

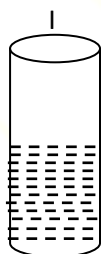


MULTIPLE CHOICE QUESTIONS ASSIGNMENT

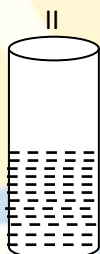
ACID, BASES AND SALTS

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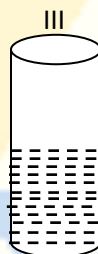
1. Four test tubes containing solution (i)(ii)(iii) and (iv) are shown below with their colours. ZnSO_4 is contained in



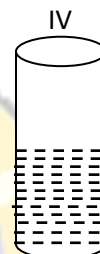
Green



Yellow



Blue



Colourless

- a. I only b. II only c. III only d. IV only
2. Formula of Gypsum is
a. $(\text{CaSO}_4)_2 \cdot \text{H}_2\text{O}$ c. CaSO_4
b. $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$ d. $\text{CaSO}_4 \cdot 1/2\text{H}_2\text{O}$
3. Which of the following is not an acidic salt?
a. CuSO_4 c. FeCl_3
b. NH_4Cl d. CH_3COONa
4. The aqua regia is
a. $3\text{HNO}_3(\text{conc.}) + 1\text{HCl}(\text{conc.})$
b. $3\text{HCl}(\text{conc.}) + 1\text{HNO}_3(\text{conc.})$
c. $\text{HNO}_3(\text{conc.}) + \text{H}_2\text{SO}_4(\text{conc.})$
d. $\text{HNO}_3(\text{conc.}) + \text{HCl}(\text{conc.})$
5. A solution of NaCl
i. Will turn red litmus blue iii. Will turn blue litmus red
ii. Will turn pH paper green iv. Will not affect litmus
a. (I) and (II) c. (I) and (IV)
b. (I) and (III) d. (II) and (IV)
6. Many salts absorb water from atmosphere. This property is called.
a. Deliquescence b. Efflorescence

- c. Hydration

7. An aqueous solution with pH = 0 is

 - Strongly acidic
 - Strongly basic

8. CaOCl_2 will liberate Cl_2 gas in presence of

 - CO_2
 - HCl
 - (i) and (ii)
 - (ii) and (iii)

9. Egg shell is made up of

 - CaCO_3
 - CaO

10. Curd cannot be stored in

 - Brass vessel
 - Copper vessel
 - Steel
 - bronze
 - (i), (ii), (iii)
 - (ii), (iii), (iv)

11. NH_4Cl acidic salt
 Na_2SO_4 _____

 - Acidic
 - Basic

12. Blue vitriol $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$
 Green vitriol _____

 - $\text{Na}_2\text{SO}_4 \cdot 10\text{H}_2\text{O}$
 - $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$

13. Substance colour of pH paper
 NaCl solution green
 Antacid _____

 - Orange
 - Blue

14. Solid NaOH is

 - Hygroscopic
 - Corrosive
 - (i) and (ii)
 - (ii) and (iii)

15. All metal hydrogen are _____ in water and on heating give _____, _____ and _____.

 - Soluble metal carbonate, CO_2 and H_2O
 - Insoluble metal carbonate CO_2 and H_2O

16. The colour of copper oxide is _____.

 - Colourless
 - Green

17. A. all non – metallic oxides dissolve in water of form acid
 B. Mg and Mn react with 5 % HNO_3 to form $\text{H}_2(\text{g})$

 - Both A and B are true
 - A is true B is false

d. addition

 - Neutral
 - Weakly acidic
 - CO
 - NO
 - (i) and (iv)
 - (ii) and (iv)
 - $\text{Ca}(\text{OH})_2$
 - CaCl_2
 - (i), (ii), (iv)
 - (i), (iii), (iv)
 - Amphoteric
 - Neutral
 - $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$
 - $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$
 - Yellow
 - Violet
 - Efflorescent
 - Amorphous
 - (i) and (iv)
 - (ii) and (iv)
 - Soluble metal oxide, CO_2 and H_2O
 - Insoluble metal oxide, CO_2 and H_2O
 - Black
 - Reddish brown
 - A is false B is true
 - A and B are false

18. A. N_2O is called laughing gas

B. NO_2 is acidic oxide

a. A is right and B is wrong

b. Both A and B are right

c. A is wrong B is right

d. Both A and B are wrong

19. .

Column I	Column II
A. Bleaching powder B. Plaster of paris C. Washing soda D. Baking soda E. Sodium chloride	i. Preparation of glass ii. Production of H_2 and Cl_2 iii. Manufacture of chalk iv. Antacid v. decolourisation

a. A (ii) B(i) C(iv) D(iii) E(v)

c. A (v) B(iii) C(i) D(iv) E(ii)

b. A (iii) B(ii) C(iv) D(v) E(i)

d. A (i) B(ii) C(iii) D(iv) E(v)

20. .

Column I	Column II	Column III
A. Lactic acid B. Formic acid C. Acetic acid D. Oxalic acid	i. CH_3COOH ii. $HCOOH$ iii. $COOH$ $COOH$ iv. $CH_3 - CH - COOH$ OH	p. Curd q. Ant – sting r. Guava s. vinegar

a. A (iv)p B(ii)q C(i)s D(iii)r

c. A (ii)r B(iv)s C(iii)q D(i)p

b. A (iii)q B(iii)r C(ii)p D(iv)s

d. A (i)s B(i)p C(iv)r D(ii)q

21. .

Column I	Column II
A. H_2SO_4 (aq) B. $NaOH$ (aq) C. $CuSO_4 \cdot 5H_2O$ (aq) D. $NaCO_3$ (aq) E. Na_2CO_3 (aq)	i. Turns red litmus blue ii. Turns blue litmus red iii. Turns phenolphthalein pink iv. pH paper becomes red v. pH paper becomes blue vi. pH paper becomes green vii. turns methl orange yellow

a. A(ii),(iv) B(i),(iii)(v)(vii) C (ii) and (iv) D (i),(iii)(v)(vii) E (vi)

b. A(i),(ii) B(i),(iii)(v)(vi) C (iii) (iv) D (ii),(iii)(v) E (v)

c. A(iii),(iv) B(i),(iii)(v)(vi) C (i) and (ii) D (i),(ii)(v) E (iv)

d. A(iv),(v) B(i),(ii)(v)(vi) C (i) and (ii) D (i),(iv)(v) E (iii)

22.

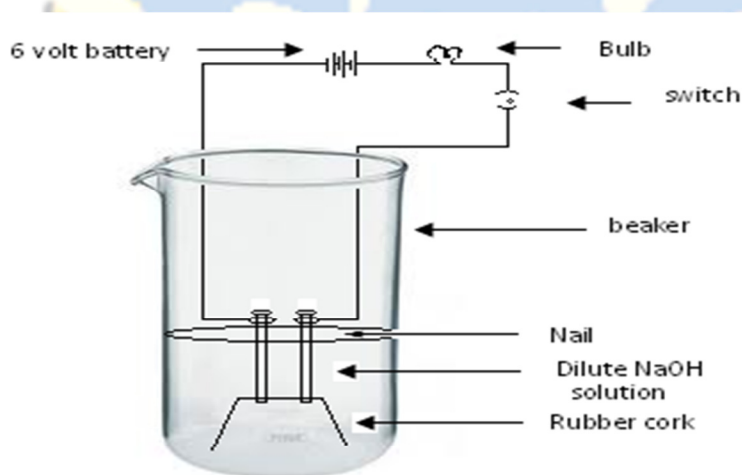
Name	formula
i. Plaster of paris	_____
ii. Bleaching powder	_____
iii. Washing soda	_____
iv. Gypsum	_____
v. Slaked lime	_____
vi. Quick lime	_____

a. $CaSO_4 \cdot 2H_2O$, $CaOCl_2$, Na_2CO_3 , $CaSO_4 \cdot H_2O$, $Ca(OH)_2$, CaO

- b. $\text{CaSO}_4 \cdot 1/2\text{H}_2\text{O}$, CaOCl_2 , $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$, $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$, $\text{Ca}(\text{OH})_2$, CaO
 c. $\text{CaSO}_4 \cdot 1/2\text{H}_2\text{O}$, CaOCl_2 , Na_2CO_3 , $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$, CaO , $\text{Ca}(\text{OH})_2$
 d. $\text{CaSO}_4 \cdot 1/2\text{H}_2\text{O}$, CaCl_2 , Na_2CO_3 , CaSO_4 , $\text{Ca}(\text{OH})_2$, CaO .
23. Acids, acidic oxide and acidic salts
 i. Will turn red litmus blue
 ii. Will turn blue litmus red
 iii. Will turn pH paper orangish red
 iv. Will turn pH paper green.
 a. (i) and (ii) c. (iii) and (iv)
 b. (ii) and (iii) d. (i) and (iv)
24. A solution turn red litmus blue , its pH is likely to be
 a. 1 b. 4 c. 5 d. 10
25. A solution reacts with crushed egg-shelled to give a gas that turn lime water milky, the solution contains
 a. NaCl c. LiCl
 b. HCl d. KCl
26. 10 ml of a solution of NaOH is found to be completely neutralized by 8 ml of a given solution of HCl . if we take 20 ml of the same solution of NaOH , the amount of HCl solution (the same solution as before) required to neutralize it will be.
 a. 4 ml c. 12 ml
 b. 8 ml d. 16 ml
27. Which one of the following types of medicines is used for treating indigestion?
 a. Antibiotic c. Antacid
 b. Analgesic d. antiseptic
28. What happens when a solution of an acid is mixed with a solution of a base in a test tube?
 i. The temperature of the solution is increased
 ii. The temperature of the solution is decreased
 iii. The temperature of the solution is remain the same
 iv. Salt formation takes place
 a. (i) only c. (ii) and (iii)
 b. (i) and (iii) d. (i) and (iv)
29. An aqueous solution turns red litmus red litmus solution blue. Excess addition of which addition of which of the following solution would reverse the change?
 a. Baking power c. Ammonium hydroxide solution
 b. Lime d. Hydrochloric acid
30. During the preparation of hydrogen chloride gas on a humid day, the gas is usually passed through the guard tube containing calcium chloride. The role of calcium chloride taken in the guard tube is to.
 a. Absorb the evolved gas c. Absorb moisture from the gas
 b. Moisten the gas d. Absorb Cl^- ions form the evolved gas.
31. Which of the following salt does not contain water of crystallization?
 a. Blue vitriol c. Washing soda
 b. Baking soda d. gypsum
32. Sodium carbonate is a basic salt because it is a salt of.
 a. Strong acid and strong base

- b. Weak acid and weak base
c. Strong acid and weak base
d. Weak acid and strong base
33. Calcium phosphate is present in tooth enamel. Its nature is.
a. Basic
b. Acidic
c. Neutral
d. Amphoteric
34. 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
35. Which of the following gives the correct increasing order of acidic strength?
a. Water < acetic acid < Hydrochloric acid.
b. Water < hydrochloric acid < acetic acid.
c. Acetic acid < water < hydrochloric acid.
d. Hydrochloric acid < water < acetic acid.
36. If a few drops of a concentrated acid accidentally spills over the hand of a student, what should be done.
a. Wash the hand with saline solution
b. Wash the hand immediately with plenty of water and apply a paste of sodium hydrogen carbonate
c. After washing with plenty of water apply solution of sodium hydroxide on the hand
d. Neutralize the acid with a strong alkali.
37. Sodium hydrogen carbonate when added to acetic acid evolves a gas. Which of the following statement 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)
38. Common salt besides being used in kitchen can also be used as the raw material for making.
i. Washing soda
ii. Bleaching powder
iii. Baking soda
iv. slaked lime
a. (i) and (ii)
b. (i) (ii) and (iv)
c. (i) and (iii)
d. (i) (iii) and (iv)
39. One of the constituents of baking powder is sodium hydrogen carbonate, the other constituent is.
a. Hydrochloric acid
b. Tartaric acid
c. Acetic acid
d. Sulphuric acid
40. 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
41. Which of the following statement is correct about an aqueous solution of an acid and of a base?
i. Higher the pH, stronger the acid
ii. Higher the pH, weaker the acid
iii. Lower the pH, stronger the base
iv. Lower the pH, weaker the base

- a. (i) and (ii)
b. (ii) and (iii)
c. (i) and (iv)
d. (ii) and (iv)
42. 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
43. Which of the following phenomena occur, when a small amount of acid is added to water?
i. Ionization
ii. Neutralization
iii. Dilution
iv. Salt formation
a. (i) and (ii)
b. (i) and (iii)
c. (ii) and (iii)
d. (ii) and (iv)
44. Which of the following can be used as an acid base indicator by a visually impaired (blind) student?
a. Litmus
b. Turmeric
c. Vanilla essence
d. Petunia leaves
45. Which of the following substance will not give carbon dioxide on treatment with dilute acid?
a. Marble
b. Limestone
c. Baking soda
d. Lime
46. Which of the following is acidic in nature?
a. Lime juice
b. Human blood
c. Lime water
d. Antacid
47. In an attempt to demonstrate electronically conductivity through an electrolyte, the following apparatus was set up.



Which among the following statement (s) is (are) correct?

- i. Bulb will not glow because electrolyte is not acidic
ii. Bulb will glow because NaOH is a strong base and furnishes ions for conduction.
iii. Bulb will not glow because circuit is incomplete
iv. Bulb will not glow because it depend upon the type of electrolytic solution.
- a. (i) and (ii)
b. (ii) and (iv)
c. (ii) only
d. (iv) only
48. Which of the following used for dissolution of gold?
a. Hydrochloric acid
b. Sulphuric acid

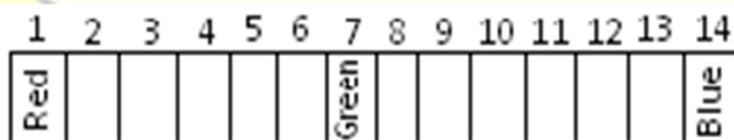
- c. Nitric acid
49. Which of the following is not mineral acid?
- a. Hydrochloride acid
- b. Citric acid
50. Which among the following is not a base.
- a. NaOH
- b. KOH
51. Which of the following statement is not correct?
- a. All metal carbonates react with acid to give salt, water and carbon dioxide.
- b. All metal oxides react with water to give salt and acid
- c. Some metals react with acids to give salt and hydrogen.
- d. Some react with water to form an acid

52. Match the chemical substances given in column (A) with their appropriate application given in column (B).

Column A	Column B
A. Bleaching powder	i. Preparation of glass
B. Baking soda	ii. Production of H_2 and Cl_2
C. Washing soda	iii. Decolourisation
D. Sodium chloride	iv. Antacid

- a. A – (ii) B – (i) C – (iv) D – (iii)
- b. A – (iii) B – (ii) C – (iv) D – (i)
- c. A – (iii) B – (iv) C – (i) D – (ii)
- d. A – (ii) B – (iv) C – (i) D – (iii)

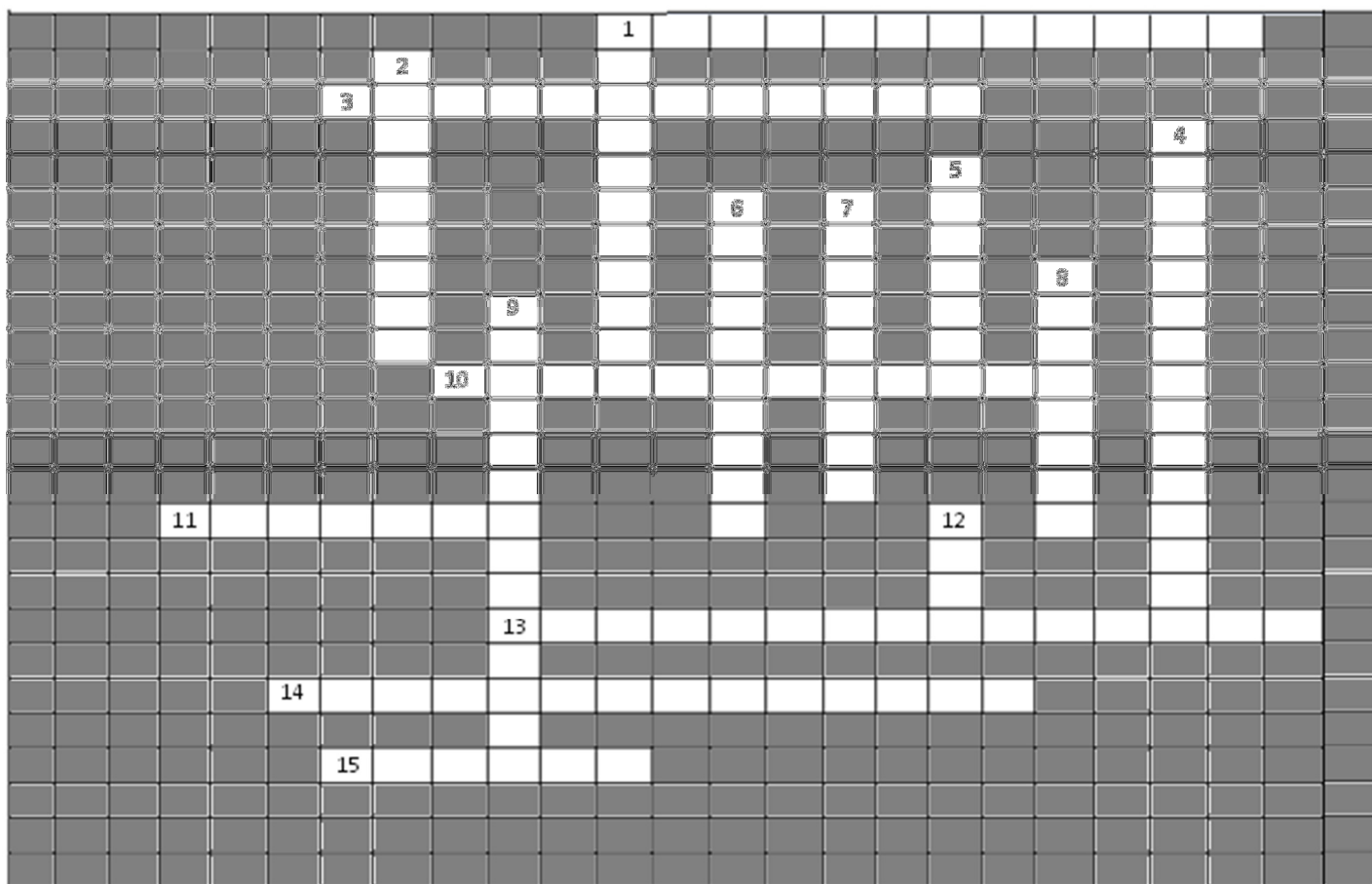
53. Equal volumes of hydrochloric acid and sodium hydroxide solution of same concentration are mixed and the pH of the resulting solution is checked with a pH paper. What would be the colour obtained? (you may use colour guide given in fig.)



- a. Red
- b. Yellow
- c. Yellowish green
- d. Blue
54. Which of the followings is (are) true when HCl (g) is passed through water?
- i. It does not ionize in the solution as it is a covalent compound
- ii. It ionizes in the solution
- iii. It gives both hydrogen and hydroxyl ion in the solution
- iv. It forms hydronium ion in the solution due to the combination of hydrogen ion with water molecule.
- a. (i) only
- b. (iii) only
- c. (ii) and (iv)
- d. (iii) and (iv)
55. Which of the following statement is true for acids?
- a. Bitter and change red litmus to blue

- b. Sour and change red litmus to blue
c. Sour and change blue litmus to red
d. Bitter and change blue litmus to red
56. Which of the following are present in a dilute aqueous solution of hydrochloric acid?
a. $\text{H}_3\text{O}^+ + \text{Cl}^-$
b. $\text{H}_3\text{O}^+ + \text{OH}^-$
c. $\text{Cl}^- + \text{OH}^-$
d. Unionized HCl
57. Identify the correct representation of reaction occurring during chloralkali process
a. $2\text{NaCl(l)} + 2\text{H}_2\text{O(l)} \rightarrow 2\text{NaOH(l)} + \text{Cl}_2\text{(g)} + \text{H}_2\text{(g)}$
b. $2\text{NaCl(aq)} + 2\text{H}_2\text{O(aq)} \rightarrow 2\text{NaOH(aq)} + \text{Cl}_2\text{(g)} + \text{H}_2\text{(g)}$
c. $2\text{NaCl(aq)} + 2\text{H}_2\text{O(l)} \rightarrow 2\text{NaOH(aq)} + \text{Cl}_2\text{(aq)} + \text{H}_2\text{(aq)}$
d. $2\text{NaCl(aq)} + 2\text{H}_2\text{O(l)} \rightarrow 2\text{NaOH(aq)} + \text{Cl}_2\text{(g)} + \text{H}_2\text{(g)}$
58. The correct formula of washing soda is
a) Na_2CO_3
b) $\text{Na}_2\text{CO}_3 \cdot \text{H}_2\text{O}$
c) $\text{Na}_2\text{CO}_3 \cdot 9\text{H}_2\text{O}$
d) $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$
59. Aqueous solution of which of the following salts turns the red litmus blue?
a) Na_2CO_3
b) NaHCO_3
c) $\text{Na}_2\text{CO}_3 \cdot 10\text{H}_2\text{O}$
d) all
60. If tartaric acid is not added in baking powder, the cake will taste bitter due to the presence of
a) sodium hydrogen carbonate
b) carbon dioxide
c) sodium carbonate
d) all of these
61. Soda acid fire extinguisher extinguishes the fire
a) by cutting the supply of the air
b) by removing the combustible substance
c) by raising the ignition temperature
d) none of these
62. The simplest formula of bleaching powder is
a) $\text{Ca}(\text{OCl}_2)$
b) CaOCl_2
c) $\text{CaOCl}_2 \times \text{H}_2\text{O}$
d) $\text{Ca}(\text{OCl}_2) \times 2\text{H}_2\text{O}$
63. The substance, which on treating with chlorine, yields bleaching powder is
a) Quick lime
b) Slaked lime
c) Limestone
d) gypsum
64. The dead burnt plaster is
a) $\text{CaSO}_4 \times 2\text{H}_2\text{O}$
b) $\text{CaSO}_4 \times \frac{1}{2} \text{H}_2\text{O}$
c) CaSO_4
d) $2\text{CaSO}_4 \times 2\text{H}_2\text{O}$
65. Bleaching powder is soluble in cold water giving a milky solution due to
a) Available chlorine
b) Lime present in it
c) Calcium carbonate formation
d) The absorption of carbon dioxide from atmosphere
66. In which of the following pair, both the substances are chemically same?
a) Milk of lime and lime water
b) Dead burnt plaster and gypsum
c) Alumina and gypsum
d) Gypsum and Plaster of Paris

80. When magnesium and hydrochloric acid react, they produce
- a) Oxygen and magnesium chloride
 - b) Chlorine and magnesium oxide
 - c) Hydrogen and magnesium chloride
 - d) Hydrogen and magnesium oxide
81. When HCl (aq) is exactly neutralized by NaOH (aq) , the hydrogen ion concentration in the resulting mixture is.
- a) Always less than the concentration of the hydroxide ions
 - b) Always greater than the concentration of hydroxide ions
 - c) Always equal to the concentration of the hydroxide ions
 - d) Sometimes greater and sometimes less than the concentration of the hydroxide ions.
82. A common substance that contains acetic acid is
- a) Vinegar
 - b) Ammonia water
 - c) Salad oil
 - d) Soap
83. A base use in the manufacture of soap is
- a) Calcium hydroxide
 - b) Sodium hydroxide
 - c) Ammonium hydroxide
 - d) Zinc hydroxide
84. Which of the following solution will turn phenolphthalein pink?
- a) HCl (aq)
 - b) $\text{CO}_2(\text{aq})$
 - c) KOH(aq)
 - d) $\text{CH}_3\text{OH(aq)}$
85. Fruit juices, such as orange juice contain.
- a) Boric acid
 - b) Citric acid
 - c) Sulphuric acid
 - d) Nitric acid
86. When dissolved in water, salts
- a) Are non-electrolytes
 - b) Have a bitter taste
 - c) Are electorates
 - d) Release hydrogen ions
87. A base can be prepared by the reaction between
- a) An active non metal and water
 - b) A gas and water
 - c) A sulphide and water
 - d) An active metal and water
88. Of the following the property that most, closely relates to acid is
- a) A bitter taste
 - b) Contains the hydroxide ion
 - c) Sour taste
 - d) Salty taste
89. A solution turns red litmus to blue its pH is likely to be
- a) 2
 - b) 5
 - c) 7
 - d) 10
90. Which of the following represents a base?
- a) KOH
 - b) KCl
 - c) CH_3OH
 - d) CH_3COOH
- 91.



Down

1. Name of the process of electrolysis of aqueous sodium chloride (2 words)
2. Change in colour of litmus in basic medium (3 words)
4. Chemical name of washing powder (2 words)
5. Medicine for acidity and indigestion
6. Common name of sodium hydrogen carbonate (2 words)
7. Change in colour of litmus in acidic medium (3 words)
8. Gas released when an active metal reacts with an acid
9. Common name of calcium sulphate hemihydrate (3 words)
12. Acids and bases react to produce water and –

Across

1. Gas released when a metal carbonate reacts with an acid (2 words)
3. This indicator gives reddish pink colour in acidic solution (2 words)
10. Mixture of sodium hydrogen carbonate and tartaric acid to make cakes (2 words)
11. Common name of dilute solution of acetic acid
13. This indicator gives magenta pink colour in alkaline solution
14. Acids and bases react to give _____ reaction.
15. Plaster of paris is obtained by heating.