



BK BIRLA CENTRE FOR EDUCATION
SARALA BIRLA GROUP OF SCHOOLS
SENIOR SECONDARYCO-ED DAY CUM BOYS' RESIDENTIAL SCHOOL



MID TERM EXAMINATION 2024-25

SCIENCE

Class: VII
Date: 16.09.24
Name:

Duration: 3 hrs
Max. Marks: 80
Exam R No:

General Instructions:

- i. This question paper consists of 39 questions in 5 sections.
- 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.
- iii. Section A consists of 20 objective type questions, questions 17 to 20 consist of assertion and reason statement carrying 1 mark each.
- iv. 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.
- v. 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.
- vi. Section D consists of 3 Long Answer type questions carrying 05 marks each. Answer to these questions should be in the range of 80 to 120 words.
- vii. Section E consists of 3 source-based/case-based units of assessment of 04 marks each with sub-parts

Section-A

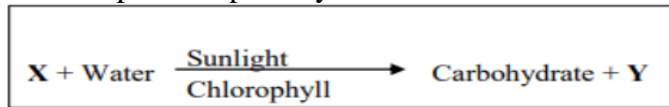
Select and write the most appropriate option out of the four options given for each of the questions 1 - 16.

1. Sodium chloride molecule is an example of _____ 1
(a) A mixture (b) An element (c) A compound (d) None of these.
2. The gastric juice present in our stomach contains _____.
(a) Sulphuric acid (b) Hydrochloric acid (c) Nitric acid (d) None of these
3. Calcium hydroxide is a strong base and is commonly called _____. 1
(a) Caustic soda (b) Slaked lime (c) Caustic potash (d) None of these
4. Which of the following organisms make the soil porous? 1
(a) Algae (b) Fungi (c) Earthworm (d) Protozoa
5. Soil conservation is related with mainly conserving: 1
(a) Top soil (b) Sub-soil (c) Microbes in soil (d) Parent rock

6. The soil that contains more than 60% clay and has fine particles. 1
(a) Clayey soil (b) Sandy soil (c) Loamy soil (d) None of these

7. _____ help in decomposing plant remains. 1
(a) Viruses (b) Bacteria (c) Amoeba (d) None of these

8. The equation given below represents photosynthesis. 1



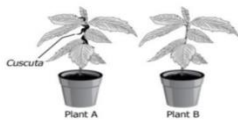
Which of the following is represented by X and Y in the given equation?

- (a) X- carbon dioxide, Y- oxygen. (b) X- oxygen; Y- carbon dioxide.
(c) X – carbon dioxide; Y- hydrogen. (d) X- carbon; Y- oxygen.
9. Which of these animals breathes through its moist skin? 1

(a) Cockroach and fish (b) Fish and snake (c) Earthworm and frog (d) Fish and lizard

10. The food that humans eat contains lots of nutrition. These nutrients cannot be directly absorbed by the body. It must have to be breakdown into smaller particles, and after that, these molecules get absorbed by the blood. Which life process helps humans to break down food? 1
(a) Digestive system (b) Nervous system (c) Excretory system (d) Reproductive system

11. Cuscuta is a yellow parasitic plant which climbs on other plants as it lacks chlorophyll. A student sets up an experiment using two potted plants, one with Cuscuta and others without it as shown: 1



- Which of these plants will show more growth?
- (a) Plant A, as Cuscuta provides valuable nutrients to host plants for photosynthesis.
(b) Plant B, as Cuscuta shares the chlorophyll of the host plants to synthesise its own food.
(c) Plant B, as Cuscuta uses readymade food of plant A that weakens the host plant.
(d) Plant A, as Cuscuta shares its readymade food with host plants to increase their combined growth

12. Which of the following pair of teeth differ in structure but are similar in function? 1
(a) Canines and incisors (b) molars and premolars

(c) Incisors and molars (d) premolars and canines

13. Liquid metal used in thermometer is: 1

(a) Mercury (b) Silver (c) Gold (d) None of these

14. Paheli and Boojho measured their body temperature. Paheli found her's to be 98.6 °F, and Boojho recorded 37°C. Which of the following statement is true? 1

(a) Paheli has a higher body temperature than Boojho.

(b) Paheli has a lower body temperature than Boojho.

(c) Both have a normal body temperature. (d) Both are suffering from fever.

15. The centre of cyclone is the calm area and is called: 1

(a) Focus (b) Eye (c) Centre (d) Radius

16. A dark coloured shape cloud that reaches from sky to the ground is called: 1

(a) Typhoon (b) Tornado (c) Hurricane (d) Thunderstorm

Question No. 17 to 20 consist of two statements – Assertion (A) and Reason (R). Answer these questions 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.

17. **Assertion:** All materials conduct the heat. 1

Reason: Conductors are the materials which allow heat to pass through them easily.

18. **Assertion:** The warm air always goes up. 1

Reason: The warm air is lighter than the cold air .

19. **Assertion:** Ruminants can digest cellulose

Reason: Ruminants have cellulose-digesting bacteria in their stomach. 1

20. **Assertion:** Soil is the most important renewable natural resource. 1

Reason: Relief, parent rock, climate etc., are important factors in the formation of soil.

Section-B

Question No. 21 to 26 are very short answer questions

21. What should be done to get relief from a bee sting and why? 2
22. Explain the process of respiration:
- (i) In the leaves of a plant. (ii) In the roots of a plant. 2
- OR
- Write word equations for anaerobic respiration in human beings and in yeast?
23. What are villi? Mention its function. 2
24. Mention two applications of radiation.
25. What is a symbiotic relationship? Explain with an example. 2
26. Explain the working of Anemometer to measure the wind speed with the help of a diagram. 2

Section-C

Question No. 27 to 33 are short answer questions

27. (a) Name the elements present in CaO 3
- (b) Define atomicity. Write the atomicity of hydrogen and Magnesium.
28. Explain soil profile with suitable diagram. 3
- OR
- What is soil conservation? Explain in detail about the steps that can be taken for soil conservation.
29. (a) Where is the bile produced? Which component of the food does it digest?
- (b) What is the role of pseudopodia in the nutrition of amoeba? 3
30. Explain the process of exchange of gasses in Alveoli with the help of a neat labeled diagram.
31. What is a cyclone? Explain the formation of cyclones with the help of diagram. 3
32. Show that black color is a good absorber of heat with the help of an activity. 3
33. Differentiate between the Kelvin scale and Fahrenheit scale with the help of a diagram. 3

Section-D

Question No. 34 to 36 are long answer questions

34. With the help of a neat labelled diagram explain the mechanism of breathing. 5

OR

Define respiration. Write a note on any four respiratory organs in animals.

35. (a) What will happen if the acidic industrial waste waters are dumped into rivers without treating them?

(b) Explain neutralisation reaction along with an example. 5

OR

(a) (i) Substances that turn red litmus blue _____.

(ii) The chemical name for common salt _____.

(b) With the help of an activity explain the preparation of natural indicator from China rose.

36. Write a short note on Tornado. List any three precautions to be taken during Tornado. 5

OR

Explain the formation of thunderstorms. List any three precautions to be taken during thunderstorms.

Section-E

Question No. 37 to 39 are case-based/data -based questions with 2 to 3 short sub-parts.

Internal choice is provided in one of these sub-parts.

37. Proteins are nitrogenous substances that contain nitrogen. Nitrogen is present in abundance in gaseous form in the air. However, plants cannot absorb nitrogen in this form. Soil has certain bacteria that convert gaseous nitrogen into a usable form and release it into the soil. The bacterium called Rhizobium can take atmospheric nitrogen and convert it into a soluble form. These soluble forms are absorbed by the plants along with water. The plants such as gram, peas, and pulses are called leguminous plants. These plants have root nodules in them which have a symbiotic association with bacteria such as Rhizobium. Farmers also add fertilisers rich in nitrogen to the soil to make nitrogen available to the plants. Plants can synthesize components of food other than carbohydrates such as proteins and fats.

Answer the following:

(i) How do plants get nitrogen for making proteins? 1

- (ii) Can plants use nitrogen in the manner they use carbon dioxide? 1
- (iii) Nitrogen is an essential nutrient for plant growth. But farmers who cultivate pulses as crops like Green gram, Bengal gram, black gram, etc. do not apply nitrogenous fertilisers during cultivation. Why? 2

OR

- (iii) Name the components of food other than carbohydrates synthesized by plants. 2

38. A chemical formula for a molecule is represented by the group of symbols of the elements that constitute the molecule, and the number of atoms of each element present in one molecule. For example the chemical formula of calcium is (Ca), copper is (Cu), iron is (Fe), sodium chloride is (NaCl), and for water is (H_2O). The number '2' after H indicates that there are two atoms of hydrogen in one molecule of water.

- (a) Write the symbol of Aluminium and Potassium. 1
- (b) What is the chemical formula of Magnesium Chloride? 1
- (c) Write the name of all the elements and number of atoms present in HNO_3 . 2

OR

- (c) How many atoms of oxygen and sulphur are present in H_2SO_4 ? 2

39. There are three units of temperature- degree Celsius ($^{\circ}C$), degree Fahrenheit ($^{\circ}F$) and Kelvin (K). Accordingly, there are three different temperature scales-Celsius scale, Fahrenheit scale and Kelvin scale. A temperature scale is defined by two fixed points. The difference between the two temperatures is further divided into certain number of divisions.

Celsius scale .It is the most commonly used scale to measure the temperature. It was devised by Anders Celsius. On this scale, the melting point of pure water is taken as $0^{\circ}C$ and the boiling point of pure water is taken as $100^{\circ}C$. The interval between the two fixed points of this scale is divided into 100 equal parts, where each part is $1^{\circ}C$. Answer the following questions.

- (i) Name any two scales to measure the temperature. 1
- (ii) Which scale was devised by Ander's Celsius 1
- (iii) Define the temperature and write the SI unit of temperature 2

OR

- (iii) What are the values of melting and boiling points of pure water on the Celsius scale. 2

***** *Best of luck* *****