the liquid is:

- (A) An acid
- (B) A base (alkali)
- (C) A neutral substance
- (D) A salt solution

Answer: (A)

Solution

Acids turn blue litmus paper **red**. Bases (alkalis) turn red litmus paper blue. A neutral substance (like pure water) does not change the colour of either. Examples of acids: lemon juice, vinegar. Examples of bases: soap, baking soda solution.

Q19. At standard atmospheric pressure (sea level), pure water boils (changes from liquid to steam) at:

- (A) 100 °C
- (B) 50 °C
- (C) 0 °C
- (D) 37 °C

Answer: (A)

Solution

Pure water boils at **100 °C** at sea level (standard atmospheric pressure). It freezes at 0 °C. Normal human body temperature is 37 °C. At higher altitudes (lower pressure), water boils at a temperature below 100 °C – this is why cooking takes longer in the mountains.



Q20. When common salt (sodium chloride) is dissolved in water and stirred, the result is:

- (A) A pure chemical compound with fixed proportions
- (B) A mixture, because the salt can be recovered by evaporation
- (C) A new element formed by a chemical reaction
- (D) A solid alloy of salt and water

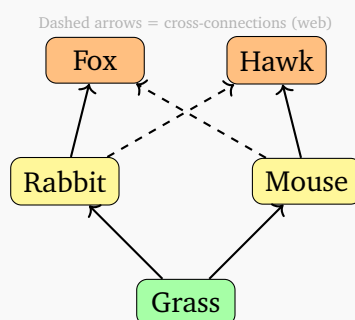
Answer: (B)

Solution

Salt dissolved in water is a **mixture** – the salt and water retain their individual properties and can be separated by physical means (e.g. **evaporation** to recover the salt). A compound has fixed proportions and cannot be separated physically. No new substance is created when salt dissolves.

Section E: Environmental Science

Q21. The diagram shows a food web. How does a food web differ from a simple food chain?



- (A) A food web shows many interconnected food chains with multiple feeding relationships
- (B) A food chain involves more organisms than a food web
- (C) A food web has only a single straight path from producer to top consumer
- (D) A food chain and a food web represent exactly the same feeding relationships



Answer: (A)

Solution

A **food chain** shows a single, straight sequence of feeding (e.g. Grass → Rabbit → Fox). A **food web** shows **many interconnected food chains**: each organism may eat several different things and may be eaten by several predators. Food webs are a more realistic picture of energy flow in an ecosystem.

Q22. Which of the following is a *non-biodegradable* waste material that does NOT break down easily in the environment?

- (A) Banana peel
- (B) Plastic bottle
- (C) Vegetable scraps
- (D) Dried leaves

Answer: (B)

Solution

A **plastic bottle** is **non-biodegradable** – micro-organisms cannot easily break it down. It persists in the environment for hundreds of years. Banana peel, vegetable scraps, and dried leaves are all **biodegradable**: they are broken down by bacteria and fungi into simpler substances within weeks or months.

Q23. During the water cycle, water evaporates from oceans and rises as water vapour. As the vapour rises higher, it cools and turns back into tiny liquid water droplets that form clouds. This cooling and change back to liquid is called:

- (A) Evaporation
- (B) Precipitation
- (C) Condensation
- (D) Transpiration

Answer: (C)



Solution

Condensation is the change from water vapour (gas) back to liquid water when it cools. This forms clouds and mist. **Evaporation** is the change from liquid to vapour (heat-driven). **Precipitation** is when water falls from clouds as rain, snow, or hail. **Transpiration** is the release of water vapour from plant leaves.

Q24. Environmental educators promote the “3R” approach to managing waste. What do the 3Rs stand for?

- (A) Reduce, Replace, Remove
- (B) Reuse, Repair, Rebuild
- (C) Recycle, Refresh, Renew
- (D) Reduce, Reuse, Recycle

Answer: (D)

Solution

The **3Rs** stand for **Reduce** (use less material), **Reuse** (use items again instead of throwing away), and **Recycle** (convert waste into new products). Together they help conserve natural resources, save energy, and reduce the amount of waste sent to landfills. “Reduce” is the most effective of the three.

Q25. Which of the following activities is a *major* cause of air pollution?

- (A) Burning of fossil fuels such as coal, petrol, and diesel
- (B) Planting more trees and restoring forests
- (C) Generating electricity from solar panels
- (D) Collecting and storing rainwater in tanks

Answer: (A)

Solution

Burning fossil fuels (coal in power plants, petrol/diesel in vehicles) releases harmful gases – carbon monoxide, sulphur dioxide, nitrogen oxides, and particulate matter – into the air, causing **air pollution**. Planting trees, using solar energy, and harvesting rainwater are all *environmentally beneficial* activities that reduce pollution.



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	C	2	D	3	B	4	D	5	B
6	A	7	C	8	D	9	C	10	A
11	A	12	C	13	B	14	C	15	D
16	D	17	B	18	A	19	A	20	B
21	A	22	B	23	C	24	D	25	A

