

ANSWERS AVAILABLE ONLY IN MY PAID GROUP. FEES RS.200 PER MONTH OR RS.2000 PER YEAR

20 x 1 = 20

- 1) A solution turns red litmus blue; its pH is likely to be?
(a) 1 (b) 4 (c) 5 (d) 10
- 2) A solution reacts with crushed egg-shells to give a gas that turns lime-water milky. The solution contains.
(a) NaCl (b) HCl (c) LiCl (d) KCl
- 3) 10 ml of a solution of NaOH is found to be completely neutralised by 8 ml of a given solution of HCl. If we take 20 ml of the same solution of NaOH, the amount HCl solution (the same solution as before) required to neutralise it will be
(a) 4 ml (b) 8 ml (c) 12 ml (d) 16 ml
- 4) Which one of the following types of medicines is used for treating indigestion?
(a) Antibiotic (b) Analgesic (c) Antacid (d) Antiseptic
- 5) What happens when a solution of an acid is mixed with a solution of a base in a test tube? (a) The temperature of the solution increases (b) The temperature of the solution decreases (c) The temperatures of the solution remains the same (d) Salt formation takes place
(a) (i) only (b) (i) and (iii) (c) (ii) and (iii) (d) (i) and (iv)
- 6) Which of the following salts does not contain water of crystallisation?
(a) Blue vitriol (b) Baking soda (c) Washing soda (d) Gypsum
- 7) A sample of soil is mixed with water and allowed to settle. The clear supernatant solution turns the pH paper yellowish-orange. Which of the following would change the colour of this pH paper to greenish-blue?
(a) Lemon juice (b) Vinegar (c) Common salt (d) An antacid
- 8) Sodium hydrogen carbonate when added to acetic acid evolves a gas. Which of the following statements are true about the gas evolved?
(i) It turns lime water milky
(ii) It extinguishes a burning splinter
(iii) It dissolves in a solution of sodium hydroxide
(iv) It has a pungent odour
(a) (i) and (ii) (b) (i), (ii) and (iii) (c) (ii), (iii) and (iv) (d) (i) and (iv)
- 9) To protect tooth decay we are advised to brush our teeth regularly. The nature of the tooth paste commonly used is
(a) acidic (b) neutral (c) basic (d) corrosive
- 10) The pH of the gastric juices released during digestion is
(a) less than 7 (b) more than 7 (c) equal to 7 (d) equal to 0
- 11) Which of the following substance will not give carbon dioxide on treatment with dilute acid?
(a) Marble (b) Limestone (c) Baking soda (d) Lime
- 12) Which of the following is not a mineral acid?
(a) Hydrochloric acid (b) Citric acid (c) Sulphuric acid (d) Nitric acid
- 13) Equal volumes of hydrochloric acid and sodium hydroxide solutions of same concentration are mixed and the pH of the resulting solution is checked with a pH paper. What would be the colour obtained?
(a) Red (b) Yellow (c) Yellowish green (d) Blue
- 14) Which one of the following will turn red litmus blue?
(a) Vinegar (b) Baking soda solution (c) Lemon juice (d) Soft drinks
- 15) Lime water is
(a) CaO (b) Ca(OH)₂ (c) CaCO₃ (d) CaCl₂
- 16) In which of the following pairs, both are acidic salts?
(a) KCl, KNO₃ (b) Na₂SO₄, K₂SO₄ (c) CH₃COONa, K₂CO₃ (d) CuSO₄, AgNO₃

17) Which one of the following can be used as an acid-base indicator by a visually impaired student?

- (a) Litmus (b) Vanilla essence (c) Thymol (d) Petunia leaves

18) The composition of aqua regia is

- (a) conc. H_2SO_4 and conc. HCl in ratio of 1 : 3 (b) conc. HNO_3 and conc. HCl in ratio of 1 : 3
(c) conc. HNO_3 and conc. HCl in ratio of 3 : 1 (d) conc. H_2SO_4 and conc. HNO_3 in ratio of 3 : 1

19) If tartaric acid is not added in baking powder, the cake will taste bitter due to the presence of

- (a) sodium hydrogen carbonate (b) sodium carbonate (c) carbon dioxide (d) same unreacted tartaric acid

20) Which of the following does not form an acidic salt?

- (a) Nitric acid (b) Carbonic acid (c) Hydrochloric acid (d) Sulphuric acid

$$5 \times 1 = 5$$

21) **Assertion:** The colour of litmus solution is purple.

Reason: The litmus solution is neutral.

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
(b) If both assertion and reason are true but reason is not a correct explanation of assertion.
(c) If assertion is true and reason is false.
(d) If both assertion and reason are false

22) **Assertion:** Aqua regia, is a freshly prepared mixture of concentrated hydrochloric acid and concentrated nitric acid

Reason: The two acids (hydrochloric acid and concentrated nitric acid are mixed in the ratio of 3: 1 respectively)

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
(b) If both assertion and reason are true but reason is not a correct explanation of assertion.
(c) If assertion is true and reason is false.
(d) If both assertion and reason are false

23) **Assertion:** Milk is basic in nature

Reason: The pH of curd is 6

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
(b) If both assertion and reason are true but reason is not a correct explanation of assertion.
(c) If assertion is true and reason is false.
(d) If both assertion and reason are false

24) **Assertion:** Lime juice has sour taste while lime water is bitter

Reason: Lime juice is an acid and lime water is a base

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
(b) If both assertion and reason are true but reason is not a correct explanation of assertion.
(c) If assertion is true and reason is false.
(d) If both assertion and reason are false

25) **Assertion:** NaHCO_3 is a basic salt.

Reason: It is a salt of strong base, NaOH and weak acid, H_2CO_3 .

Codes

- (a) If both assertion and reason are true and the reason is correct explanation of assertion.
(b) If both assertion and reason are true but reason is not a correct explanation of assertion.
(c) If assertion is true and reason is false.
(d) If both assertion and reason are false

$$5 \times 2 = 10$$

26) Why should curd and sour substances not be kept in brass and copper vessels?

27) "Sulphuric acid is a dibasic acid." Write two reaction equations to justify this statement and name the reaction products in the two cases.

28) What is the colour of $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$ crystals? How does this colour change upon heating? Give the balanced chemical equation for the changes.

29) How will you test for the gas which is liberated when hydrochloric acid reacts with an active metal?

30) What is an alkali

$$5 \times 3 = 15$$

31) Why does distilled water not conduct electricity, whereas rain water does?

32) (a) What is the action on litmus of: (i) Dry ammonia gas (ii) Solution of ammonia gas in water (b) State the observations you would make on adding ammonium hydroxide to aqueous solution of: (i) Ferrous sulphate (ii) Aluminium chloride

33) (a) State the relation between hydrogen ion concentration of an aqueous solution and its pH. (b) The pH of an aqueous solution decreases from 3 to 2. Calculate how many times the hydrogen ion concentration of the solution will change.

34) (i) Write the name given to bases that are highly soluble in water. Give an example.

(ii) How is tooth decay related to pH? How can it be prevented?

(iii) Why does bee-sting cause pain and irritation? Rubbing of baking soda on the sting area gives relief. How?

35) Name the gas evolved when dilute HCl reacts with sodium hydrogen carbonate. How is it recognised?

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