

SECTION-01 - BE-01

BASICS OF SCIENCE AND ENGINEERING

PHYSICS

1. Units and Measurements
2. Classical Mechanics
3. Electric Current
4. Heat and Thermometry
5. Wave Motion, Optics and Acoustics

CHEMISTRY

6. Chemical Reactions and Equations
7. Acids, Bases and Salts
8. Metals and Non-Metals

COMPUTER PRACTICE

9. Computer Practice

ENVIRONMENT SCIENCES

10. Environmental Sciences

7. Acids, Bases and Salts

Multiple Choice Questions (MCQs)

1. A solution turns red litmus blue, its pH is likely to be
 (a) 1 (b) 4
 (c) 5 (d) 10
Ans. : (d)
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
Ans. : (b)
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
Ans. : (d)
4. Which one of the following types of medicines is used for treating indigestion ?
 (a) Antibiotic (b) Analgesic
 (c) Antacid (d) Antiseptic
Ans. : (c)
5. The salt which will give an acidic solution on dissolving in water is :
 (a) KCl (b) NH_4Cl
 (c) Na_2CO_3 (d) CH_3COONa
Ans. : (b)
6. One of the following salts will give an alkaline solution on dissolving in water will be :
 (a) Na_2CO_3 (b) Na_2SO_4
 (c) NaCl (d) $(\text{NH}_4)_2\text{SO}_4$
Ans. : (a)
7. The salt which will give a neutral solution on dissolving in water will be :
 (a) CH_3COONa (b) NH_4Cl
 (c) KCl (d) Na_2CO_3
Ans. : (c)
8. The products of chlor-alkali process are :
 (a) NaCl, Cl_2 and H_2
 (b) H_2 , Cl_2 and NaOH
 (c) Cl_2 , Na_2CO_3 and H_2O
 (d) NaOH, Cl_2 and HCl
Ans. : (b)
9. The number of molecules of water of crystallisation present in washing soda crystals is :
 (a) five (b) two
 (c) ten (d) seven
Ans. : (c)
10. The salt whose aqueous solution will turn blue litmus to red is :
 (a) ammonium sulphate
 (b) sodium acetate
 (c) sodium chloride
 (d) Potassium carbonate
Ans. : (a)
11. The aqueous solution of one of the following salts will turn red litmus to blue, This salt is :
 (a) potassium sulphate
 (b) sodium sulphate
 (c) sodium chloride
 (d) potassium carbonate
Ans. : (d)
12. The salt whose aqueous solution will have no effect on either red litmus or blue litmus is
 (a) potassium sulphate
 (b) sodium carbonate
 (c) ammonium sulphate
 (d) potassium carbonate
Ans. : (a)
13. The aqueous solution of one of the following salts will turn phenolphthalein indicator pink. This salt is :
 (a) KCl (b) K_2SO_4
 (c) K_2CO_3 (d) KNO_3
Ans. : (c)

14. The formula of baking soda is :

- (a) K_2CO_3 (b) $KHCO_3$
(c) K_2CO_3 (d) KNO_3

Ans. : (c)

15. Which of the following is treated with chlorine to obtain bleaching powder ?

- (a) $CaSO_4$ (b) $Ca(OH)_2$
(c) $Mg(OH)_2$ (d) KOH

Ans. : (b)

16. Plaster of Paris is prepared by heating one of the following to a temperature of $100^\circ C$. This is :

- (a) $CaSO_3 \cdot 2H_2O$
(b) $CaCl_2 \cdot 2H_2O$
(c) $CaCO_3 \cdot 2H_2O$
(d) $CaSO_4 \cdot 2H_2O$

Ans. : (d)

17. A salt whose aqueous solution will have a pH of more than 7 will be :

- (a) K_2CO_3 (b) K_2SO_4
(c) $CaCO_3 \cdot 2H_2O$ (d) $CaSO_4 \cdot 2H_2O$

Ans. : (a)

18. A salt is dissolved in water and the pH of this salt solution on measured with universal indicator paper. If the pH of solution is less than 7, the salt is most likely to be :

- (a) CH_3COONa (b) Na_2CO_3
(c) KCl (d) NH_4Cl

Ans. : (d)

19. Which of the following salts will give an aqueous solution having pH of almost ?

- (a) NH_4NO_3 (b) NH_4Cl
(c) $CaCl_2$ (d) KCl

Ans. : (d)

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