** SINDHI HIGH SCHOOL, HEBBAL**

**PERIODIC TEST - II (2023-24)**

**SUBJECT – Science**

**Class: X Marks: 30**

**Date: 04/8/2023 Reading Time: 8:20 to 8:30 am Number of printed sides: 3 Writing Time: 8:30 to 9:30 am**

**General Instructions:**

* This Question Paper has 5 Sections A-E.
* Section A has 6 questions carrying one mark each consisting MCQs and assertion and

reasoning

* type questions.
* Section B has 3 questions carrying 2 marks each.
* Section C has 3 questions carrying 3 marks each.
* Section D has 1question carrying 5 marks.
* Section E has 1 case based question carrying 4 marks.

|  |  |  |
| --- | --- | --- |
| Q. No | **SECTION A ( 1 MARK QUESTIONS )** | MARKS |
| 1 | When you add a few drops of acetic acid to a test-tube containing sodium bicarbonate powder, which one of the following is your observation?  (a) No reaction takes place.  (b) Formation of a colourless gas with pungent smell and brisk  effervescence.  (c) Formation of a brown coloured gas with brisk effervescence.  (d) Formation of a colourless and odourless gas brisk effervescence. | **1** |
| 2. | The factors responsible for the conduction of water in tall trees are-   1. Root pressure , transpiration, diffusion 2. Root pressure, vaccum, translocation 3. Transpiration, photosynthesis, cohesion and adhesion 4. Diffusion, osmosis, transduction | **1** |
| 3 | Identify the waste products of the plant from the following:-  a. Acids, alcohols, and hydrogen.  b. Resins, gums, and Oxygen  c. ketones, aldehydes and carbon dioxide  d. Flavinoids, carotenoids and chlorophyll | **1** |
|  | **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 |  |
| 4 | **Assertion:**  Nichrome is used in electrical heating device like electric oven.  **Reason:** Alloys generally have high melting point and low resistivity. | **1** |
| 5 | **Assertion:** Non-metallic oxides are basic in nature.  **Reason:** The pH of aqueous solution of non-metallic oxides is below 7. | **1** |
| 6 | **Assertion:** Dendrites receive impulses from the body and transfer through cyton as electric impulse.  **Reason:** Nerve endings release neurotransmitter and generate chemical impulse. | **1** |
|  | **SECTION B** |  |
| 7 | Ram and Shyam are arguing on auricles and ventricles of human heart. Ram says that auricles have pure blood and ventricles have impure blood. Shyam argues that the left side of the heart has pure blood and right side has impure blood.  i. a. Whom do you support? Justify your answer  b. How is it helpful for man?  ii. Give any one difference between arteries and veins based on their structure | **2** |
| 8 | **(i) In the circuit given, calculate the power output across 10 Ω resistance**  **(ii)** An electric kettle is rated 3 kW, 250 V. Give reason whether this kettle can be used in a circuit which contains a fuse of current rating 13 A | **1+1** |
| 9 | Observe the given representation and answer the following:-    i. What is the process which takes place at A and B  ii. Why is the process unique at both the sites? What would be the consequence if the processes are inter changed? | **1+1** |
|  | **SECTION C** |  |
| 10. | The diagram alongside shows the magnetic field due to a  C:\Users\Pramod K\Downloads\WhatsApp Image 2023-07-23 at 20.02.04.jpeg current in a solenoid.  (i) Redraw the diagram and mark the poles formed at the ends  (ii) What is the effect on the poles and strength of the magnetic field if the direction of current is reversed through it?  (iii) “No two magnetic field lines intersect each other.” Justify | **1+1+1** |
| 11. | Classify the following into reflex action , voluntary and involuntary actions. Justify your answer with suitable reasons.   1. Walking on a rope 2. Closing eyes when bright light falls on our eyes 3. Peristalsis 4. Breathing | **3** |
| 12 | You have five solutions A, B, C, D and E . the pH of solution A is 6, B is 2, C is 12, D is 7 and E is 8.  a) Identify the least acidic and most basic solution.  b) Arrange the above given solutions in the increasing order of H+ ion  concentration.  c) State the change in colour obtained on the pH paper on dipping in  solutions B and D | **1+1+1** |
|  | **SECTION D** |  |
| 13 | (a) 2 mL of sodium hydroxide solution is added to a few pieces of granulated zinc metal taken in a test tube. When the contents are warmed, a gas evolves which is bubbled through a soap solution. Identify the gas evolved and the test to detect the gas. Write the equation for the chemical reaction involved. Write the chemical equation involved when the same metal reacts with dilute solution of a strong acid.  (b) Explain What precautions should we take while diluting a concentrated acid and why? | **3+2** |
|  | **SECTION E** |  |
| 14 | **The diagram shows the equipment used by a student to investigate the strength of five different electromagnets. The stronger the electromagnet, the more paper clips it will hold. (All paper clips are identical)**  C:\Users\Pramod K\Downloads\WhatsApp Image 2023-07-23 at 21.50.07 (1).jpeg  **(a) The five electromagnets, J, K, L, M and N, used by the student are shown below. Each electromagnet was made by wrapping lengths of insulated wire around identical iron nails.**  C:\Users\Pramod K\Downloads\WhatsApp Image 2023-07-23 at 21.50.07 (1).jpeg    **The student wants to find out how the strength of an electromagnet depends on the number of turns of wire in the coil, Which electromagnets should the student compare in order to do this?**    **(b)The student makes one more electromagnet by winding 100 turns onto a nail. Before testing the electromagnet, the student predicted the number of paper clips that the electromagnet would hold when the current is 1 A How many paper clips should the student predict that the electromagnet would hold? Justify your answer**  **(c) The student uses his electromagnet in making a model of car ignition starter shown beside. Teacher told him to strengthen the electromagnet for it to work properly. Suggest any two ways to achieve this.** | **1+2+1** |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*