

Question-wise Analysis and Scoring Key for Sample Paper II

| Q.No | Correct choice | Explanation/ Remarks |
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| 1. | (a) | The pH paper in neutral medium gives green colour. |
| 2. | (a) | The colour of pH paper is orange in acidic medium while it is blue in basic medium. |
| 3. | (c) | Zinc is available in the form of granules in the laboratory. |
| 4. | (b) | The image of the (vertical) tree on the screen will be an inverted vertical image. |
| 5. | (a) | The focal length of the lens equals the distance between the lens and the (sharp) image obtained on the screen. |
| 6. | (b) | It is difficult to fix the pins vertically and we can have a proper alignment of the feet of the pins. |
| 7. | (b) | We should select instruments without any zero error. |
| 8. | (a) | The four cells must be connected in series to get a total voltage of $4 \times 1.5 = 6.0V$. For this, the negative of the first cell must be connected to the positive of the second cell, and so on, leaving the positive of the first cell and negative of the fourth cell to be connected to the circuit. |
| 9. | (b) | The ammeter must be connected in series, between the battery and the series combination of the two resistors, and the voltmeter should be put in parallel across the series combination of the two resistors. All the polarities must also be correct. |
| 10. | (c) | The ammeter, being a very low resistance device, would draw a very large current when connected directly to the battery. This burns out/ damages its coil. |
| 11. | (d) | No. 4 is chloroplast. |
| 12. | (b) | Nucleus divides first and then the cytoplasm, when Amoeba undergoes fission. |
| 13. | (c) | 24 hours to shunt starch from the leaves to the rest of the plant. De-starched leaf will show the colour change. |
| 14. | (d) | Water bath is a must to boil the leaf in ethanol as a precaution. |
| 15. | (c) | Absorption is facilitated in warm water. |
| 16. | (c) | Buds appear as protuberances. |
| 17. | (d) | Acetic acid is flammable and corrosive. |
| 18. | (a) | The freshly deposited copper is soft and dull. |
| 19. | (b) | Metal deposition is not very fast and takes some time. |
| 20. | (a) | The reaction between acetic acid and sodium bicarbonate to produce carbon dioxide is very fast. |
| 21. | (a) | The reactions between (i) Zinc and dil. HCl and (ii) dil. HCl and Na_2CO_3 are fast whereas the reaction between Zn and NaOH is slow. |

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| 22. | (b) | The emergent ray, from the rectangular glass slab, is parallel to the incident ray and is laterally displaced to the left (or lower side) of the incident ray. |
| 23. | (b) | The ammeter reading being 1.5 A ($=4.5\text{V}/3$), only the three ohm resistor is connected to the circuit while the other six ohm resistor, because of its loose connection, is not part of the circuit at all. |
| 24. | (d) | The overall range of the voltage is from 0 to 4.5V and that of current is from 0 to $4.5/9\text{ A} = 0.5\text{ A}$. We, therefore, prefer instruments that cover these ranges and also have a better least count. |
| 25. | (c) | In the diffused light reaching the ventral surface, photosynthesis takes place, and so the whole leaf responds to starch test. |
| 26. | (a) | The sequence is important to get the best stained material for the temporary mount. |
| 27. | (d) | Proper labelling of KOH in the suspended test tube, water in the beaker and seeds in the conical flask. |
| 28. | (b) | CO ₂ released is absorbed by KOH. To fill the partial vacuum created in the conical flask, water rises in the bent tube. |
| 29. | (b) | Zinc displaces iron and copper from their salt solutions. |
| 30. | (b) | The apparatus required for the preparation and collection of SO ₂ is given in Set II only. |