



ANANDALAYA
ANNUAL EXAMINATION
Class: VI

Subject: Science
Date : 13-03-2025

MM : 80
Time: 3 hours

General Instructions:

1. This question paper consists of 39 questions in 5 sections.
2. All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.
3. Section A consists of 20 objective type questions carrying 1 mark each.
4. Section B consists of 6 Very Short questions carrying 02 marks each. Answers to these questions should be in the range of 30 to 50 words.
5. Section C consists of 7 Short Answer type questions carrying 03 marks each. Answers to these questions should be in the range of 50 to 80 words.
6. Section D consists of 3 Long Answer type questions carrying 05 marks each. Answers to these questions should be in the range of 80 to 120 words.
7. Section E consists of 3 source-based/case-based units of assessment of 04 marks each with sub-parts.

SECTION A

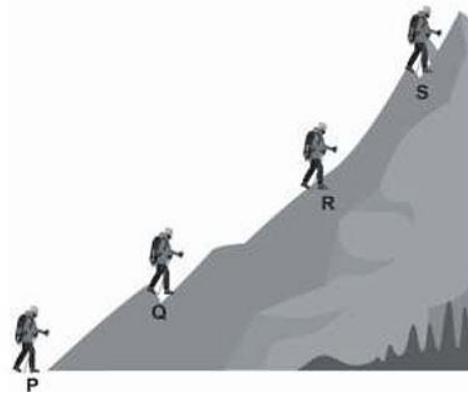
1. Which physical property is not used to separate silver spoon and sponge? (1)
(A) Hardness (B) Appearance
(C) Transparency (D) Conductivity
2. Which one of the given activities shows the presence of water vapour in air? (1)
(A) Steam is produced when water is heated.
(B) Road surfaces shine on hot summer days.
(C) Dew appears on plant leaves on winter nights.
(D) Tiny particles shine in a narrow beam of sunlight.
3. Raja blows air through a straw into a glass of water. He sees bubbles coming out from the straw in the water. What does his observation conclude? (1)
(A) Air has mass. (B) Air takes up space.
(C) Air can exert pressure. (D) Air contains water vapour.
4. The picture shows two identical pipes. One pipe is made of copper and the other is made of plastic. (1)



Which of the following will help you to identify the pipe made of copper?

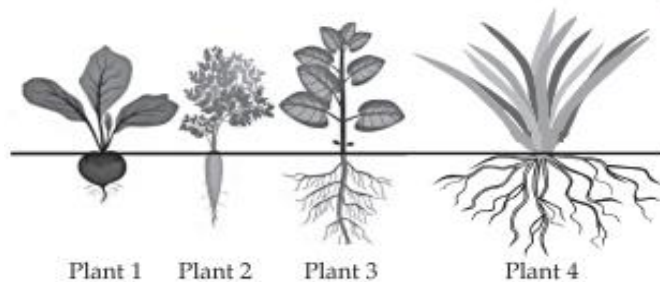
- (A) Place the pipes in water and check if they absorb water.
(B) Rub the pipes with sandpaper and check if they appear shiny.
(C) Hold the pipes under a glowing bulb and check if they produce shadows.
(D) Bring the pipes near a magnet and check if they are attracted by the magnet.
5. Tea leaves are separated by a strainer while pouring tea. Which property of tea leaves is used to separate them from the tea?
(A) Size (B) Mass (C) Shape (D) Thickness

6. The picture shows trekkers at four different locations on a mountain. P, Q, R and S are the four (1)
different locations.



At which location will a trekker need maximum oxygen from the cylinder?

- (A) P (B) Q (C) R (D) S
7. The pictures show four different plants. Which plants have the same type of roots? (1)



- (A) Plant 1 and Plant 2 (B) Plant 1, Plant 2 and Plant 3
(C) Plant 2 and Plant 3 (D) Plant 2, Plant 3 and Plant 4
8. Desert plants have small leaves or spines mainly to _____. (1)
(A) absorb more water (B) reduce water loss through transpiration
(C) capture more sunlight (D) protect themselves from animals
9. In which of the following habitats would you expect to find organisms with flattened bodies and (1)
broad leaves to trap sunlight?
(A) Desert (B) Ocean (C) Grasslands (D) Rainforest
10. The main function of the part of the leaf labelled as "A" is _____. (1)



- (A) transporting water and minerals (B) carrying out photosynthesis
(C) anchoring the plant to the soil (D) helping in gas exchange.
11. Earthworms move easily through the soil because _____. (1)
(A) they have legs
(B) their bodies are made of bones
(C) they have bristles and muscles that help in movement
(D) they slither like snakes

12. Which of the following is the correct match between the characteristics of stem and the category of plant? (1)
- (A) Thick, hard stem with branches high on the plant : Herb
 (B) Weak stem which cannot stand upright : Creeper
 (C) Green tender stem : Shrub
 (D) Thick, hard stem with branching near the base : Tree
13. The sun in the early morning can cause a building to form its shadow. The shadow will be _____. (1)
- (A) long (B) fat (C) thin (D) short
14. Which one of these is a non-conductor of electricity? (1)
- (A) steel plate (B) graphite (C) wood (D) metal spoon
15. Magnetic strength of a magnet is strong _____. (1)
- (A) at the poles (B) at the centre (C) outside the magnet (D) none of the above
16. Which of the following can never form a circular shadow? (1)
- (A) A flat disc (B) A ball (C) A shoe box (D) Ice-cream cone

For question numbers 17 to 20, two statements are given-one labelled Assertion (A) and the other labelled Reason(R). Select the correct answer to these questions from the codes (A), (B), (C) and (D) as given below.

- (A) Both (A) and (R) are true and (R) is the correct explanation of (A)
 (B) Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
 (C) (A) is true but (R) is false
 (D) (A) is false and (R) is also false.
17. A: Electricians are provided with rubber gloves while working on an electric pole. (1)
 R: Wood is a conductor since it doesn't allow electricity to pass through it.
18. A: Long chimneys in factories takes the harmful smoke and gases away from us. (1)
 R: Smoke contains a few gases and fine dust particles and it is harmful to us.
19. A: If a potted plant is covered with a polythene bag and kept in sunlight for 3-4 hours, water droplets can be seen inside the bag. (1)
 R: Water that evaporates due to transpiration from a plant, gets condensed as water droplets inside the bag.
20. A: Fishes move by pushing water backward with their fins. (1)
 R: The streamlined body of a fish reduces friction and helps in smooth movement in water.

SECTION B

21. Differentiate between luminous and non-luminous objects using relevant examples. (2)
22. What is the use of a switch in an electrical circuit? How does it work? (2)

OR



Will the bulb glow in the circuit given above? Give a reason for your answer.

23. (a) Why is it safer to breathe through the nose than through the mouth? (2)
 (b) Name the two gases which together make up 99% of the air.
24. Sumit wants to find out if burning takes place only in the presence of air. He places a burning (2)
 candle inside each of the four inverted glasses as shown here.

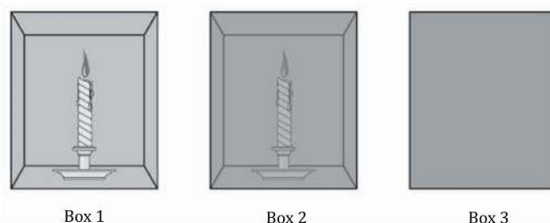


In which glass will the candle burn for the maximum time? Justify your answer.

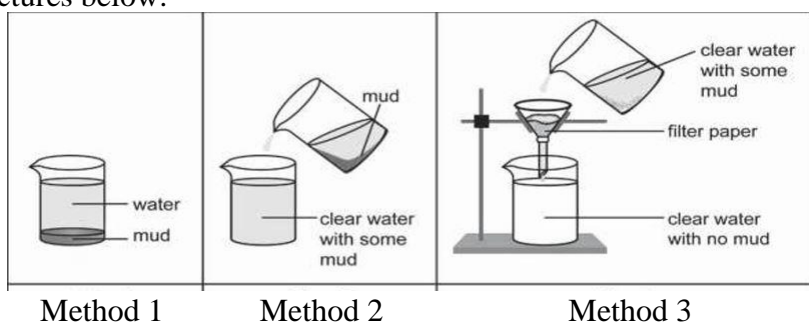
25. Identify and name the appropriate term based on the given descriptions. (2)
 (a) The process by which plants lose water in the form of water vapour through stomata in leaves.
 (b) The stalk that connects the leaf blade to the stem and supports the leaf.
 (c) The central, thick vein running through the middle of a leaf that provides support and transport nutrients.
 (d) The colourful part of a flower that attracts pollinators and protects reproductive organs.
26. How do dolphins and whales breathe in water? (2)

SECTION C

27. Namita has three boxes with the same thickness but different materials. She places a burning (3)
 candle inside each box. The images show how she views the candle through each box.



- (a) Identify the box which is made up of an opaque material.
 (b) Namita replaces box 1 with a thicker box made of the same material and repeats the activity.
 Will there be any change in the results of the activity? Explain your answer.
28. Suraj collected muddy water from a pond. He separated the mud from the water in three steps as (3)
 shown in the pictures below.



Mention the names and explain the separation methods used by Suraj.

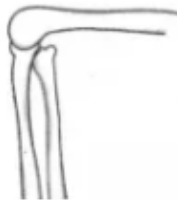
OR

- (a) What is condensation?
 (b) Name and explain the method of separation that can be used to separate the salt from water.

29. Jasmine covers a torch with a red cellophane sheet to obtain red light. Using red light, she obtains a shadow of an opaque object. She repeats this activity with green and blue light. Will the colour of the light affect the shadow? Explain. (3)
30. Daksh and Siddharth were cycling along a straight road. They started to ponder about types of motion of various parts of their bicycle. Name and explain the type of motion that is shown by each of the following parts of the bicycle. (a) Wheels (b) Pedals and (c) Handle (3)
31. (a) How do you make a piece of iron into a magnet? (3)
(b) Write any two ways in which a magnet can lose its magnetic properties.
32. Draw a neat and labelled diagram of the stamen and pistil of a flower. (3)
33. Identify the type of joints of bones A, B and C as shown in the figure and mention the function of each joint. (3)



A



B



C

SECTION D

34. (a) Explain the concept of saturated solutions using an activity, mentioning the materials needed, the procedure, observation and conclusion. Draw a relevant labelled diagram. (5)
(b) Lemonade is prepared by mixing lemon juice and sugar in water. You wish to add ice to cool it. Do you add ice to the lemonade before or after dissolving sugar? Support your answer with reason.

OR

- (a) Explain the following processes with an example: (i) Threshing and (ii) winnowing.
(b) Differentiate miscible and immiscible substances.
35. (a) You have a magnetic compass and a bar magnet whose poles are not marked. How do you identify the poles of bar magnet? (5)
(b) Write any two properties of a bar magnet.
(c) 'Tea-dust' does not contain iron powder in it. How do you test it with the help of the magnet?

OR

- (a) Why does a compass always point towards one direction?
(b) How can one make a temporary magnet?
(c) What is the safest way to store a bar magnet?
36. Mention any five adaptive features of plants and animals in mountain habitat. (5)

OR

- (a) Describe the process of growth and reproduction in living organisms. Give two examples for each.
(b) How do living organisms respond to stimuli in their environment? Explain with an example.

SECTION E

37. Everywhere around us, we come across the objects that move from one place to another. These objects are said to be in motion. In scientific terms, it is defined as the change in position of an object with respect to time. It can be further classified as rectilinear motion-which means travelling in a straight line, circular motion-where an object moves in a circular path along a fixed axis, rotational motion- where an object moves around in its own axis, oscillatory motion

and random motion. However, we can observe that in certain cases, some objects show two types of motion at the same time.

- (i) Which type of motion does a ball moving along the ground show? (1)
- (ii) Which type of motion does a ceiling fan show? (1)
- (iii) What is periodic motion? Give one example. (2)

38. Materials can be sorted in different groups on the basis of the physical properties like lustre, hardness, density, magnetism, transparency, elasticity etc.
Sorting materials into groups based on these physical properties serves various important purposes, including:

Scientific Study and Research

- Helps in identifying and understanding the characteristics of materials.
- Facilitates the study of material behaviour under different conditions.

Efficient Recycling and Waste Management

- Separating materials (metals, plastics, glass) makes recycling more efficient.
- Reduces environmental pollution by appropriate waste categorization.

Industrial and Manufacturing Applications

- Selecting suitable materials for construction, electronics, and product design.
- Enhancing product performance by choosing the best materials based on strength, conductivity, or elasticity.

- (i) Why do we notice the lustre of metals only on their freshly cut surface? (1)
- (ii) Even though being solid, how is rubber band different from other solid materials? (1)
- (iii) Define: Soft materials. Give two examples. (2)

OR

- (iii) Classify the following into water soluble and water insoluble materials.
Soil, copper sulphate crystals, wheat flour, honey, chalk powder

39. The skeleton is the framework of the human body, giving it shape and support. It consists of bones that we can feel in different parts of our body. A better way to understand the shape and structure of bones is through X-ray images, which help doctors detect injuries and fractures. The wrist is one of the most flexible parts of our skeleton because it is made up of small bones called carpals, allowing smooth movement. Another essential part of the skeleton is the rib cage, which protects important organs like the heart and lungs. The rib cage consists of 12 pairs of ribs, which are curved and connected to the chest bone and backbone. The backbone, also known as the vertebral column, is made up of 33 small bones called vertebrae. It provides strength and flexibility while supporting the rib cage. The skeleton not only provides structure but also helps in movement and protects delicate organs. It is a vital part of the human body, allowing us to perform daily activities efficiently.

- (i) Name the part of the skeleton that protects delicate organs like the heart and lungs. (1)
- (ii) How do X-ray images help doctors? (1)
- (iii) Why is the wrist flexible? Which bones contribute to this flexibility? (2)

OR

- (iii) Why do birds have lighter bones compared to humans? How does this adaptation help them?