

1. (B) (ii) and (iii)

The root of a plant is positively geotropic, negatively phototropic and positively hydrotropic.

2. (D) stomach

The digestion of proteins begins in the stomach by pepsin.

3.

(C) herbivore

This is because herbivores mainly eat plants.

Plants contain cellulose, which is difficult to digest.

Hence, they have the longest small intestine.

4.

(c) KCl

KCl is formed from a strong acid, hydrochloric acid (HCl), and a strong base, potassium

hydroxide (KOH). On dissolving in water, KCl

hydrolyses to form equal amounts of H^+ and OH^- ions. This is why an aqueous solution of KCl is neutral with a pH of almost 7.

5. (a)

6.

(a). ammonium sulphate

Ammonium sulphate $[(NH_4)_2SO_4]$ is formed from a weak base, ammonium hydroxide (NH_4OH) , and a strong acid, sulphuric acid (H_2SO_4) . On dissolving in water, $(NH_4)_2SO_4$ hydrolyses to form more H^+ ions than OH^- ions. As the aqueous solution of the salt $(NH_4)_2SO_4$ is acidic, it turns blue litmus red.

7. (D)

8.

(C) phototropism

The bending of the top part of the seedling towards the burning candle is an example of phototropism.

9. (C) Heterotrophs do not synthesise their own food. Heterotrophs cannot synthesis their food.

10. (d) rancidity

The term used to indicate the development of unpleasant smell and taste in fat and oil containing foods due to aerial oxidation is rancidity.

11. (C) testosterone

Testosterone is the male sex hormone which is associated with male puberty.

12. (a)

13. (b)

14. (d) potassium iodide

Potassium iodide on reacting with lead nitrate gives yellow precipitate of lead iodide.

15.

(d) combination reaction as well as oxidation reaction
In the above reaction, metal combines with the oxygen to form a single compound, so it is a combination reaction. Moreover, addition of oxygen takes place, so it is also a oxidation reaction.

16. (d)

17. (B)

18.

(b) $Ca(OH)_2$

Bleaching powder $(CaOCl_2)$ is formed by passing chlorine gas over slaked lime $[Ca(OH)_2]$.

19.

(D) axon end of one neuron to the dendrite end of the adjacent neuron.

In a synapse, a chemical signal is transmitted from the axon end of one neuron to the dendrite end of the adjacent neuron.

20. (d)

21.

(a) K_2CO_3

K_2CO_3 is formed from a weak acid, carbonic acid (H_2CO_3) , and a strong base, potassiumhydroxide

(KOH). On hydrolysis, K_2CO_3 forms more OH^- ions than H^+ ions. Thus, it is basic, with a pH more than 7.

22. (b)

23. (C) to remove the chlorophyll

When carrying out the starch test, it is important to remove the chlorophyll by boiling the leaf in alcohol. This is done because the green colour of the chlorophyll interferes with the iodine test.

24.

(a) potassium sulphate

Potassium sulphate (K_2SO_4) is formed from a strong acid, sulphuric acid (H_2SO_4), and a strong base, potassium hydroxide (KOH). On dissolving in water, K_2SO_4 hydrolyses to form equal amounts of H^+ and OH^- ions. As the salt solution of K_2SO_4 is neutral, it has no effect on red or blue litmus paper.

25.

(b) vinegar

When a wasp stings a person, it inserts an alkaline solution into the person's skin. This causes high irritation and pain. Applying a weak acid, such as vinegar, to the wound neutralises the alkaline solution and soothes the pain.

26. (B) No No

There are two pathways through which anaerobic respiration occurs. In micro-organisms such as yeast and bacteria, the glucose is broken down into ethanol and carbon dioxide, and releases very little energy. In the other pathway, glucose is broken down into only lactic acid with the release of little energy. This occurs in the muscles during strenuous exercise.

Therefore, carbon dioxide is not always produced during anaerobic respiration.

27. (B)

28. (C) spiracles

In insects (such as cockroaches, grasshoppers), the tiny holes called spiracles are present on the body. Air enters the body through these holes.

29. (c) $BaCl_2$ solution

$BaCl_2 + H_2SO_4 \rightarrow BaSO_4 + 2HCl$ White ppt.

30. (b) citric acid

Reaction of purple - coloured potassium permanganate with citric acid is characterised by change in colour from purple to colourless.

31. (C) Touch

Roots do not respond to touch.

32. (C) synapse

A synapse is a functional junction between the axon of a neuron and the dendrites of the next neuron. It is separated by a small gap known as the synaptic cleft.

33. (D)

34. (c)

35. (c) redox reaction as well as displacement reaction

In the given reaction, magnesium takes oxygen and gets oxidised, whereas copper loses oxygen and gets reduced, so it is a redox reaction. Also magnesium, being more reactive metal, displaces copper from the copper solution and hence it is a displacement reaction.

36. (b)

37. (D)

38. (a)

39. (a)

40. (c)

41. (d)

42. (D)

43. (A)

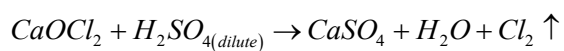
44. (d)

45. (D)

46. (d): AlCl_3 is an acidic salt as it is a salt of strong acid (HCl) and a weak base

$[\text{Al}(\text{OH})_3]$.

47. (b): The reaction involved is,



48. (c): The bladder is a bag which stores urine till the time we go to toilet. The urine collected in the bladder is passed out from the body through the urethra.

49. (d)

50. (c): Diffuse reflection is caused by the roughness (or irregularities) in the reflecting surface of an object. The laws of reflection are valid at each point even on the rough surface of an object