**** **SINDHI HIGH SCHOOL, HEBBAL**

**HALF YEARLY EXAMINATION [2023-24]**

**SUBJECT: SCIENCE**

**Class: VII Max Marks: 80**

**Date: 03.10.2023 Reading Time: 8:30 to 8:45 am**

**No. of Sides: 05 Writing Time: 8:45 to 11:15 am**

**General Instructions:**

1. The Question Paper contains five sections and 39 questions.

2. All questions are compulsory.

3. **Section A** has of 20 objective type questions of 1 mark each.

**Section B** has 6 very short questions carrying 2 marks each.

**Section C** consists of 7 short answer type questions carrying 3 marks each.

**Section D** has 3 long answer type questions carrying 5 marks each.

**Section E** has 3 case study units of assessment of 4 marks each.

4. Internal choices is provided in some questions; A student has to attempt only one of

the alternative questions should be attempted.

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| **SECTION - A**  **Q. no 1 to 20 are objective type questions** | |  |
| 1. | The symbol of sodium is:  (a) So (b) Sd  (c) Na (d) NA | 1 |
| 2. | The element Z burns in air to form an oxide. The aqueous solution of this oxide turns red litmus to blue. This element is likely to be:  (a) Carbon (b) Sulphur  (c) Oxygen (d) Magnesium | 1 |
| 3. | Matter is composed of very small particles called –  (a) atom (b) element  (c) molecule (d) compound | 1 |
| 4. | An atom with 3 protons and 4 neutrons will have a valency of :  (a) 3 (b) 7  (c) 1 (d) 4 | 1 |
| 5. | When ice is heated, it changes to water and water on further heating gets converted to steam. What happens when steam is condensed?  (a) A new substance is formed (b) No new substance is formed  (c) Gaseous phase changes to liquid phase (d) Both (b) and (c) are correct. | 1 |
| 6. | The chemical name of baking soda is:  (a) sodium hydrogen carbonate ( b) sodium carbonate  (c) calcium carbonate (d) calcium hydrogen carbonate | 1 |
| 7. | Which of the following is a chemical change?  (a) lifting up a chair (b) filling a glass with orange juice  (c) cooking a pot of rice (d) bursting a balloon | 1 |
| 8. | When dilute iodine solution is poured over a decolourised green leaf, a blue-black colour is produced. This shows the green leaf contains:  (a) glucose (b) starch  (c) cellulose (d) sucrose | 1 |
| 9. | The site of complete digestion and absorption of food in the human digestive system (a) stomach (b) large intestine  (c) small intestine (d) rectum | 1 |
| 10. | The enzymes present in the Saliva convert  (a) fats into fatty acids and glycerol (b) starch into simple sugars  (c) proteins into amino acids (d) simple sugars to starch | 1 |
| 11. | If a patient is put on dialysis, he is most likely suffering from a severe ailment of the:  (a) circulatory system (b) respiratory system  (c) excretory system (d) digestive system | 1 |
| 12. | Water absorption through roots can be increased by keeping the potted plants:  (a) in the shade (b) in dim light  (c) under the fan (d) covered with a polythene bag | 1 |
| 13. | An iron ball at 40°C is dropped in a mug containing water at 40°C. The heat will:  (a) flow from iron ball to water.  (b) not flow from iron ball to water or from water to iron ball  (c)flow from water to iron ball  (d) increase the temperature of both | 1 |
| 14. | The woollen clothes keep us warm during winter because:  A) Wool is an insulator B) Wool is a conductor  C) Wool traps air D) Wool has vacuum  (a) A and B (b) B and C (c) C and D (d) A and C | 1 |
| 15. | At the time of the short circuit, the current in the circuit:  (a) reduces substantially (b) does not change  (c) increases heavily (d) varies continuously | 1 |
| 16. | In a filament-type bulb, a lot of electrical energy is wasted in the form of:  (a) heat (b) sound (c) light (d) magnetism | 1 |
|  | **Q. no 17 to 20 are Assertion – Reasoning based questions.**  **In the following question, a statement of Assertion is followed by a statement of Reasoning. Choose the correct answer from the following options.**  **a) Both A and R are true & 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 true but R is false.**  **d) A is false but R is true.** |  |
| 17. | **Assertion (A):** **Dark coloured objects absorb more heat than the light coloured   object.**  **Reason(R):** We feel more comfortable in light coloured clothes in the summer. | 1 |
| 18. | Assertion (A): Bulb filament is made of tungsten.Reason (R): The filament should have low melting point. | 1 |
| 19. | Assertion (A): Insectivorous habitat of plants is to cope up with oxygen deficiency.Reason(R): Insectivorous plants are partly autotrophic and partly heterotrophic. | 1 |
| 20. | **Assertion [A]**: The atomic number of Nitrogen is 7.  **Reason [R]:** The atomic number of an atom is the sum total of the number of   protons and neutrons present in the nucleus of the atom. | 1 |
|  | **SECTION-B**  **Q. no 21 to 26 are very short answer questions** |  |
| 21. | Classify the following into elements and compounds:i) MgO ii) He iii) Cl iv) H2O | 2 |
| 22. | Draw a neat labelled diagram of human excretory system. | 2 |
| 23. | Write **any 2** differences between arteries and Veins. | 2 |
| 24. | Name one example each for the following:  i) An autotroph  ii) a saprophyte  iii) symbiotic plant  iv) a partial heterotroph | 2 |
| 25. | One end of the objects such as a steel spoon, plastic scale, a pencil and a divider are put in a beaker of hot water. In which of these objects the other end will get hot? Why? | 2 |
| 26. | What is the role of mucous and hydrochloric acid in stomach? | 2 |
|  | **SECTION-C**  **Q. no 27 to 33 are short answer questions** |  |
| 27. | An element ‘X’ has mass number 11 and atomic number 5. Name the element ‘X’ and find the number of protons, neutrons and electrons in this element. | 3 |
| 28. | Observe the given picture and answer the questions.  a) What colour change will you observe in the solution and on the nail after   dropping an iron nail into it?  b) Why do we observe the colour change?  c) Write the word equation involved in the above reaction. | 3 |
| 29. | The human body has an organ **A** which acts as a pump. The organ **A** pumps a liquid **B** into the whole body continuously. The liquid **B** supplies the useful substances **C** and **D** to all the body cells and removes a waste E from the body cells.  a) What are organ A and liquid B?  b) what is the colour of liquid B?  c) Name the useful substances C and D  d) What is the waste E? | 3 |
| 30. | a) Two separate sets of two cells each are shown below. Draw lines to indicate   how you will connect their terminals with wires to make batteries of two cells   each. (draw cells and then connect)  b) Write the importance of using fuse in a household electric circuit. | 3 |
| 31. | Mention the method by which heat is transferred:  a) from a man’s hand when placed on a cold iron vessel.  b) from the sun to the earth.  c) from the bottom of a hot liquid to its upper cooler parts. | 3 |
| 32. | Describe the blowing of sea breeze and land breeze in coastal areas with the help of labelled diagrams. | 3 |
| 33. | Draw neat, labelled diagram of the nutrition in amoeba. | 3 |
|  | **SECTION-D**  **Q. no 34 to 36 are long answer questions** |  |
| 34. | a) Derive the molecular formula of the following compounds using steps:  (i) Calcium hydroxide (ii) Ferrous sulphide  b) Draw the atomic structure of sodium atom and mention its atomic number and electronic configuration. | 2  3 |
| 35. | Types of Teeth in Humans, Diagram and Functions - CBSE TutsTypes of Teeth in Humans, Diagram and Functions - CBSE Tuts    **A B C**  a) Identify A, B and C.  b) Write the functions A, B and C.  c) How does our tooth decay? | 1½  1½  2 |
| 36. | a) Draw and explain how to make an electromagnet. b) Mention the two factors on which the strength of the magnetic field of an   electromagnet depends. | 3  2 |
|  | **SECTION-E**  **Q. no 37 to 39 are very short answer questions** |  |
| 37. | A chemical change produces a new substance whereas a physical change does not produce any new substance. To understand how a physical change occurs, take some sugar crystals and dissolve them in water. The water becomes sweet to taste, which shows that molecules of sugar are present in water. Evaporate the sugar solution in a china dish over a Bunsen burner or a spirit lamp. A white residue is obtained in the china dish. All the properties of this residue are identical to sugar, which was earlier dissolved in water. Thus, we find that in this case no new substance is formed. Hence dissolving of sugar in water is a physical change. Change in state or phase are physical changes such as melting, freezing, vapourisation, condensation and sublimation. A chemical change results in substance that was not there before.  a) A sheet of paper was torn into pieces and then burned. What changes does   this sheet of paper undergoes? Explain.  b) Define the following terms:  i) Galvanisation  ii) Crystallisation | 2  2 |
| 38. | Transportation in Plants is depicted in the given picture. Observe the picture and answer the questions that follow:    a) Name the vascular tissues presents in plants.  b) Write the functions of both the above-  mentioned vascular tissues.  c) The tip of the tall trees also receive  water for photosynthesis. Justify. | 1  2  1 |
| 39. | A thermometer is an instrument used to measure temperature. You can measure the temperature of lots of different things with a thermometer, such as the temperature of a room to see how hot or cold it is, the temperature of a person to tell if they are sick, or the temperature of food to check if it is cooked. **Celsius** and **Fahrenheit** are two different scales mostly used for measuring temperature.  a) Define temperature.  b) What is the range of: i) Clinical thermometer and  ii) Laboratory thermometer  c) Why does the Mercury level not fall on its own when the bulb of a clinical   thermometer is removed from the mouth? | 1  2  1 |

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