BLUE PRINT FOR PERIODIC TEST - II: CLASS X

<table>
<thead>
<tr>
<th>Chapter</th>
<th>MCQ (1 mark)</th>
<th>VSA (1 mark)</th>
<th>SA (3 marks)</th>
<th>LA (5 marks)</th>
<th>Total</th>
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<td>Metals and Non-metals</td>
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<td>5(1)</td>
<td>7(3)</td>
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<tr>
<td>Carbon and its Compounds</td>
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<td>1(1)</td>
<td>6(2)</td>
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<td>8(4)</td>
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<tr>
<td>Heredity and Evolution</td>
<td>1(1)</td>
<td>1(1)</td>
<td>--</td>
<td>5(1)*</td>
<td>7(3)</td>
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<tr>
<td>How do organisms reproduce?</td>
<td>1(1)</td>
<td>1(1)</td>
<td>6(2)</td>
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<tr>
<td>Electricity</td>
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<td>3(1)*</td>
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<td>10(4)</td>
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<td><strong>Total</strong></td>
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<td>5(5)</td>
<td>15(5)</td>
<td>12(3)</td>
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MARKING SCHEME FOR PERIODIC TEST - II

<table>
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<tr>
<th>SECTION</th>
<th>MARKS</th>
<th>NO. OF QUESTIONS</th>
<th>TOTAL</th>
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<td>VSA</td>
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<td>SA</td>
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<td><strong>GRAND TOTAL</strong></td>
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SECTION – A
Questions 1 to 10 carry 1 mark each.

1. Although metals form basic oxides, which of the following metals form an amphoteric oxide?
   (a) Na  (b) Ca  (c) Al  (d) Cu

2. Ethanol reacts with sodium and forms two products. These are
   (a) sodium ethanoate and hydrogen  (b) sodium ethanoate and oxygen
   (c) sodium ethoxide and hydrogen  (d) sodium ethoxide and oxygen

3. Where does fertilisation take place?
   (a) Uterus  (b) Vagina  (c) Fallopian tube  (d) Cervix

4. The maleness of a child is determined by
   (a) the X chromosome in the zygote  (b) the Y chromosome in zygote
   (c) the cytoplasm of germ cell which determines the sex  (d) sex is determined by chance

5. The resistivity does not change if
   (a) the material is changed  (b) the temperature is changed
   (c) the shape of the resistor is changed  (d) both material and temperature are changed

6. Metals generally occur in solid state. Name and write symbol of a metal that exists in liquid state at room temperature.

7. Select saturated hydrocarbons from the following:
   \( \text{C}_3\text{H}_6, \text{C}_5\text{H}_{10}, \text{C}_4\text{H}_{10}, \text{C}_6\text{H}_{14}, \text{C}_2\text{H}_4 \).

8. Select two plants raised by the method of vegetative propagation from the list given below:
   banana, gram, rose, tomato, wheat, jasmine.

9. Name two human traits which show variation.

10. How is an ammeter connected in a circuit to measure current flowing through it?

SECTION – B
Questions 11 to 15 carry 3 marks each.

11. Define the term ‘structural isomerism’. Explain why propane cannot exhibit this property. Draw the structures of possible isomers of butane, \( \text{C}_4\text{H}_{10} \).
12. How are esters most commonly prepared? Write the equation for the chemical reaction involved. What are the two uses of esters?

13. (i) What is fertilisation? Distinguish between external fertilisation and internal fertilisation. (ii) Which is the site of fertilisation in human beings?

14. What is AIDS? Which microbe is responsible for AIDS infection? State one mode of transmission of this disease. Explain in brief one measure for the prevention of AIDS.

15. Two resistors 3 Ω and unknown resistor are connected in a series across a 12 V battery. If the voltage drop across the unknown resistor is 6 V, find (a) potential across 3 Ω resistance (b) the current through unknown resistor ‘R’ (c) equivalent resistance of the circuit.

OR

Find the current flowing through the following electric circuit.

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SECTION – C

Questions 16 to 18 carry 5 marks each.

16. How is the method of extraction of metals high up in the reactivity series different from that for metals in the middle? Why the same process cannot be applied for them? Explain giving equations, the extraction of sodium.

17. How do Mendel’s experiments show that the (a) traits may be dominant or recessive, (b) traits are inherited independently?

OR

What is speciation? List four factors that could lead to speciation. Which of these cannot be a major factor in the speciation of a self-pollinating plant species? Explain.

18. (a) Define electric power. Express it in terms of potential difference V and resistance R. (b) An electrical fuse is rated at 2A. What does this statement mean? (c) An electric iron of 1 kW is operated at 220 V. Find which of the following fuses that respectively rated at 1 A, 3 A and 5 A can be used in it.