परमाणु ऊर्जा शिक्षण संस्था
Atomic Energy Education Society

Work sheet No.1 **Class--VII**
Chapter- Acids, Bases and Salts **Marks—80**

ANSWER KEY

Multiple choice questions: (10 X 1M = 10M)

1. (b) add acid to water.
2. (c) salt and water
3. (b) Yellow in acid and red in the base
4. (d) colourless and pink
5. (a) Organic matter
6. (c) Lichen
7. (d) chemical change that cannot be reversed.
8. (a) basic
9. (d) Curd, vinegar
10. (c) Turmeric

II. Answer the following questions: (10 x 1M =10 M)

1. It is basic in nature.
2. Litmus solution is extracted from lichens.
3. Litmus solution is used as an indicator to find acidic and basic nature of a solution.
4. Distilled water is neutral in nature.
5. This can be tested by using red and blue litmus paper. In either of the cases, colour remains unchanged.
6. i) False
   ii) False
   iii) True
   iv) True
   v) False

7. Neutralisation is a reaction between an acid and a base. Here, both acids and bases get neutralised. For example, when sodium hydroxide (NaOH) is added to hydrochloric acid (HCl), sodium chloride (NaCl) and water (H_2O) are obtained.

$NaOH + HCl \rightarrow NaCl + H_2O$ + Heat

8.The antacid tablet contains base-like milk of magnesia, which neutralises the acid produced in the stomach. Hence, it is used while suffering from acidity.

9. The given solution may be neutral or acidic in nature as both will not change the colour of the red litmus paper.

10. When ant bites, it injects formic acid inside the skin. Calamine consists of Zinc carbonate which is basic in nature. Hence, calamine neutralises the effect of formic acid to bring relief for the affected person.

11. Factory wastes are acidic in nature which may cause harm to aquatic life. Hence, they are neutralised by using a base before disposing it into the water bodies.

12.i) Acids are substances that taste sour and are corrosive in nature.

ii) acids turn blue litmus paper to red.

13. i) bases are substances that are slippery to touch and bitter in taste.

ii) It turns red litmus paper to blue.

14. Salts are formed as a result of neutralisation of an acid and a base.

15. Litmus and Turmeric.

16. Phenolphthalein and Methyl orange.

17. Dorji can taste a few drops out of soft drinks bottles; the acidic solution is sour in taste, the basic solution is bitter in taste, and the neutral solution has no taste. Along with tasting, Dorji can use litmus paper to test the nature of the soft drinks. He should

use blue litmus paper to test the acidic solution. Dorji has to put a drop of solution on blue litmus. If it turns red, then the solution will be acidic in nature.
Similarly, he can use red litmus paper to test the basic solution. He has to put a drop of solution on red litmus. If it turns blue, then the solution will be basic in nature.

18. The following steps are taken to test the given liquids:

- Put a drop of provided liquid on the turmeric indicator. The solution that changes the colour of the indicator to red is sodium hydroxide, which is basic in nature.
- Now, to make two mixtures, add a drop of sodium hydroxide on the other two liquids individually.
- The drop of each combination added to the turmeric indicator one after another.
- The mixture that changes the indicator to red colour includes a neutral solution of sugar.
- While the mixture contains hydrochloric acid that has been neutralised by the addition of sodium hydroxide, which does not show any colour change in the indicator.

19. Wasp releases a liquid substance into the body when its stings. This liquid will be acidic in nature hence baking soda should be applied as a remedy, and adding lemon juice will increase the pain and redness.

20. If the soil is too acidic, it is treated with bases such as quick lime (calcium oxide) or slaked lime (calcium hydroxide). If the soil is too basic, organic matter is added to it. Organic matter releases acids which neutralise the basic nature of the soil.

21. (i) Citric acid.

(ii) Carbonic acid.

(iii) Aluminium hydroxide.

22. During indigestion, taking milk of magnesia (magnesium hydroxide) gives us relief as it neutralizes the effect of excess acid produced inside the stomach.

- The effect of ant sting, which is caused by formic acid, can be neutralized by rubbing moist baking soda (basic in nature).
- To ensure that plants can grow well, the soil is treated with either acids or bases, depending if it's basic or acidic in nature.
- Factory wastes, generally acidic in nature and can cause environmental damage, are treated with basic substances before discharge.

23.

Test tube	**Nature of Solution**	**Change in Colour of red litmus**
A	Neutral	No change
B	Basic	Turn blue
C	Acidic	No change
D	Neutral	No change

24. **Match the substances in Column I with those in Column II.**

Column I	**Column II**
a) Tartaric acid	**Unripe mangoes**
b) Calcium hydroxide	**Lime water**
c) Formic acid	**Ant's sting**

d) Sodium Hydroxide	**Soap**
e) Lactic acid	**Curd**

25. Since solution A turns China rose colour to dark pink hence Solution A is an acidic solution. solution B turns China rose colour to green colour hence Solution B is a basic solution. Since Solution C did not change the colour of china rose Solution, it is a neutral solution.

26. a) As Factory waste is disposed of in the river, it can kill the fish as factory waste may contain acids, bases and other toxic compounds.

b) If the factory waste is acidic in nature, it can be neutralised by adding basic substances.