



# B.K. BIRLA CENTRE FOR EDUCATION

SARALA BIRLA GROUP OF SCHOOLS  
A CBSE DAY-CUM-BOYS' RESIDENTIAL SCHOOL



TERM-1 (2025-26)  
SCIENCE

Class: VII

Time: 3hours

Date: 12/09/25

Max Marks: 80

Admission no:

Roll no:

## General Instructions:

- (i) This question paper consists of 39 questions in 3 sections. Section A is Biology, Section B is Chemistry and Section C is Physics.
- (ii) All questions are compulsory. However, an internal choice is provided in some questions. A student is expected to attempt only one of these questions.

## SECTION- A BIOLOGY

1. During photosynthesis, \_\_\_\_\_ is also produced along with glucose. 1  
a) carbon dioxide  
b) starch  
c) oxygen  
d) light energy
2. In humans, absorption takes place in the \_\_\_\_\_. 1  
a) small intestine  
b) large intestine  
c) liver  
d) mouth
3. Which of the following structures store bile juice temporarily? 1  
a) Gall bladder  
b) Pancreas  
c) Oesophagus  
d) Liver
4. Air enters the lungs through \_\_\_\_\_. 1  
a) trachea  
b) bronchi  
c) bronchioles  
d) alveoli
5. Which of these terms refers to the cycle of one inhalation and exhalation? 1  
a) Breathing rate  
b) Respiration  
c) Respiratory system  
d) Breath

6. Which of these substances need to be transported within a living organism? 1
- a) Nutrients and water
  - b) Respiratory gases
  - c) Waste
  - d) All (a), (b) and (c)

7. Which of the following contains haemoglobin? 1
- a) Plasma
  - b) Red blood cells
  - c) Platelets
  - d) White blood cells

The following two questions consist of two statements – **Assertion (A)** and **Reason (R)**. Answer these questions by selecting the appropriate option given below:

- (a) *Both assertion and reason are true, and reason is the correct explanation of assertion.*
- (b) *Both assertion and reason are true, but reason is not the correct explanation of assertion*
- (c) **Assertion is true, but reason is false.**
- (d) **Assertion is false, but reason is true.**

8. Assertion: During heavy exercise, we get muscle cramps. 1

Reason: Muscle cells perform anaerobic respiration during heavy exercise.

9. Assertion: The heart pumps blood into the arteries. 1

Reason: Arteries carry blood away from the heart.

10. Arrange the following in the correct order: 2

- (a) On the basis of the steps in holozoic nutrition → absorption- ingestion- egestion- assimilation
- (b) On the basis of their secretion → bile- salivary amylase- HCl- intestinal juice

11. *Students to attempt either option A or B.* 2
- A. Define breathing.

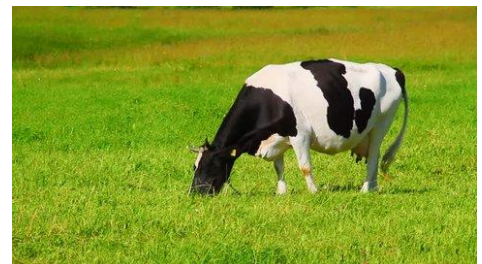
OR

B. What is anaerobic respiration?

12. (a) What is the function of haemoglobin in the blood?  
(b) Why do veins have valves?

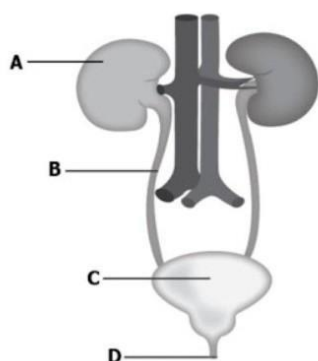
13. Observe the diagram and answer the questions that follows: 3

- (a) Identify the producer and the consumer.
- (b) Differentiate between their modes of nutrition.
- (c) What is the source of energy for the producer?



14. Describe the structure and function of labelled parts (any 3).

3



15. Rohan ate a lot of fried food at a wedding. A few hours later, he complained of a stomach ache. His mother gave him some digestive medicine and advised him to drink plenty of water. After some rest, he felt better.

4

Questions:

1. What could be the reason behind Rohan stomach ache? 1
2. Which part of the digestive system is mainly affected by oily and spicy foods? 1
3. Name the digestive juice that helps in the digestion of fats and proteins. 2

OR

3. What role does the rumen and abomassum play in digestion? 2

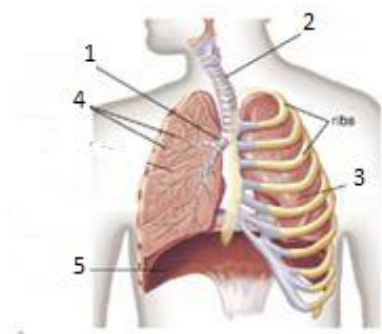
16. Attempt either option A or B.

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A. Explain the mechanism of breathing in a fish with the help of a flowchart.

OR

B. Label the marked parts in the diagram given below.



### **SECTION- B CHEMISTRY**

17. Which of the following is not a pure substance?

1

- (a) Element
- (b) Compound
- (c) Mixture
- (d) Molecule

18. Which of the following is an example of a strong acid? 1
- (a) Acetic acid
  - (b) Formic acid
  - (c) Hydrochloric acid
  - (d) Lactic acid
19. Which of the following is NOT an example of a salt? 1
- (a) Plaster of Paris
  - (b) Copper sulphate
  - (c) Washing soda
  - (d) Sodium hydroxide
20. Which of these is an irreversible change? 1
- (a) Melting of wax
  - (b) Condensation of steam
  - (c) Breaking of glass
  - (d) Evaporation of water
21. What is the process of obtaining large crystals of substances from their saturated solutions called? 1
- (a) Evaporation
  - (b) Condensation
  - (c) Melting
  - (d) Crystallisation
22. Which of the following is a reversible physical change? 1
- (a) Breaking of a glass jar
  - (b) Cutting of a paper
  - (c) Burning of cotton
  - (d) Boiling of water
23. What happens to the mercury when a thermometer is dipped in hot water? 1
- (a) It contracts.
  - (b) It expands.
  - (c) It neither expands nor contracts.
  - (d) The result cannot be predicted.

The following question consists of two statements – **Assertion (A)** and **Reason (R)**.

Answer these questions by selecting the appropriate option given below:

- A. Both A and R are true, and R is the correct explanation of A.
- B. Both A and R are true, and R is not the correct explanation of A.
- C. A is true but R is false.
- D. A is false but R is true.

24. Assertion: Burning of any substance is always a chemical change. 1

Reason: A chemical change is also called a chemical reaction.

25. Raja has four beakers, and each beaker contains 100 mL of an acidic solution. The amount of acid in each beaker is given below. 2

**Beaker 1 — 50 mL of acid**

**Beaker 2 — 25 mL of acid**

**Beaker 3 — 80 mL of acid**

**Beaker 4 — 75 mL of acid**

Arrange these solutions in the order of their concentrations, starting from the most diluted.

26. **Attempt either option A or B.** 3

A. Define rusting. Write the methods to prevent rusting

**OR**

B. State any three chemical changes that you observe in your day-to day life.

27. Explain the properties of acids and bases 3

28. Read the following and answer the questions- 4

On Sunday, Rakesh was invited to his friend's lunch party. There he ate a lot of different food items like samosas, pakodas, pizza, etc. On returning home, he kept feeling uneasy. He also felt some pain in his stomach. He took a powder and mixed it with water and drank it. After drinking the solution, Rakesh felt relieved.

- (i) Which acid aids in our digestion?
- (ii) Salts of carbonic acid are known as –  
(a) Carbonics (b) Sulphite (c) Acetates (d) Carbonates
- (iii) What will happen if we mix an acid with a base. What is the reaction called?

**OR**

- (iii) What was the powder that Rakesh mixed in water? What happened when Rakesh drank the solution?

29. **Attempt either option A or B.** 5

- A.
- i) What is a chemical change?
  - ii) Define the following reactions and give an example for each.
    - (a) Combination reaction
    - (b) Oxidation reaction

**OR**

- B.** i) When magnesium burns, white ash is formed. When the white ash is dissolved in water, a basic solution is formed. What type of reaction is involved in each change? Write a word equation for each.  
 ii) Explain crystallisation with the help of an example.

### SECTION-C PHYSICS

30. Why do we wear light-coloured clothes in summer? 1

- (a) They absorb more heat. (b) They reflect most of the heat.  
 (c) They conduct heat better. (d) They allow air to pass through easily

31. What is the SI unit of velocity? 1

- (a) km/s (b) m/s (c) m/h (d) km/h

The following question consists of two statements – **Assertion** (A) and **Reason** (R). Answer these questions by selecting the appropriate option given below:

- A. Both A and R are true, and R is the correct explanation of A.  
 B. Both A and R are true, and R is not the correct explanation of A.  
 C. A is true but R is false.  
 D. A is false but R is true.

32. **Assertion:** In uniform linear motion, an object covers equal distances in equal intervals of time. 1

**Reason:** A vehicle moving in city traffic is an example of uniform linear motion.

33. What are insulators ? Write two examples of insulators. 2

34. A. (i) Define Displacement. 2  
 (ii) What is the displacement of an object that travels in a circular path of radius and returns to its starting point?

**OR**

B. A car accelerates from rest to a velocity of 72 km/h in 10 s on a straight road. Calculate its acceleration in  $\text{m/s}^2$ .

35. Explain how water heats up in a kettle through the process of convection. 3

36. Define thermal equilibrium. Explain how it is achieved using an example. 3

37. Plot Distance-time graph by using data given below: 3

| Time (s)     | 0 | 3  | 6   | 9   | 12  | 15  |
|--------------|---|----|-----|-----|-----|-----|
| Distance (m) | 0 | 60 | 120 | 240 | 300 | 360 |

**38. Read the passage below and answer the questions:**

**4**

A person runs four rounds of a rectangular track. The magnitude of velocity will change if the person slows down or takes a break. Similarly, the direction of velocity will change when the person takes turns along the rectangular path. Therefore, when we speak about the velocity of an object over a period of time and not at a specific instance, we use average velocity.

Average velocity is defined as the ratio of displacement of an object to the total time for which the object showed motion. The direction of average velocity is in the direction of the displacement (from the initial position of the object to its final position). The SI unit of average velocity is the same as that of velocity.

- (i) Define average velocity.
- (ii) What is the direction of average velocity?
- (iii) A dog runs 400 m east in 20 s. Calculate its velocity for this duration.

**OR**

- (iii) A car runs 40 km east in 2 hours . Calculate its velocity for this duration.

**39. Attempt either option A or B.**

**5**

- A. What is the conduction process? Write one application. Explain the Conduction of heat in a metal spoon.

**OR**

- B. (i) What is heat? Write its SI unit of Heat.
- (ii) Differentiate between heat and temperature.

\*\*\*\*\*ALL THE BEST\*\*\*\*\*