Indian School Al Wadi Al Kabir
Midterm Examination (2024-2025)

Class: VII	Sub: Science	Max Marks: 80
Date: 22/09/2024	Set – I	Time: 2 ½ Hours

General Instructions:

i. All questions are compulsory. Marks are indicated against each section.
*ii. The question paper comprises 0**9 pages** and **39** questions in 5 sections A, B, C, D and E.*
*iii. Q 1 to Q 16 in **section A** are MCQ type and carry ONE mark each. Write the correct answer along with the option in the answer script.*
*iv. Q 17 to Q 20 in **section A** are Assertion and Reason type and carry ONE mark each.*
*v. Q 21 to Q 26 in **section B** are Short Answer Type Questions and carry TWO marks each.*
*vi. Q 27 TO Q 33 in **section C** are Short Answer Type Questions and carry THREE marks each.*
*vii. Q 34 TO Q 36 in **section D** are Long Answer Type Questions and carry FIVE marks each.*
*viii. Q 37 TO Q 39 in **section E** are Case study/Paragraph Questions and carry FOUR marks each.*
ix. Write the same question number as given in the question paper.
x. Whitener should not be used in the answer script.
xi. Diagrams should be drawn using a pencil.

SECTION A (1×20=20)

1. The mode of taking food by an organism and its utilisation by the body is called:
   a) Nutrition
   b) Digestion
   c) Ingestion
   d) Egestion

2. At the campsite there are tents of three shades. One is made of black fabric, the other is made of white fabric and the third is a black-and-white combination. Which would you prefer for resting on a hot summer afternoon?
   a) Black fabric
   b) Combination of both black and white
   c) White fabric
   d) None of the above

3. Which of the following pairs of teeth differ in structure but are similar in function?
   a) Premolars and canines
   b) Canines and incisors
   c) Molars and premolars
   d) Incisors and molars

4. Phenolphthalein is a synthetic indicator and its colours in acidic and basic solutions respectively are:
   a) Red and blue
   b) Blue and red
   c) Pink and red
   d) Colourless and pink

5. An iron ball at 60°C is dropped in a mug containing water at 60°C. The heat will:
   a) flow from iron ball to water.
   b) increase the temperature of both.
   c) flow from water to iron ball.
   d) neither flow from iron ball to water nor from water to iron ball.

6. Soha mixed equal amounts of an acid and a base in a test tube. She observed the following:

   - The colour of the liquids did not change.
   - The test tube becomes hot.
   - No gas bubbles were formed.
   - No residue was formed in the test tube.

   Soha concluded that a new substance was formed in the test tube. Which change confirms her conclusion?
   a) The test tube becomes hot.
   b) No residue was formed in the test tube.
   c) No gas bubbles were formed.
   d) The colour of the liquids did not change.

7. Which process causes the air above the hot tea to get heated?

   a) Conduction
   b) Evaporation
   c) Convection
   d) Radiation

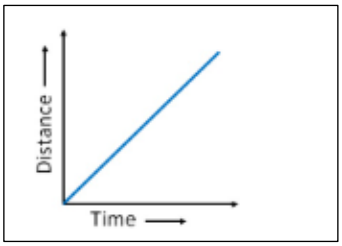
8. Sanu revisited a historical monument after ten years. She noticed that the white monument had turned yellowish. What reason is most likely to have caused the change in colour of the monument?
   a) Flood
   b) Acid rain
   c) Drought
   d) Thunderstorm

9. A simple pendulum takes 32 s to complete 20 oscillations.
Calculate the time period of the pendulum.

a) 5.5 s
b) 9.2 s
c) 1.6 s
d) 7.6 s

10. Which of the following distance-time graphs shows a truck parked on a roadside?

a)



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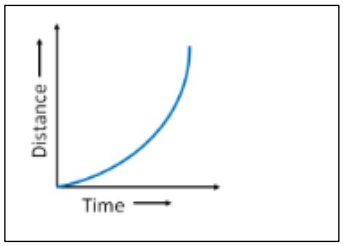

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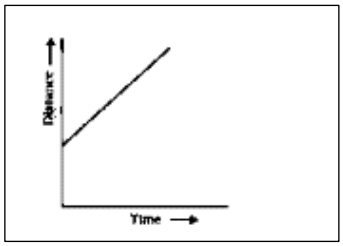

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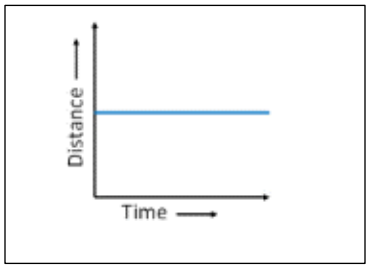
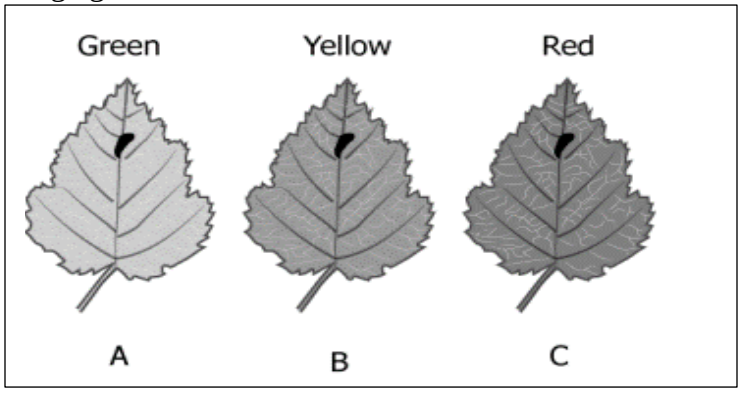


11. The instrument installed in a car for measuring the distance moved by the vehicle.
a) Barometer
b) Odometer
c) Anemometer
d) Speedometer

12. In cockroaches, oxygen-rich air enters their body through:
a) Lungs
b) Gills
c) Spiracles
d) Skin

13. The image given below shows the different coloured leaves:



A student claimed that leaves other than green colour cannot perform photosynthesis. Is the claim of the student correct?

a) No, as other coloured leaves also have chlorophyll and can perform photosynthesis.
b) Yes, as only green-coloured leaves have chlorophyll to perform photosynthesis.
c) No, as other coloured leaves can also perform photosynthesis even in the absence of chlorophyll.
d) Yes, as only green coloured leaves can absorb energy from the sunlight to perform photosynthesis.

14. The normal range of breathing rate per minute of an average adult person at rest is:
    a) 9-12 times per minute.
    b) 15-18 times per minute.
    c) 41-44 times per minute.
    d) 30-33 times per minute.

15. Shilpa was preparing dough for making bhaturas. She added a pinch of yeast and sugar to the dough and left it in a warm place. After a few hours, the dough had risen with a sour smell. Why did the dough rise?
    a) Due to anaerobic respiration in yeast.
    b) Due to aerobic respiration in yeast.
    c) Due to anaerobic respiration in bacteria.
    d) Due to aerobic respiration in bacteria.

16. Which statement best describes the process of photosynthesis in plants?

    a) In the presence of sunlight, chlorophyll containing cells of leaves use oxygen and water to synthesise carbohydrates.
    b) In the presence of sunlight, chlorophyll containing cells of leaves use carbon dioxide and oxygen to synthesise carbohydrates.
    c) In the presence of sunlight, chlorophyll containing cells of leaves use carbon dioxide and water to synthesise carbohydrates.
    d) In the presence of sunlight, chlorophyll containing cells of leaves use nitrogen and water to synthesise carbohydrates.

For the following questions, two statements are given- one labelled Assertion (A) and the other labelled Reason (R). Select the correct answer to these questions from the codes (i), (ii), (iii), and (iv) as given below

(i) Both A and R are true and R is the correct explanation of the assertion.

(ii) Both A and R are true but R is not the correct explanation of the assertion.

(iii) A is true but R is false.

(iv) A is false but R is true.

17. **Assertion (A):** A faster moving object covers more distance in less time.
    Reason (R): The speed of a faster moving object is less.

18. **Assertion (A):** Breathing is a process that breaks down food to release energy.
Reason (R): When the supply of oxygen to our muscle cells is insufficient, food breaks down in the absence of oxygen.

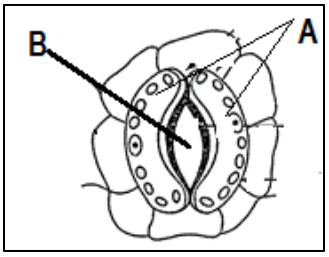
19. **Assertion (A):** Distilled water is considered as a neutral substance.
Reason (R): Distilled water is neither acidic nor basic in nature.

20. **Assertion (A):** The process of digestion begins in the mouth.
Reason (R): The tongue mixes the food with saliva during chewing and helps in swallowing the food.

SECTION B (2×6=12)

21. a) Why do farmers grow many fruits and vegetables inside large greenhouses?

b) Observe the figure given alongside. Identify A and B.



22. a) Stainless steel pans are usually provided with copper bottoms. Why?
b) What conditions are required for the transfer of heat through conduction?

23. a) What is the role of pseudopodium in the nutrition of amoeba?

b) (i) What are villi?
(ii) What is the function of villi?

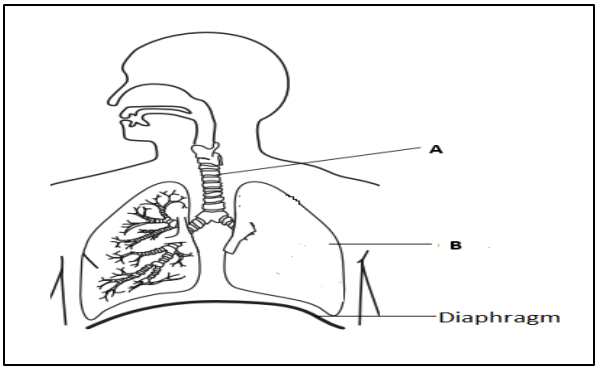
24. a) What are indicators?
b) Why is it important to handle acids and bases with caution?

25. Draw a neat diagram of a simple pendulum showing its mean and extreme positions.

26. a) (i) What happens to the breathing rate when a person feels sleepy or drowsy? Explain.

(ii) How does yawning improve the above-mentioned situation?

b) The parts of the human respiratory system are indicated using A and B. Label the parts marked as A and B in the figure.



SECTION C (3×7=21)

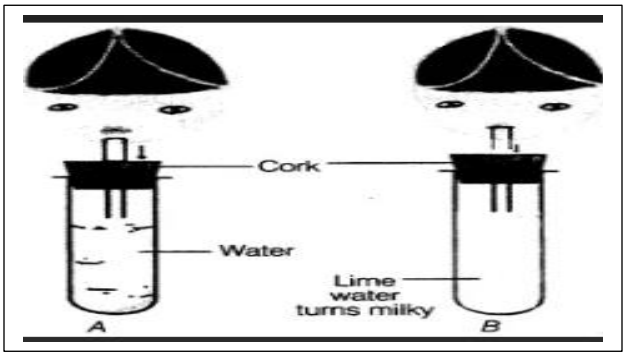
27. a) Mention any two properties of acids and bases.

    b) Calamine lotion is applied on the skin when an ant bites. Give a reason.

28. a) How would you test the presence of starch in leaves?

    b) How do pitcher plants get their nutrition? Explain.

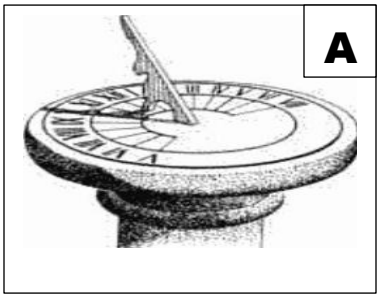
29. Observe the given figure and answer the following questions.

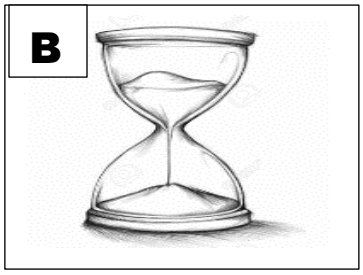


    a) Which process is being tested in the activity?

    b) What is the result of the activity in test tube A and test tube B? Explain with reason.

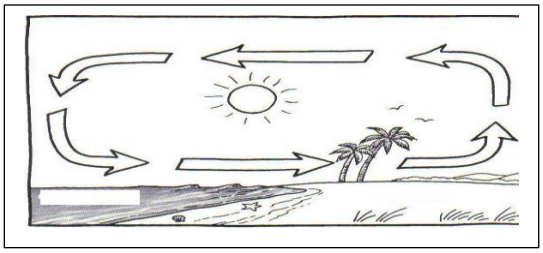
30. a) Identify the time-measuring devices given below.





    b) Find the distance between New Delhi to Mumbai, if a train moving with a speed of 200 km/h takes 12 hours to travel from New Delhi to Mumbai.

31. a) Identify and explain the natural phenomenon shown in the picture given below.



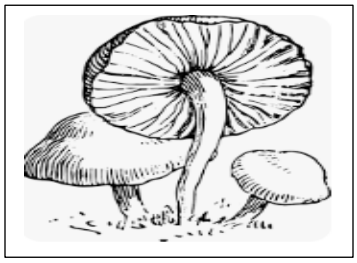
b) The handle of a pressure cooker is covered with thick plastic. Give a reason.

32. a) Mention any two differences between milk teeth and permanent teeth.

b) Name the type of carbohydrate that can be digested by ruminants but not by humans. Explain the reason.

33. a) Cuscuta is categorised as a parasite. Give a reason.

b) Refer to the diagram given below and answer the following:



i) Identify the mode of nutrition in the given organism.

ii) How does the organism given above obtain its nutrition? Explain.

SECTION D (5×3=15)

34. a) Draw a neat diagram of amoeba and label the following parts**:**

i) Nucleus

ii) Food vacuole

b) Explain the process of nutrition in amoeba.

c) What are the end products of carbohydrates, fats and proteins obtained after completion of digestion?

35. a) State any two

i) similarities between the laboratory thermometer and the clinical thermometer.

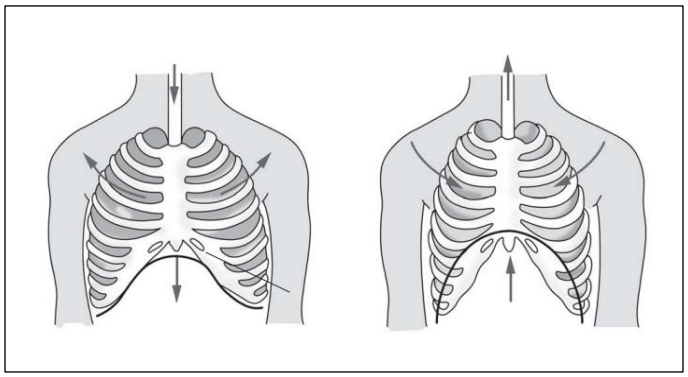
ii) differences between the laboratory thermometer and the clinical thermometer.

b) Why is it preferred to use two thin blankets rather than one thick blanket in cold weather?

36. a) Why do we often sneeze when we inhale a lot of dust-laden air?

b) While participating in a 400 m race at school, Gopika suffered from cramps in her leg muscles. After a massage, she was relieved. What are the possible reasons for the pain in her legs?

c) Observe the figure given below and answer the following question.



Explain the changes that happen to the diaphragm and ribs during inhalation and exhalation.

SECTION E (4×3=12)

37. **Rani observed that farmers and gardeners add manure or fertilisers to the soil and she wanted to understand why they do so. Through her research, she understood that as plants absorb mineral nutrients from the soil, their amounts in the soil keep on declining. Fertilisers and manures contain plant nutrients that need to be added from time to time to enrich the soil. She also learned that though nitrogen is abundant in the air, plants cannot use nitrogen in the manner they use carbon dioxide. They need nitrogen in soluble form.**

A bacterium called Rhizobium, living in the roots of legumes like peas and beans, can convert atmospheric nitrogen into a usable form for plants. In return, the plants provide Rhizobium with food and shelter, forming a symbiotic relationship.

i) Can plants use nitrogen in the same manner as they use carbon dioxide? Explain.

ii) Why do farmers and gardeners add manure or fertilisers to the soil in fields and gardens?

iii) Explain the symbiotic association found in rhizobium bacteria and legumes.

38. **Plants do not grow well when the soil is either too acidic or too basic. When the soil is too acidic, it is treated with bases like Quicklime (Calcium oxide) or Slaked lime (Calcium hydroxide). If the**

soil is basic, organic matter is added to it. Organic matter releases acids that neutralise the basic nature of the soil. The wastes of many factories contain acids. If they are allowed to flow into the water bodies, the acids will kill fish and other organisms. The factory wastes are, therefore, neutralised by adding basic substances.

i) The soil in a field is highly acidic. Name two substances that can be added to the soil to neutralise it.

ii) How does organic matter improve the quality of the soil?

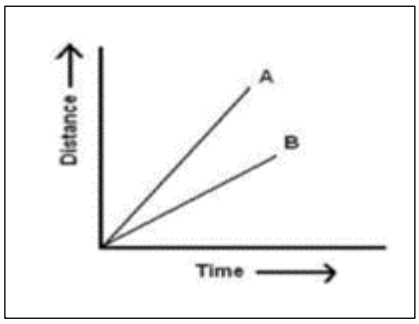
iii) Why is factory waste neutralised before disposing it off into water bodies?

39. **Manju learned from her science teacher that a distance-time graph is an important tool for studying the motion of objects. The advantage of distance-time graphs is that they give information about the nature of the motion of an object like uniform or non-uniform motion. The motion of an object can be represented by its distance-time graph.**

If a body covers equal distances in equal intervals of time, then the motion is said to be uniform. If a body covers unequal distances in equal intervals of time, then its motion is called non-uniform motion. A straight line on the graph indicates uniform motion while a curved line shows non-uniform motion. The steeper the graph's slope, the faster the object moves, making it a simple way to understand different aspects of motion.

i) What is the advantage of the distance-time graph?

ii) The graph given below shows the distance-time graph for the motion of two vehicles A and B. Which one of them is moving faster? State the reason for the same.



iii) Identify and define the type of motion shown in the graph given below.