



# Indian School Al Wadi Al Kabir

## Mid-term Examination (2025-2026)

CLASS: VII

Subject: SCIENCE

MAX.MARKS: 80

DATE: 16/09/2025

Set -I

TIME: 2½ HOURS

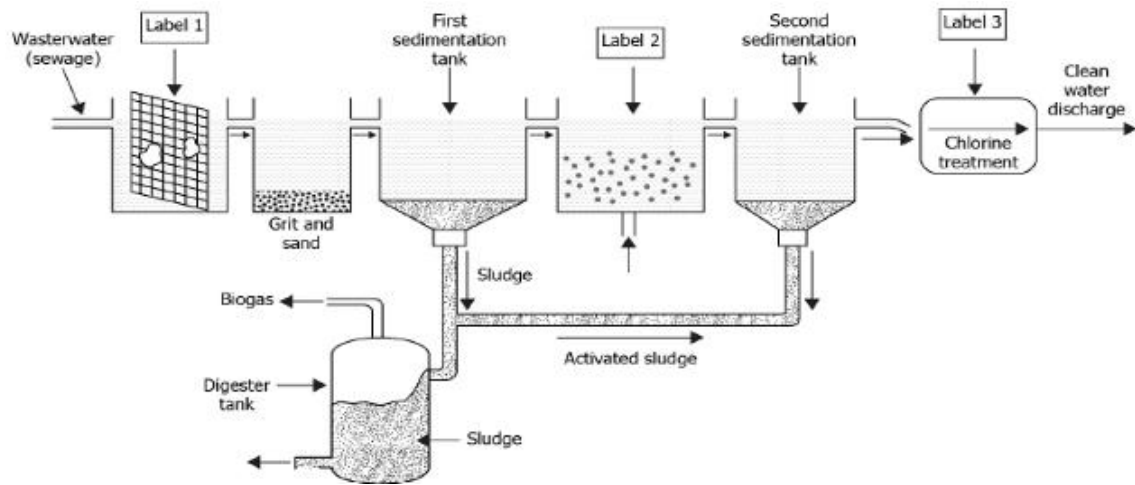
### General Instructions:

- i. All questions are compulsory. Marks are indicated against each section.
- ii. The question paper comprises **10** pages and **39** questions in 5 sections: A, B, C, D, and E.
- iii. Q 1 to Q 16 in section A -MCQ carries **ONE** mark each. Write the correct answer along with the option in the answer script.
- iv. Q 17 to Q 20 in **section A** -Assertion and Reason 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, 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 (1X20=20)

1. Amarbel (Cuscuta) is an example of:
  - a) Autotroph
  - b) Parasite
  - c) Host
  - d) Insectivorous plants
2. Butterflies pull nectar from flowers into their mouths. What mode of feeding is this?
  - a) Scraping.
  - b) Chewing.
  - c) Sucking.
  - d) Swallowing.
3. Which of the following statements correctly explains why algae are green and can make their own food?
  - a) Algae are green because they absorb green light, and they can eat other organisms to get food.
  - b) Algae are green due to the presence of chlorophyll, which helps them capture sunlight for photosynthesis.
  - c) Algae are green because they store food, and they rely on soil nutrients for energy.
  - d) Algae are green because of their water content, and they can only survive in water without making food.

4. Consider the following layout of an urban wastewater treatment plant. Choose the correct option.



- a) 1: Bar screen, 2: Aeration, 3: Disinfection  
b) 1: Sand filtration, 2: Settling tank, 3: Sludge collector  
c) 1: Settling tank, 2: Anaerobic digestion, 3: Disinfection  
d) 1: Grit removal, 2: Aeration, 3: Third sedimentation tank
5. Water absorption through roots can be increased by keeping plants:
- a) In the shade.  
b) In dim light.  
c) Under the fan.  
d) Covered with a polythene bag.
6. Which device measures the distance covered by a vehicle?
- a) Tachometer  
b) Odometer  
c) Accelerometer  
d) Speedometer
7. Which of the following substances are basic?
- a) Curd and Soap  
b) Tamarind and Amla  
c) Window cleaner and Soap  
d) Orange and Spinach

8. Which of the following correctly describes assimilation?

- a) The process of breaking large food molecules into simpler molecules.
- b) The process by which undigested food is ejected out of the body.
- c) The process by which the absorbed nutrients from digested food are taken up by the cells and incorporated into the body.
- d) Process of inter-exchange of oxygen and carbon dioxide between haemoglobin and the cells of the body.

9. 'Litmus', a natural dye, is an extract from which of the following?

- a) Blueberries
- b) China Rose
- c) Lichen
- d) Beetroot

10. A truck travels 60 km in the first hour and 80 km in the second hour. What is the average speed of the truck?

- a) 72 km/h
- b) 140 km/h
- c) 10 km/h
- d) 70 km/h

11. A few activities are given below. Identify the bodies exhibiting circular motion.



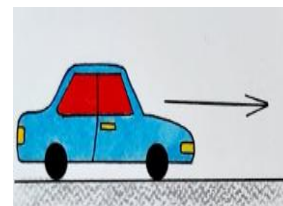
**P-** Motion of a child seated on a swing.



**Q-** Movement of the Earth around the Sun.



**R-** Whirling a stone tied to a thread



**S-** Motion of a car along a straight road.

- a) P and R
- b) Q and R
- c) Q and S
- d) P and S

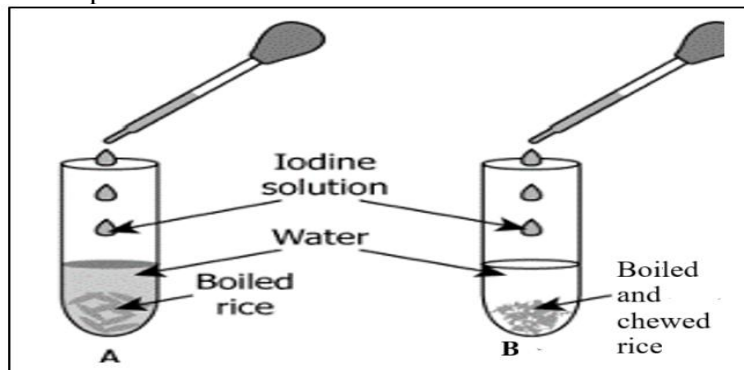
12. A student was provided with a three-dimensional model of the human circulatory system. The teacher asked the student to identify the heart from all the structures in the model. How would the student be able to locate the heart in the circulatory system?

- a) A structure that is located in the chest cavity with its upper tip slightly tilted towards the left.
- b) A structure that is located in the chest cavity with its lower tip slightly tilted towards the left.
- c) A structure that is located in the abdominal cavity with its lower tip slightly tilted towards the right.
- d) A structure that is located in the abdominal cavity with its upper tip slightly tilted towards the left.

13. The modern household water filters generate a lot of wastewater after filtration in several urban and rural homes. What can be a possible utility of this water that has a higher concentration of mineral salts and trace impurities?

- a) Cooking
- b) Bathing
- c) Doing laundry
- d) Watering plants

14. The image shows an experiment in which boiled rice was placed in test tube A, and boiled and chewed rice was placed in test tube B.



When iodine solution was added to both test tubes, the solution in test tube A turned blue-black, but the solution in test tube B remained unchanged. Which of the following statements correctly explains this observation?

- a) Chewing adds saliva to the food, which converts starch into sugars.
- b) Chewing adds saliva to the food, which converts starch into fatty acids.
- c) Chewing adds saliva to the food, which converts fats into amino acids.
- d) Chewing adds saliva to the food, which converts protein into fatty acids.

15. How do large greenhouses help farmers achieve better crop yield?

- a) By eliminating the need for sunlight and water.
- b) By forcing plants to grow faster without photosynthesis.

- c) By providing the required temperature and protecting from unfavourable weather conditions.
- d) By reducing the size of the crops for easier harvest.

16. A teacher placed the chest piece of a stethoscope on Nirmal's chest and asked another student, Vimal, to put the earpieces of the stethoscope into his ears. Vimal heard a thumping sound.

What sound was Vimal listening to?

- a) Sound of Nirmal's kidney.
- b) Sound of Nirmal's heartbeat.
- c) Sound of blood flowing in Nirmal's veins.
- d) Sound of Nirmal's stomach.

**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):** Animal nutrition includes the nutrient requirement, the mode of intake of food, and its utilisation in the body.

**Reason (R):** The small intestine in humans is shorter as compared to large intestine.

18. **Assertion (A):** Filtering of blood takes place in the lungs.

**Reason (R):** Salts and urea are removed along with water as sweat.

19. **Assertion (A):** Cleaning water is a process of removing pollutants before they enter a water body.

**Reason (R):** The process of cleaning water and removing pollutants is called sewage treatment.

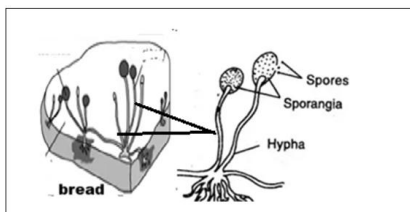
20. **Assertion (A):** The motion of a simple pendulum is one of the well-known periodic motions.

**Reason (R):** The Time period is the time taken by a pendulum to complete one oscillation.

### SECTION B (2X6=12)

21. Refer to the diagram below and answer the questions.

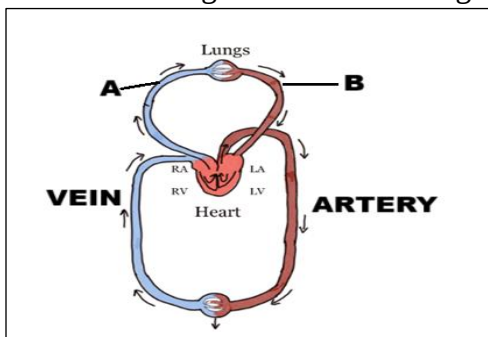
- a) Identify the mode of nutrition.
- b) Explain how it obtains its nutrition.



22. A simple pendulum takes 36 s to complete 12 oscillations. Calculate the time period of the pendulum.
23. a) Why should we handle acids and bases with care?
- b) i) Is distilled water acidic, basic, or neutral?
- ii) How would you verify whether distilled water is acidic, basic, or neutral?
24. Draw a neat and labelled diagram of the human excretory system.
25. a) Eucalyptus trees can be planted along sewage ponds. Give a reason.
- b) Name any two chemicals used for disinfecting water.
26. a) Why is the digestion of fats difficult compared to that of other nutrients?
- b) State any two functions of the tongue.

### SECTION C (3X7=21)

27. a) Insectivorous plants are partial heterotrophs. Explain.
- b) Write the difference between autotrophic and heterotrophic nutrition.
28. a) Name the type of carbohydrate that can be digested by ruminants but not by humans. Give the reason.
- b) Draw a neat, labelled diagram of an amoeba and label the nucleus and food vacuole.
29. a) Sponges and Hydra do not possess a circulatory system. How do they carry out the distribution of food and other substances?
- b) Mention the functions of the following blood cells.
- i) RBC
- ii) Platelets
- c) Identify the labelled parts **A** and **B** marked in the given schematic diagram of circulation.



30. a) What are indicators?

b) When we add sulphuric acid to lime water, will the mixture become hot or remain cold? Justify your answer.

c) Calamine solution is applied to the skin when an ant bites. Give a reason.

31. a) What are salts, and how are they formed?

b) Copy the given table in your answer script and complete the table:

| TEST SOLUTION  | EFFECT ON BLUE LITMUS | EFFECT ON CHINA ROSE |
|----------------|-----------------------|----------------------|
| SOAP SOLUTION  | NO CHANGE             | <b>A</b>             |
| SUGAR SOLUTION | <b>B</b>              | NO CHANGE            |
| VINEGAR        | RED                   | <b>C</b>             |
| BAKING SODA    | NO CHANGE             | <b>D</b>             |

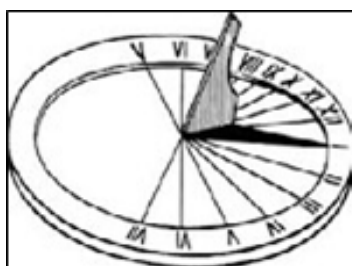
32. a) i) What is sludge?

ii) Explain how sludge is treated

b) Write any two simple steps to conserve water.

33. a) i) Identify the time-measuring device given below.

ii) What is the principle behind the working of the device?



b) What is the disadvantage of using the device given above as a time-keeping device?

c) Draw a neat and labelled diagram of a simple pendulum and mark its mean and extreme positions.

#### SECTION D (5X3=15)

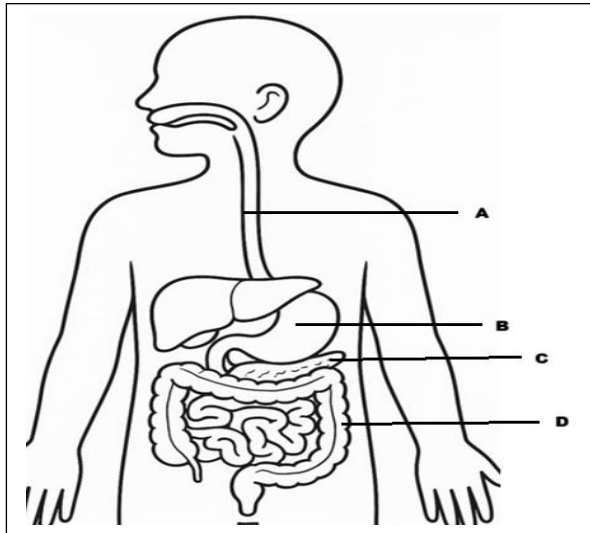
34. a) Draw a neat labelled diagram showing Photosynthesis.

b) i) How do fungi and algae in lichens benefit each other?

ii) What is their relationship called?

c) Explain the structure of a cell.

35. a) i) Label the parts A, B, C, and D in the given figure-



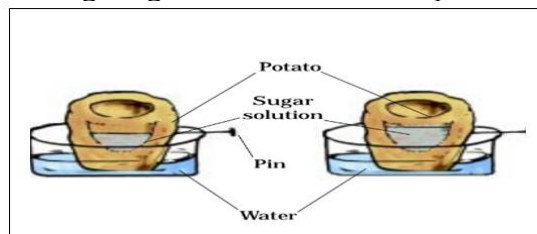
ii) Explain the importance of the gland marked as C, which is associated with digestion.

b) i) What is meant by villi?

ii) Write the importance of villi in the process of digestion.

36. a) Write down any two key differences between arteries and veins.

b) Observe the figure given and answer the questions given:



i) What will be your observation after a few hours?

ii) How did water get inside the potato?

c) Transpiration serves several useful functions in plants. Justify this statement.

## SECTION E (4X3=12)

37. Read the passage given below and answer the following questions.

Afsal, a class 7 student, learned that the term “acid” is derived from the Latin word *acidus*, meaning “sour.” Acids are of two types: mineral acids and organic acids. Mineral acids, such as nitric acid, are obtained from minerals in the earth, while Organic acids are naturally occurring acids present in plants and animals. Mineral acids are stronger and more corrosive than organic acids. The concentration of a mineral acid can be decreased by mixing with water; mixing with water dilutes the acid and makes it less harmful. The rain containing excess acids is called acid rain. The rain becomes acidic because carbon dioxide, sulphur dioxide, and nitrogen dioxide gases, which are released into the air as pollutants, dissolve in raindrops to produce carbonic acid, sulphuric acid, and nitric acid, respectively. Acid rain destroys plants, pollutes water and soil, and damages buildings and historical monuments.

- i) What are organic acids?
- ii) How can the concentration of mineral acid be decreased (diluted)?
- iii) Explain acid rain and its effects in detail.

38. Dhruv and Thej are walking near a park.

**Dhruv: (looking around) Oh no, Thej! Look at all this garbage lying around. If it’s not cleaned, people can fall sick.**

**Thej: You’re right, Dhruv. Sanitation and disease are closely related. Sanitation involves the proper disposal of sewage and refuse from houses and public places. If sanitation is done, no disease will occur, but if sanitation is not done, various types of disease will occur and spread. So, sanitation should be maintained to avoid diseases.**

**Dhruv: True. We can contribute to maintaining sanitation by not scattering litter anywhere. By the way, have you heard about vermi-processing toilets?**

**Thej: (curious) No, what are those?**

**Dhruv: They are special toilets where earthworms treat human waste and change it into something called vermi cakes.**

**Thej: Okay, so do those vermi cakes have any use?**

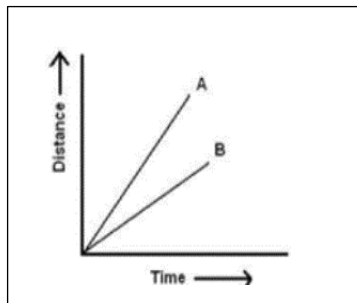
**Dhruv: They’re used as natural manure for plants. It keeps the soil healthy and the environment clean.**

**Thej: That’s amazing! If everyone followed these ideas and maintained sanitation, our cities would be disease-free and green.**

- i) What are vermi-processing toilets?
- ii) Write the use of vermi cakes.
- iii) Explain the relationship between sanitation and disease.

39. Nehan learned from his science teacher that graphs are used to present information interestingly. Motivated by this, he explored the concept of distance–time graphs to understand the motion of objects. He found that if a body covers equal distances in equal intervals of time, the motion is said to be uniform, whereas if it covers unequal distances in equal intervals of time, the motion is called non-uniform. On observing the graph, he noticed that a straight line represents uniform motion, while a curved line represents non-uniform motion. He also understood that the steeper the slope of the graph, the faster the object moves. From his observation, Nehan concluded that the main advantage of a distance–time graph is that it clearly shows the nature of the motion of an object, whether uniform or non-uniform.

- i) The graph below shows the distance–time motion of two vehicles, A and B. State, with reason which vehicle is moving faster.



- ii) From Nehan's observation, state one advantage of using a distance–time graph.
- iii) Explain the type of motion shown by vehicles **A** and **B** in the graph given below.

