Genesis Educates

"There is no element of genius Without some form of madness"

10th CBSE Science Mock Test
Topics: Light & Human Eye, Chemical Reaction, Acid, Bases & Salts, Life Processes , Control & Coordination

Time Allowed: 2.5 Hr. **MM: 75**

Each question carries 1 mark

1. Three beakers labelled as A, B and C each containing 25 ml of water were taken. A small amount of NaOH, anhydrous $CuSO_4$ and NaCl were added to the beakers A, B and C respectively. It was observed that there was an increase in the temperature of the solution contained in beakers A and B, whereas in case of beaker C, the temperature of the solution falls. Which one of the following statement(s) is (are) correct?
(i) In beakers A and B, exothermic process has occurred.
(ii) In beakers A and B, endothermic process has occurred.
(iii) In beaker C exothermic process has occurred.
(iv) In beaker C endothermic process has occurred.
(a) (i) only (b) (ii) only
(c) (i) and (iv) (d) (iv), (ii) and (iii)

2. The contraction and expansion movement of the walls of the food pipe is called:
(a) translocation (b) transpiration
(c) peristaltic movement (d) digestion

3. Which of the following magnification is not possible for concave mirror
(a) -2 (b) +2 (c) -0.5 (d) +0.5

4. Which among the following statement(s) is (are) true?
Exposure of silver chloride to sunlight for a long duration turns grey due to
(i) the formation of silver by decomposition of silver chloride
(ii) sublimation of silver chloride
(iii) decomposition of chlorine gas from silver chloride
(iv) oxidation of silver chloride
(a) (i) only (b) (i) and (iii)
(c) (ii) and (iii) (d) (iv) only

5. What are the products obtained by anaerobic respiration in plants?
(a) Lactic acid + Energy (b) Carbon dioxide + Water + Energy
(c) Ethanol + Carbon dioxide + Energy (d) Pyruvate

6. In the spectrum of white light by a prism, the colour of the extreme end opposite to the base of prism is:

(a) Violet (b) Yellow (c) Red (d) Blue

7. To balance $Al(OH)_3 + HNO_3 \rightarrow Al(NO_3)_3 + H_2O$, number of HNO_3 molecules required will be :
(a) 2 (b) 4 (c) 3 (d) 8

8. For an object placed at distance 20 cm in front of a convex lens, the image is at distance 20 cm behind the lens. The focal length of convex lens is:

(a) 20 cm (b) 10 cm (c) 15 cm (d) 40 cm

9. How will information travel within a neuron?
(a) Dendrite -> cell body -> axon -> nerve ending
(b) Dendrite -> axon -> cell body -> nerve ending
(c) Axon -> dendrite -> cell body -> nerve ending
(d) Axon -> cell body -> dendrite -> nerve ending

Each question carries 2 marks

10. Write the balanced chemical equations for the following reactions:
(i) Calcium hydroxide + Carbon dioxide → Calcium carbonate + Water
(ii)Aluminium + Copper chloride → Aluminium chloride + Copper solution

11. How digestion of fat take place in small intestine?

12. A concave lens forms the image of an object kept at a distance 20 cm in front of it, at a distance 10 cm on the side of the object.
(a) What is the nature of the image?
(b) Find the focal length of the lens

13. (a) How does the flow of acid rain water into a river makes the survival of aquatic life in the river difficult?
(b) Arrange the following in an increasing order of their pH values:
NaOH solution, blood, lemon juice.

14. Write the difference between arteries and veins?

15. The focal length of a convex lens is 25 cm. At what distance from the optical centre of the lens an object be placed to obtain a virtual image of twice the size?

16. Explain the significance of photosynthesis. Write the balanced chemical equation involved in the process.

17. State the chemical name of Plaster of Paris. Write a chemical equation to show the reaction between Plaster of Paris and water.

18. Explain the cause of dispersion of white light through a prism.

19. The power of a lens is -2.0 D. Find its focal length and its kind.

20. State one example of chemotropism with diagram

21. (a) Why does an aqueous solution of an acid conduct electricity?
(b) How does the concentration of hydronium ions [H_3O^+] change when a solution of an acid is diluted?

Each question carries 3 marks

22. Write the balanced chemical equations for the following reactions and identify the type of reaction in each case:
(i)Nitrogen gas is treated with hydrogen gasin the presence of a catalyst at 773 K to form ammonia gas.
(ii) Sodium hydroxide solution is treated with acetic acid to form sodium acetate and water.
(iii)Potassium chloride on mixing with silver nitrate solution, forms an insoluble white substance.

23. Identify the reducing agent in the following reactions:
(a) $4NH_3 + 5O_2 \rightarrow 4NO + 6H_2O$
(b) $H_2O + F_2 \rightarrow HF + HOF$
(c) $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$

24. A lens forms the image of an object placed at a distance 15 cm from it, at a distance 60 cm in front of it. Find: (i) the focal length, (ii) the magnification, and (iii) the nature of image.

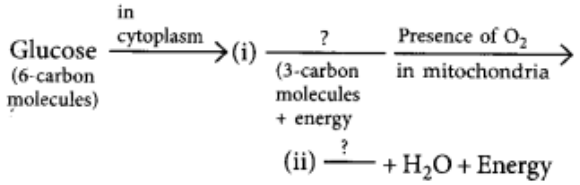
25. Draw any 3 cases of image formation through concave mirror

26. (a) Draw a neat diagram of a neuron and label (i) dendrite and (ii) axon.
(b) Which part of the human brain is:
(i) the main thinking part of the brain?
(ii) responsible for maintaining the posture and balance of the body?

27. Write down any 3 uses of spherical mirrors

28. (a) What are phytohormones? List four types of phytohormones.
(b) What happens when a growing plant detects light?

29. (a) In the process of respiration, state the function of alveoli.
(b) Complete the following pathway showing the breakdown of glucose.



30. (a) Write the name given to bases that are highly soluble in water. Give an example.
(b) How is tooth decay related to pH? How can it be prevented?
(c) Why does bee sting cause pain and irritation? Rubbing of baking soda on the sting area gives relief. How?

Each question carries 5 marks

31. (i) Explain why is hydrochloric acid a strong acid and acetic acid, a weak acid. How can it be verified? (1)
(ii) Explain why aqueous solution of an acid conducts electricity. (1)
(iii) You have four solutions A, B, C and D. The pH of solution A is 6, B is 9, C is 12 and D is 7,
(a) Identify the most acidic and most basic solutions.
(b) Arrange the above four solutions in the increasing order of H^+ ion concentration.
(c) State the change in colour of pH paper on dipping in solution C and D. (3)

32. (a) Rate of breathing in aquatic organisms is much faster than that in terrestrial organisms. Give reasons.
(b) What do the following transport?

(i) Xylem	(ii) phloem	(iii) Pulmonary vein
(iv) Vena cava	(v) Pulmonary artery	(vi) Aorta

33. Where should an object be placed in front of a convex lens of focal length 0.12 m to obtain a real image of size three times the size of the object, on the screen?