X SCIENCE FULL LENGTH TEST

TIME : 3 HRS. **M. M. : 80**

1. A bulb cannot be used in place of a resister to verify Ohm's law. Justify this statement with reason. **1**

2. State the role of brain in reflex action. **1**

3. Blowing wind carries kinetic energy. Mention the two factors that cause winds to blow? **1**

4. Write balanced chemical equations for the following reactions: **3**

a. dilute sulphuric acid reacts with aluminium powder. b. dilute hydrochloric acid reacts with sodium carbonate

c. Carbon-di-oxide is passed through lime water.

5. (i) Give the constituents of baking powder. **3**

(ii) Why cake or bread swells on adding baking powder? Write chemical equation.

(iii) Why edible acids are added to baking soda?

6. Explain the type of reactions represented by the following equations: **3**

(a) $CaO + CO_2 \longrightarrow CaCO_3$ (b) $NaCl + BaSO_4 \longrightarrow Na_2SO_4 + BaCl_2$

(c) $Mg + CuSO_4 \longrightarrow Cu + MgSO_4$ (d) $NH_4NO_2 \longrightarrow N_2 + 2H_2O$

7. Zinc is a metal found in the middle of the activity series of metals. In nature, it is found as a carbonate ore, $ZnCO_3$.Mention the steps carried out for its extraction from the ore. Support with equations. **3**

8. a. With the help of a circuit diagram show how can an electromagnet be made? **3**

b. Mention any two uses of magnets.

9. Find: **3**

a. the highest

b. the lowest value of resistance that can be obtaining by the combination of four resistors of 4 W, 8 W, 12 W and 24 W.

10. Write one application of each of the following :– **3**

a. Right hand thumb rule b. Fleming's left hand rule c. Fleming's right hand rule

11. List the role of each of the following in our digestive system. **3**

a. Muscles of stomach wall b. Hydrochloric acid c. Mucus

12. What is (i) phototropism (ii) geotropism? What role does auxin play in phototropism? **3**

13. a. Draw a flow diagram of passage of inhaled air through human body. **3**

b. Give reasons for the following statements:

i. The walls of ventricles are thicker than atria.

ii. The alveoli are covered with blood capillaries.

14. a. Define tidal energy? b. Explain how is tidal energy harnessed and write one limitation of the use of tidal energy. **3**

15. Recently when Government decided to set up a nuclear power plant in an area, NGOs and local people raised their voice against it. They demanded that the Government should assure safety measures before setting up such a plant and Government assured them of it. **3**

a. Explain the value exhibited by people of the area.

b. List any two concerns of the people for which they were demanding safety measures.

16. (i) What do you understand by corrosion? **5**

(ii) Give two conditions necessary for rusting of iron.

(iii) How the rusting can be prevented by alloying iron with other metal.

(iv) Why does aluminium becomes dull after sometime?

17. a. Tooth decay starts when the pH of the mouth is lower than 5.5. Explain how does tooth paste prevent tooth decay. **5**

b. Name the acids present in :

(i)Nettle sting (ii) Curd

c. State the soil conditions under which a farmer treats the soil of his field with quick lime or slaked lime.

18. a. State the function of fuse in the domestic electric circuit. Write its most important characteristic. Name the material generally used to prepare a good fuse wire?

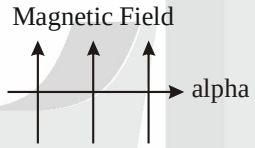
b. An electric oven of 2kW power rating is operated in a domestic electric circuit (220 V) that has a current rating of 5A.

(i) What is the current drawn?

(ii) What will happen to the fuse wire? Justify your answer. **5**

19. a. Define AC and DC. Mention one advantage of AC over DC.

b. An alpha particle (+ ve charged particle) enters a magnetic field at right angle to it as shown in figure. Explain with the help of a relevant rule the direction of force acting on the alpha particle. **5**



20. a. Draw human excretory system and label the following parts:– **5**

(i) left kidney (ii) Urethra (iii) Urinary Bladder (iv) Vena cava

b. State the purpose of making urine.

c. Name any two substances which are selectively reabsorbed from the tubules of a nephron.

21. a. What is synapse? How does a message of an impulse transmit through a synapse? **5**

b. What are the limitations of electrical impulses?

22. A student test the following solutions of same concentration for pH value **1**

(i) dil. HCl (ii) lemon juice (iii) water (iv) dil. sodium hydroxide

The solutions which respectively have the lowest and highest pH are :

a. (i), (iv) b. (iii), (iv) c. (ii), (iii) d. (i), (ii)

23. When water is added to a test tube containing some quick lime, a white substance is formed. The aqueous solution of this substance is chemically : **1**

a. lime water b. carboxylic acid c. calcium carbonate d. calcium hydroxide

24. When we add water to quick lime we observe some changes. On the basis of those changes we may conclude that the reaction between quick lime and water is a - **1**

a. combination reaction as well as endothermic reaction

b. combination reaction as well as exothermic reaction

c. displacement reaction d. double displacement reaction

25. To turn a pale green solution of ferrous sulphate to colourless, Radhika put a few zinc granules in it. This is an example of **1**

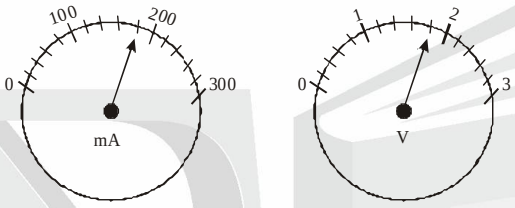
a. Decomposition reaction b. Combination reaction

c. Displacement reaction d. Double displacement reaction

26. The potential difference required to pass a current 0.2A in a wire of resistance 20W will be: **1**

a. 100V b. 4V c. .01V d. 40V

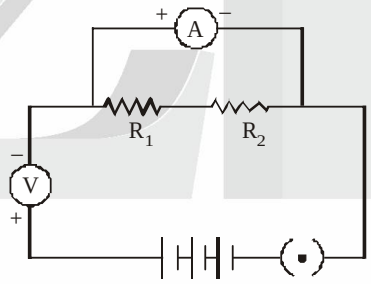
27. The current flowing through a resistor connected in an electric circuit and the potential difference developed across its ends are shown below. **2**



The value of resistance of the resistor in ohm's is

a. 100 b. 10 c. .1 d. 0.1

28. To find the equivalent resistance of two resistors R_1 and R_2 connected in series, Rahul prepared a circuit as shown below. Another student Mohit observed the circuit and said that the circuit is not correct. The mistake in circuit is:



a. The two resistors and the ammeter have been connected correctly but not the voltmeter **2**

b. The two resistors, the voltmeter and the ammeter all have been connected correctly.

c. The two resistors have been connected correctly but not the voltmeter and the Ammeter

d. The two resistors and the voltmeter have been connected correctly but not the ammeter

29. On a cloudy day, a plant leaf was plucked in the evening and tested for starch. It gave a negative iodine test. The reason is that the plant is **2**

a. dead b. not respiring

c. at compensation point throughout the day d. photosynthesizing