

AISSEE General Science

Sample Paper – 6

Duration: 30 Minutes

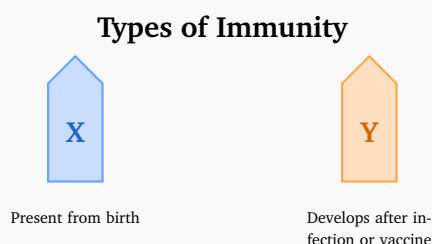
Maximum Marks: 50

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. The diagram shows two types of immunity. Which type, labelled **X**, is present in the human body from birth?



- (A) Natural (innate) immunity
- (B) Acquired immunity
- (C) Passive immunity
- (D) Artificial immunity

Answer: (A)

Solution

Natural (innate) immunity is the inborn immunity a person has from birth. It provides a general, non-specific defence against many pathogens. **Acquired immunity** (Y) develops during a person's lifetime through exposure to disease or vaccination.



Q2. The process of introducing a weakened or killed pathogen (or its toxin) into the body to stimulate the immune system and build protection against a disease is called:

- (A) Digestion
- (B) Respiration
- (C) Fertilisation
- (D) Vaccination

Answer: (D)

Solution

Vaccination introduces a vaccine (weakened or killed germs, or their toxins) into the body to produce immunity. The immune system “remembers” the pathogen and responds quickly if the real infection occurs later. This process is also called *immunisation*.

Q3. Saliva released in the mouth during eating helps to begin the digestion of which food component?

- (A) Proteins, using the enzyme pepsin
- (B) Fats, using the enzyme lipase
- (C) Starch, using the enzyme amylase
- (D) Vitamins, using the enzyme trypsin

Answer: (C)

Solution

Saliva contains the enzyme **salivary amylase** (ptyalin), which begins the digestion of **starch** (a carbohydrate) by breaking it into simpler sugars. Pepsin digests proteins in the stomach; lipase digests fats in the small intestine.



Q4. After food is digested, the nutrients are mainly absorbed into the bloodstream through which part of the alimentary canal?

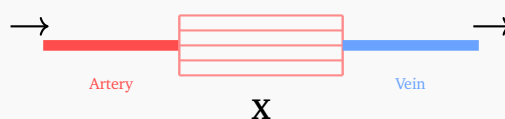
- (A) Stomach
- (B) Large intestine
- (C) Small intestine
- (D) Oesophagus

Answer: (C)

Solution

The **small intestine** is the main site of nutrient absorption. Its inner wall has millions of tiny finger-like projections called **villi** that greatly increase the surface area, allowing digested food to pass efficiently into the bloodstream.

Q5. The diagram shows the arrangement of blood vessels. The very thin vessels labelled X that connect arteries to veins are called:



- (A) Capillaries
- (B) Bronchi
- (C) Alveoli
- (D) Nephrons

Answer: (A)

Solution

Capillaries are the smallest blood vessels in the body, connecting arteries (which carry blood away from the heart) to veins (which carry blood back). Their thin walls allow the exchange of oxygen, nutrients, and waste products between the blood and body tissues.



Q6. White blood cells (leucocytes) are an important part of the body's defence system. Their primary role is to:

- (A) Carry oxygen from the lungs to all body tissues
- (B) Transport carbon dioxide from tissues to the lungs
- (C) Form blood clots to stop bleeding from a wound
- (D) Destroy invading germs and fight infections

Answer: (D)

Solution

White blood cells (leucocytes) are the soldiers of the immune system — they identify and **destroy bacteria, viruses, and other pathogens**. Red blood cells carry oxygen; platelets form clots. WBCs are produced in the bone marrow and lymph nodes.

Section B: Plants and Animals

Q7. Which of the following organisms does *not* have chlorophyll and therefore *cannot* make its own food by photosynthesis?

- (A) Grass
- (B) Fern
- (C) Moss
- (D) Mushroom

Answer: (D)

Solution

A **mushroom** is a **fungus**. Fungi do not have chlorophyll and cannot photosynthesise — they are heterotrophs that absorb nutrients from dead or living organic matter. Grass, fern, and moss are all green plants that contain chlorophyll and carry out photosynthesis.



Q8. Bacteria and fungi that break down dead plants and animals and return nutrients to the soil are called:

- (A) Decomposers
- (B) Producers
- (C) Omnivores
- (D) Herbivores

Answer: (A)

Solution

Decomposers (mainly bacteria and fungi) break down dead organic matter into simpler substances and return nutrients to the soil. They are essential for recycling nutrients in an ecosystem. Without decomposers, dead material would accumulate and soil would become infertile.

Q9. Tiny non-cellular particles, much smaller than bacteria, that can only reproduce inside a living host cell and cause diseases such as influenza, rabies, and the common cold are called:

- (A) Viruses
- (B) Fungi
- (C) Protozoa
- (D) Algae

Answer: (A)

Solution

Viruses are non-living particles (not cells) that can only reproduce inside a host cell. They cause many diseases: influenza, common cold, rabies, COVID-19, polio, and chickenpox. Unlike bacteria, viruses cannot be treated with antibiotics.



Q10. A lichen, which can survive on bare rocks and tree bark, is formed by a symbiotic (mutually beneficial) relationship between:

- (A) A plant and a bacterium
- (B) A fungus and an alga
- (C) Two different types of bacteria
- (D) A plant root and a fungus

Answer: (B)

Solution

A **lichen** is a composite organism formed from a **fungus** and an **alga** (or cyanobacterium) living together symbiotically. The alga provides food through photosynthesis; the fungus provides shelter and moisture. Lichens are bioindicators of air quality.

Q11. Which of the following correctly states the word equation for photosynthesis?

- (A) Glucose + Oxygen $\rightarrow$ Carbon dioxide + Water + Energy
- (B) Carbon dioxide + Water $\xrightarrow{\text{sunlight + chlorophyll}}$ Glucose + Oxygen
- (C) Water + Minerals $\rightarrow$ Glucose + Carbon dioxide
- (D) Oxygen + Carbon dioxide $\rightarrow$ Glucose + Water

Answer: (B)

Solution

The correct equation for photosynthesis is:

Carbon dioxide + Water $\xrightarrow{\text{sunlight + chlorophyll}}$ Glucose + Oxygen

Option (A) is actually the equation for *respiration*. Plants use the glucose produced as food and release oxygen as a by-product.

Section C: Force, Motion, and Simple Machines



Q12. An object can gain or lose electrons and thereby carry an electric charge. The two types of electric charge are:

- (A) Positive and negative
- (B) Hot and cold
- (C) Magnetic and non-magnetic
- (D) Strong and weak

Answer: (A)

Solution

There are two types of electric charge: **positive** (carried by protons) and **negative** (carried by electrons). Like charges repel; unlike charges attract. When electrons are transferred between objects, one becomes positively charged and the other negatively charged — this is called static electricity.

Q13. A material that does *not* allow electric current to flow through it easily is called an electrical insulator. Which of the following is an electrical insulator?

- (A) Rubber
- (B) Copper
- (C) Iron
- (D) Aluminium

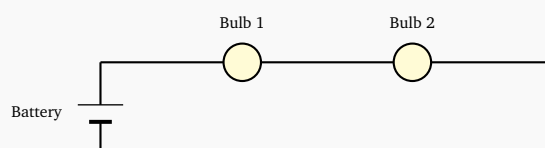
Answer: (A)

Solution

Rubber is an electrical insulator — it does not allow current to flow. This is why electrical wires are coated in rubber or plastic for safety. **Copper**, iron, and aluminium are all good **conductors** of electricity and are used in wires and electrical components.



Q14. The diagram shows two bulbs connected in a **series** circuit with a battery. If Bulb 1 is removed from the circuit, what will happen to Bulb 2?



- (A) Glow brighter
- (B) Glow dimmer but remain on
- (C) Go out (stop glowing)
- (D) Not be affected at all

Answer: (C)

Solution

In a **series circuit**, all components share the same single current path. If one bulb is removed, the circuit is broken and **both bulbs go out**. This is a disadvantage of series circuits. In a **parallel circuit**, each bulb has its own separate path, so removing one does not affect the others.

Q15. A bar magnet is brought close to four different objects. Which object will the magnet attract?

- (A) Copper coin
- (B) Iron nail
- (C) Aluminium foil
- (D) Plastic ruler

Answer: (B)

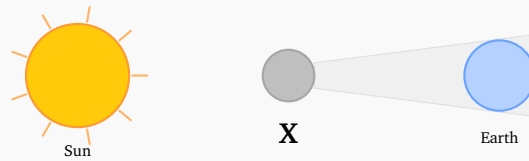
Solution

A magnet attracts only **magnetic materials** — mainly iron, steel, nickel, and cobalt. An **iron nail** is therefore attracted to a magnet. Copper, aluminium, and plastic are *non-magnetic* materials and are not attracted. This is why magnets are used to separate iron from other materials.

Section D: Light, Sound, Heat, and Chemistry



Q16. The diagram shows the Sun, Earth, and an object **X** positioned between them. This arrangement causes a solar eclipse. What is object **X**?



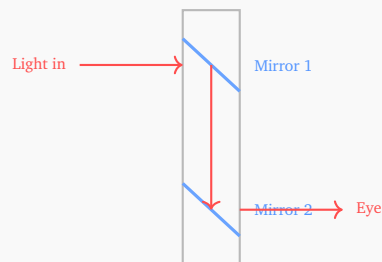
- (A) A comet
- (B) The Moon
- (C) Another planet
- (D) An asteroid

Answer: (B)

Solution

A **solar eclipse** occurs when the **Moon** comes between the Earth and the Sun, blocking sunlight from reaching parts of the Earth. During a total solar eclipse, the sky becomes dark in the middle of the day. A solar eclipse can only occur at new moon when the three bodies are perfectly aligned.

Q17. A periscope allows a person to see over walls and is used in submarines. The diagram shows its working. A periscope uses:



- (A) Two convex lenses
- (B) Two prisms
- (C) Two plane mirrors
- (D) Two magnifying glasses

Answer: (C)



Solution

A **periscope** works using **two plane (flat) mirrors** fixed at 45° angles inside a tube. Light from an object enters through the top opening, is reflected downward by Mirror 1, then reflected outward by Mirror 2 into the observer's eye — allowing one to see over obstacles or above the waterline.

Q18. When an acid reacts with a base, the reaction is called *neutralisation*. The products always formed are:

- (A) Salt and water
- (B) Hydrogen gas and oxygen gas
- (C) Carbon dioxide and water only
- (D) Salt and carbon dioxide

Answer: (A)

Solution

In a **neutralisation reaction**: $\text{Acid} + \text{Base} \rightarrow \text{Salt} + \text{Water}$. For example, HCl (hydrochloric acid) + NaOH (sodium hydroxide) $\rightarrow$ NaCl (common salt) + H_2O . Antacid tablets use this reaction to neutralise excess acid in the stomach.

Q19. At what temperature does pure ice change into liquid water (melt) at normal atmospheric pressure?

- (A) 10°C
- (B) 5°C
- (C) -10°C
- (D) 0°C

Answer: (D)

Solution

The **melting point of ice** (and the **freezing point of water**) is 0°C at standard atmospheric pressure. This is the reference point of the Celsius temperature scale. Impurities such as salt lower the melting point of ice, which is why salt is spread on icy roads in winter.



Q20. An alloy is a mixture of two or more metals. Bronze is one of the oldest known alloys. It is made by mixing:

- (A) Iron and carbon
- (B) Copper and tin
- (C) Copper and zinc
- (D) Iron and chromium

Answer: (B)

Solution

Bronze is an alloy of **copper and tin**. It was widely used in ancient times for tools, weapons, and statues. **Brass** is made of copper and zinc. Steel is an alloy of iron and carbon. Stainless steel contains iron, carbon, and chromium.

Section E: Environmental Science

Q21. Which of the following correctly lists *only* greenhouse gases that trap heat in the atmosphere and contribute to global warming?

- (A) Carbon dioxide (CO_2), Methane (CH_4), and Nitrous oxide (N_2O)
- (B) Nitrogen (N_2), Oxygen (O_2), and Argon (Ar)
- (C) Hydrogen (H_2), Helium (He), and Neon (Ne)
- (D) CO_2 is not a greenhouse gas; only water vapour is

Answer: (A)

Solution

The main **greenhouse gases** are CO_2 (from burning fossil fuels and deforestation), CH_4 (from cattle, paddy fields, and landfills), and N_2O (from fertilisers). Nitrogen, oxygen, and argon make up most of the atmosphere but do not trap heat and are not greenhouse gases.



Q22. Which of the following is a *harmful* effect of large-scale deforestation (the cutting down of forests)?

- (A) Increased oxygen levels in the atmosphere
- (B) Improved fertility of the soil in the area
- (C) Reduced risk of flooding in low-lying regions
- (D) Loss of wildlife habitats and increased soil erosion

Answer: (D)

Solution

Deforestation leads to **loss of wildlife habitats**, **increased soil erosion** (tree roots bind soil), reduced rainfall, increased CO_2 levels, and higher risk of floods. It does *not* increase oxygen or improve soil fertility — the opposite occurs. Forests are often called the “lungs of the Earth”.

Q23. India celebrates *Van Mahotsav* (Forest Festival) every year to encourage tree plantation. Planting more trees is beneficial mainly because trees:

- (A) Release more CO_2 into the atmosphere
- (B) Make the soil infertile by absorbing all nutrients
- (C) Absorb CO_2 , release oxygen, and provide habitat for wildlife
- (D) Increase the risk of landslides by loosening the soil

Answer: (C)

Solution

Trees **absorb** CO_2 during photosynthesis, **release oxygen**, prevent soil erosion, attract rainfall, and **provide habitat for wildlife**. Van Mahotsav is celebrated in the first week of July every year in India to promote large-scale tree planting and environmental conservation.



Q24. E-waste (electronic waste from discarded phones, computers, and televisions) is classified as *hazardous* waste mainly because it contains:

- (A) Useful nutrients that can fertilise agricultural soil
- (B) Harmless biodegradable materials that decompose quickly
- (C) Recyclable paper and cardboard in large quantities
- (D) Toxic substances such as lead, mercury, and cadmium

Answer: (D)

Solution

E-waste contains **toxic substances** including **lead** (in circuit boards), **mercury** (in screens), and **cadmium** (in batteries). When e-waste is dumped in landfills or burned without proper treatment, these toxins leach into the soil and water, posing serious health and environmental hazards.

Q25. Which Indian national park, famous for the Royal Bengal Tiger and the world's largest mangrove forest, is located in West Bengal?

- (A) Jim Corbett National Park
- (B) Ranthambore National Park
- (C) Sundarbans National Park
- (D) Kaziranga National Park

Answer: (C)

Solution

Sundarbans National Park in West Bengal is a UNESCO World Heritage Site, famous for the **Royal Bengal Tiger** and the world's largest mangrove delta. **Jim Corbett** (Uttarakhand) was India's first national park. **Ranthambore** is in Rajasthan; **Kaziranga** (one-horned rhinoceros) is in Assam.

Answer Key



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

