

SECTION A [30 MARKS]
ANSWER ALL QUESTIONS
Use OMR sheet for Question I ONLY

Question I

1. Which group of animals has moist skin and goes through a life cycle where it starts as a larva and changes into an adult?

A Fish
B Insects
C Reptiles
D Amphibians

2. In a maize field, grasshoppers feed on the maize leaves. Which trophic level do grasshoppers represent?

A Producers
B Primary consumers
C Tertiary Consumers
D Secondary consumers

3. A list of food groups is shown in the table below.

I	II	III	IV
Rice	Spinach	Bread	Rice
Orange	Butter	Apple	Chicken
Oil	Bread	Butter	Broccoli
Mango	Peach	Oil	Apple

Which group of foods should be recommended to maintain good health?

A I
B II
C III
D IV

4. A farmer notices that his potato plants have stunted roots and are not growing well. He learns that the soil is missing a key nutrient needed for healthy root growth. Which nutrient is likely missing?

A nitrogen
B potassium
C magnesium
D phosphorus

5. A toothpaste company claims, "Our toothpaste protects teeth by neutralising acids." Why is this claim reasonable?

A Toothpaste reduces harmful acidity
B Toothpaste contains bases that neutralise acids
C Toothpaste contains acids that destroy harmful bacteria
D Toothpaste increases saliva production to neutralise acids

6. Which combination of features shows that a chemical change has occurred?

I. Permanently change
II. Reversible change
III. Originality is retained
IV. Formation of a new substance

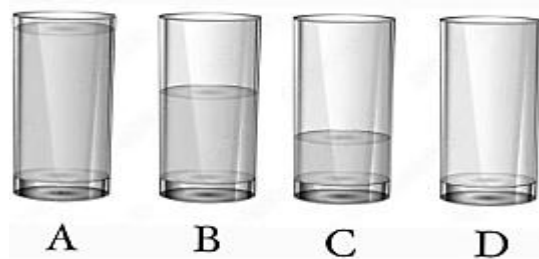
A I and II
B II and III
C I and III
D I and IV

7. The table shows four pairs of liquids. Which pair is completely miscible, forming a single layer when mixed?

Pair A	Pair B	Pair C	Pair D
Water and oil	Milk and water	Oil and kerosene	Water and Petrol

A Pair A
B Pair B
C Pair C
D Pair D

8. A swimmer wears a life jacket before entering a lake. What is the main reason the life jacket helps the swimmer stay afloat?
- A It makes the swimmer heavier
 - B It removes the force of gravity
 - C It prevents the swimmer from getting wet
 - D It increases the upward force acting on the swimmer
9. The Royal Government of Bhutan is promoting the use of electric vehicles (EVs) across the country. Why is this initiative important to help mitigate global climate change?
- A They are very quiet to drive
 - B They do not release gases that heat the planet
 - C They are cheaper for people to buy than regular cars
 - D They need fewer repairs and maintenance work than regular cars
10. The figure shows an experiment with four glasses filled with different levels of water. Which glass will produce a high-pitched sound when they are struck on their rims with a spoon?



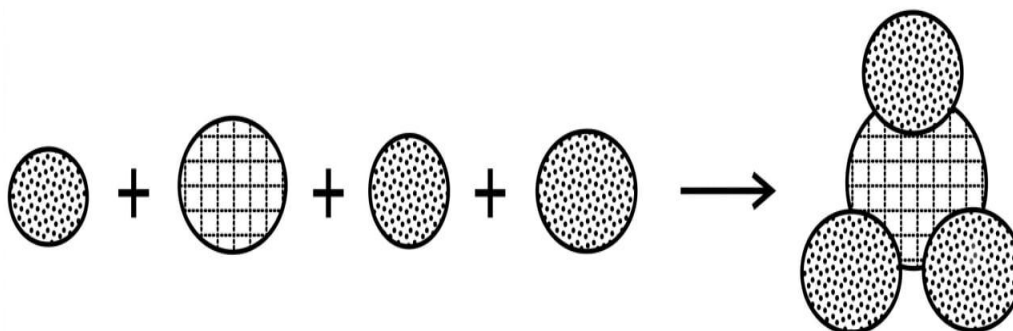
- A Glass D as pitch does not depend on water level
 - B Glass B as pitch depends only on the spoon used
 - C Glass A as more water always produces higher pitch
 - D Glass C as less water produces higher pitch due to faster vibrations
11. Which region of the Earth receives the most direct sunlight throughout the year?
- A Poles
 - B Equator
 - C Oceans
 - D Mountains
12. A farmer grows maize in a field with moderate rainfall and has well-developed roots. Which group does maize belong to?
- A Epiphyte
 - B Xerophyte
 - C Mesophyte
 - D Hydrophyte

13. The table shows the energy level of a grassland ecosystem.

Organisms	Energy
Foxes	200 J
Rabbits	20,00 J
Grasses	20, 000 J

What can you conclude from this data given in the table.

- A Rabbits produce their own energy
 - B Energy is lost between trophic levels
 - C Energy transfer is efficient between trophic levels
 - D Energy increases from lower to higher trophic levels
14. Which pathway correctly describes pulmonary circulation?
- A Body $\longrightarrow$ Lungs $\longrightarrow$ Body
 - B Heart $\longrightarrow$ Body $\longrightarrow$ Heart
 - C Lungs $\longrightarrow$ Heart $\longrightarrow$ Lungs
 - D Lungs $\longrightarrow$ Body $\longrightarrow$ Lungs
15. Photosynthesis is considered the foundation of life because
- A it benefits plants
 - B it releases heat energy into atmosphere
 - C it provides food and oxygen for living beings
 - D it provides energy to carnivores through food chains
16. Study the visual representation of a chemical reaction given in the figure below.

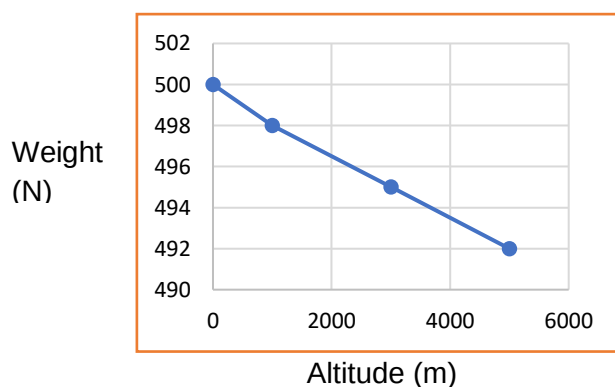


The figure shows the formation of

- A an atom
- B a mixture
- C an element
- D a compound

17. A student adds soap solution to two water samples. Sample A produces more lather than Sample B. What will the student do to improve lather formation in Sample B?
- A Add sugar
 - B Boil the water
 - C Add more salt
 - D Filter the water
18. The effective method to separate a mixture of alcohol and water will be
- A decantation because alcohol and water form separate layers
 - B evaporation because alcohol evaporates more quickly than water
 - C distillation because alcohol and water have different boiling points
 - D filtration because alcohol molecules are smaller than water molecules
19. A student wants to connect multiple lamps in the room so that each lamp receives the same voltage and works independently. Which circuit type must be used?
- A Mixed circuit
 - B Series circuit
 - C Open circuit
 - D Parallel circuit
20. Which experiment can a student design to study the refraction of light?
- A Put a pencil in water to see how much it looks bent
 - B Shine a flashlight at a mirror to see where the light bounces
 - C Put solid objects in front of a lamp to compare their shadows
 - D Mix blue and yellow plastic sheets to see if they make green light

21. The figure shows the records of a student's weight measured at different altitudes.



What does the data show about the student's weight?

- A Weight changes randomly
- B Weight increases with altitude
- C Weight decreases as altitude increases
- D Weight remains constant at all altitudes

22. A student tells a friend that they do not want to be hugged, but the friend hugs them anyway. This is an example of bad touch because
- A the friend may have intended to show kindness
 - B physical contact between friends is always acceptable
 - C hugs are a common way for friends to greet each other
 - D the friend did not respect the student's personal boundaries and feelings
23. Bean seeds were planted in two pots. Pot A was kept in sunlight and watered daily. Pot B was kept in a dark cupboard with no water. After a week, only Pot A grew into seedlings. What does this experiment show?
- A Seeds need only soil to grow
 - B Seeds grow faster when left alone
 - C Seeds need water and light to grow
 - D Seeds grow well in any environment
24. A pack of Jumpy Juice has a label that states “**Best before: 6 months.**” If the juice has been stored properly and is checked 7 months after production, which statement best describes the product?
- A The Jumpy Juice is harmful to consume because it is past the best-before period
 - B The Jumpy Juice will have completely lost its nutrients after the best-before period
 - C The Jumpy Juice must be thrown away immediately because the best-before period has ended
 - D The Jumpy Juice may have reduced quality but may still be suitable if it shows no signs of spoilage
25. A student observes a flowering plant after fertilisation has occurred. Which structure is identified as the part that will develop into a seed?
- A Petal
 - B Ovary
 - C Ovule
 - D Stigma
26. During puberty, a 12-year-old girl grows taller rapidly, develops pubic hair, and experiences the start of her menstrual cycle. These developments are examples of:
- A social changes
 - B mental changes
 - C physical changes
 - D emotional changes

27. These animals have dry and scaly skin. They live on land and lay eggs with hard shells. This describes the characteristics of

A birds
B reptiles
C mammals
D amphibians

28. A student tested different items in his house and recorded their pH values as shown in table.

Substances	pH Values
Baking Soda	9
Toothpaste	8
Drain Water	13
Hand washing soap	10

Which of the following is the **MOST** alkaline substance?

A Toothpaste
B Baking soda
C Drain water
D Hand washing soap

29. The table shows two flowers having the following characteristics:

Flower A	Flower B
Large, brightly coloured petals with a strong scent and nectar.	Small, dull-coloured flowers that produce large amounts of lightweight pollen.

Which conclusion is supported by these observations?

A Both are wind-pollinated flowers
B Both are insect-pollinated flowers
C Flower A is insect-pollinated, and Flower B is wind-pollinated
D Flower A is wind-pollinated, and flower B is insect-pollinated

30. A farmer is chooses a fertiliser to support healthy plant growth. Which combination of nutrients should the fertiliser contain as the three primary plant nutrients?

A Phosphorus, nitrogen, and calcium
B Potassium, magnesium, and nitrogen
C Potassium, calcium, and phosphorus
D Potassium, nitrogen, and phosphorus

SECTION B [30 MARKS]
ATTEMPT ALL QUESTIONS

Question 2

1. Flying lizards are known for their unique ability to move from tree to tree using wing-like structures and lay eggs. Which class of animals do they belong to? **[1]**

2. In a food chain, producers decrease due to lack of rainfall. Do you agree that all trophic levels will be equally affected? Justify with any TWO reasons. **[2]**

3. A student feels stressed due to emotional ups and downs during adolescence. Suggest TWO positive actions the student can take to manage stress effectively. **[2]**

Question 3

1. Sangay notices that the leaves of his garden plants are turning pale green. Which nutrient should he add to make the plants green and healthy? **[1]**

2. A student observes the following substances:

✓ Oxygen (O_2)

✓ Water (H_2O)

Classify each as an element or a compound and justify your answer using their molecular formulae.

[2]

3. A bicycle of mass 30 kg is moving with a speed of 20 m/s. Calculate the kinetic energy.

[1]

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4. A student places a book on the top shelf and another on the floor. Which book has greater potential energy? Justify your answer.

[1]

Question 4

1. A farmer observes that fewer seeds are germinating due to rising temperatures and irregular rainfall caused by climate change.

Design a simple method the farmer can use to improve seed germination under these changing conditions.

[2]

2. Dorji and his family face difficulties while washing clothes and experience dryness of skin after taking a bath. What type of water are they using? How would you advise Dorji and his family to overcome those challenges?

[2]

3. Which method is used to obtain salt from seawater?

[1]

Question 5

1. A student experimented on floating and sinking. He placed the same object first in the water and then in the oil. He observed that the object floats in water and sinks in the oil. Based on the experiment conducted by the student, answer the following questions.

- a. Compare the density of the water and oil.

[1]

- b. What can you conclude from this experiment? [1]

2. Create a simple diagram to show how the Earth, the Sun, and Moon align during a solar eclipse. [1]

3. Suppose you and your friend are on the Moon. Will you be able to hear any sound produced by your friend? Why? [1]

4. Beaker A contains a mixture of kerosene and water. Beaker B contains the salt solution. What separation methods will you use to separate these mixtures? [1]

Question 6

1. During summer in the Arctic, Kinley notices that the Sun never sets and it stays bright all day. What is this phenomenon called? [1]

2. If you were asked to choose a drum for a school performance in a large hall, which drum would you select from Fig 6. 1 to make sure the audience hear clearly, and why?

[2]

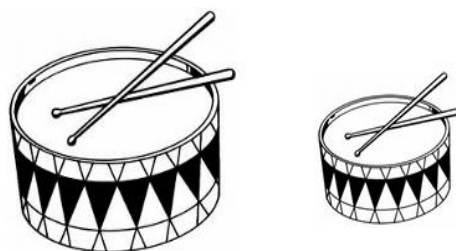


Fig. 6.1

A

B

3. A compass uses a permanent magnet to show directions, even in places with no electricity or internet. An engineer suggests replacing the permanent magnet with an electromagnet.

Analyse why this change affect the working of the compass.

[1]

4. State ONE example of an electromagnet used in our daily life.

[1]

Question 7

1. How can the understanding of the physical changes during puberty help you to better care for your body?

[2]

2. Reading nutrition labels on packaged food products is important. Give ONE reason.

[1]

3. Study Fig. 7.1, which shows the human circulatory system. Using the direction of blood flow in the diagram, identify the type of blood flowing through blood vessels X and Y [2]

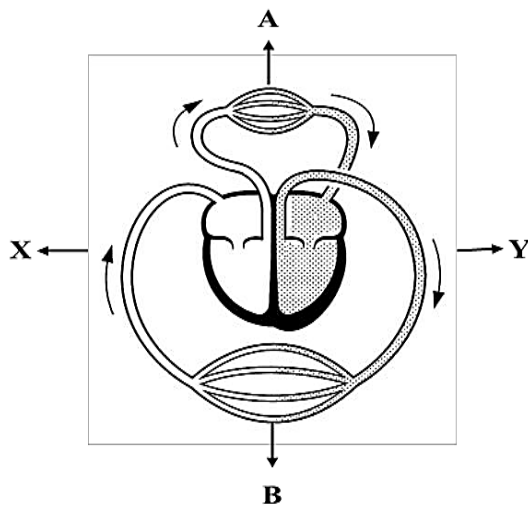


Fig.7.1

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