PRACTICE PAPER

Time-2hours
M.M-50

BVP/X/SCIENCE/2022-23

General instructions

1. All questions are compulsory.
2. Answer as per marks division.
3. Section A (1-10) carries questions for 1 mark each.
4. Section B (11-21) carries questions for 2 marks each.
5. Section C (22-27) carries questions for 3 marks each.

SECTION-A

1. In case of dihybrid cross between Tall plants with Green pods and Short plants with yellow pods, write the expected phenotypic ratio (also write name of trait).

2. Write post fertilization change in case of : (a) Ovary (b) Zygote

3. Show the formation of $CaCl_2$ by transfer of electrons.
4. Study the columns given below:

(i) $CH_3COCH_2CH_2CH_3$	1. Alcohol
(ii) $CH_3CH_2CH_2CH_2CHO$	2. Carboxylic acid
(iii) $CH_3CH_2CH_2COOH$	3. Aldehyde
(iv) CH_3CH_2OH	4. Ketone

a. (i)-4;(ii)-3;(iii)-2,(iv)-1
b. (i)-3;(ii)-4;(iii)-2,(iv)-1
c. (i)-2;(ii)-3;(iii)-4,(iv)-1
d. (i)-1;(ii)-4;(iii)-3,(iv)-2

5. Mention any two factors on which the resistance of a cylindrical conductor depends.

6. On what factors does the magnetic field produced by a current carrying Solenoid depend
   a. Air passing through it
   b. Length of loop
   c. Area of loop
   d. Current passing through it.

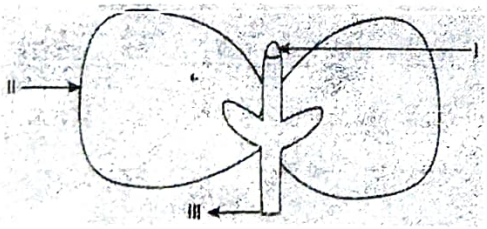
Directions: In the following questions (7 to 10), a statement of Assertion is followed by a statement of Reason. Mark the correct choice as:

(a) Both Assertion and Reason are true and Reason is the correct explanation of Assertion.
(b) Both Assertion and Reason are true and Reason is not the correct explanation of Assertion.
(c) Assertion is true but Reason is False.
(d) Assertion is False but Reason is true.

7. **Assertion**: Endometrium breaks down and bleeding occurs in females during menstruation cycle.
   Reason: Occurrence of menstruation cycle indicates that egg does not fertilize.
8. **Assertion**: Carbon compounds have low melting and boiling points.
   Reason: Ionic compounds have strong electrostatic forces of attraction.
9. **Assertion**: Products of electrolysis of molten solution of sodium chloride and aqueous solution of sodium chloride are different.
   Reason: During electrolysis of molten solution of sodium chloride caustic soda is obtained as one of the products.
10. **Assertion**: The current flowing through each resistor is the same when connected in series.
    Reason: The voltage drop across each resistor remains the same

SECTION - B

11. Rohan observed a patch of greenish black powdery mass on a stale piece of bread.
    (a) Name the organism responsible for this and mention its specific mode of asexual reproduction.
    (b) Name the vegetative and reproductive part of this organism.
12. A plant with blue coloured flowers denoted by BB is crossed with plant bearing white flowers denoted by bb.
    (a) State colour of flower we would expect in their F1 progeny.
    (b) Write % of plants bearing white flowers in F2 generation.
    (c) Write genotypic ratio of F2 progeny.
13. "Sex of a new born baby is a matter of chance and none of the parent may be considered responsible for it". Justify the statement with the help of flow chart showing determination of sex of a new born.
14. Identify the parts shown in the diagram and write function of part 'II'.



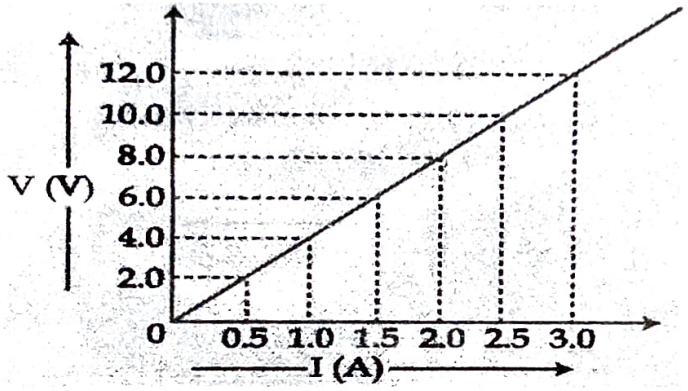
15. What are soaps? Describe the cleansing action of soap in brief. Why does the cleansing action of soaps get retarded in hard water?

16. Complete the following reactions:

a) $C_2H_5OH + O_2 \longrightarrow$

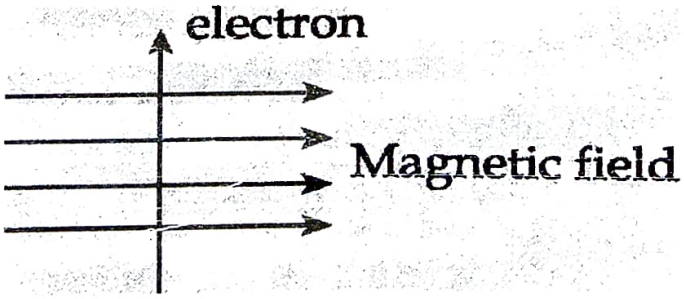
b) $CH_3COOH + C_2H_5OH \xrightarrow{\text{acid}}$

17. Give reason for the following:
    a) Mercury doesn't liberate hydrogen gas on reaction with acid.
    b) Metal sulphides and oxides are converted to oxides before reduction during metallurgical processes.
    c) There is appearance of bluish green colour when Copper oxide is treated with hydrochloric acid.
    d) All ores are minerals but all minerals are not ores.
18. Why does a current carrying conductor experience a force when it is placed in a magnetic field? State the rule used to find direction of force.
19. Why do the wires connecting an electric heater to the mains not glow while its heating element does?
20. A graph between potential difference (V) and current (I) is given in figure.



(i) What is the relation between V and I.
(ii) Find the resistance of the conductor using the graph.

21. An electron enters a uniform magnetic field at right angles to it as shown in the figure below. In which direction will this electron move? State the rule applied by you in finding the direction of motion of the electron.



SECTION-C

22. Give reason:

(a) Earlobe attachment is an inherited trait.

(b) RR represents Round seeds and Rr also represents Round seeds.

(c) Genes are the controller of our characteristics.

23. Draw neat diagram of Male reproductive system and label the following parts:

(a) Part that secretes testosterone.

(b) Any one gland secreting alkaline fluid.

(c) Ejaculatory organ.

(d) Common passage for both sperms and urine.

24. Iqbal treated a lustrous, divalent element M with sodium hydroxide. He observed the formation of bubbles in the reaction mixture. He made the same observations when this element was treated with hydrochloric acid. Are gases produced in both the cases same or different? Suggest how can he identify the gas/es produced? Write chemical equations for both reactions.

25. Define homologous series. Complete the following homologous series:

a) _____, CH_3CHO, _____, C_3H_7CHO

b) CH_3Cl, _____, _____, C_4H_9Cl

c) CH_3COCH_3, _____, C_3H_7COCH3

26. (a) A 6 Ω resistance wire is doubled on itself. Calculate the new resistance of the wire.

(b) Three 2 Ω resistors A, B and C are connected in such a way that the total resistance of the combination is 3 Ω. Show the arrangement of the three resistors and justify your answer.

27. Briefly explain an activity to plot the magnetic field lines around a straight current carrying conductor. Sketch the field pattern for the same, specifying current and field directions. What happens to this field. (i) if the strength of the current is decreased? (ii) if the direction of the current is reversed?