Saitech Informatics

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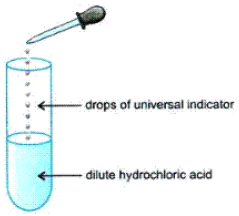
ACIDS, BASES, SALTS WORKSHEET

Class 10 - Science

1. A student adds a few drops of the universal indicator to a solution of dilute hydrochloric acid in the way shown here. He would observe that the colour of the solution changes from colourless to **[1]**



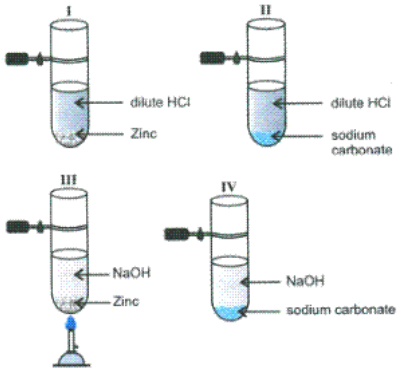
a) green

b) violet

c) red

d) yellow

2. A student performed an experiment using zinc granules and sodium carbonate with sodium hydroxide and hydrochloric acid under different conditions as shown here. **[1]**



He would observe that no gas is evolved in the set up :

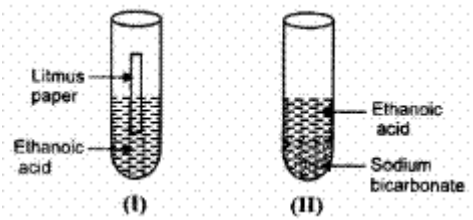
a) II

b) III

c) I

d) IV

3. 5 ml of ethanoic acid was taken in two test tubes I and II each. Blue and red litmus papers were dipped into test tube I and solid sodium bicarbonate was added to test tube II. **[1]**



The following observations were reported

A. Red litmus turned blue in I and no change was observed in II.

B. Blue litmus turned red in I and brisk effervescence was observed in II.

C. Red litmus turned blue in I and a gas of odour like vinegar evolved in II.

D. Blue litmus turned red in I and a gas which supports combustion evolved in II.

Which observation correctly represents the characteristics of ethanoic acid?

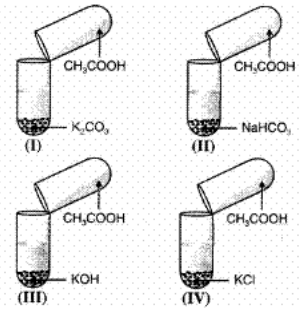
a) B

b) C

c) A

d) D

4. If burning candle is brought near each of the following test tube, in which of the following candle will get extinguished? **[1]**



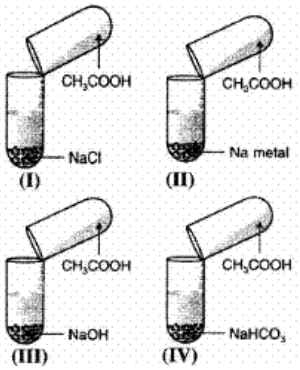
a) I and III

b) II and III

c) III and IV

d) I and II

5. In which of the following gas evolved will burn explosively? **[1]**



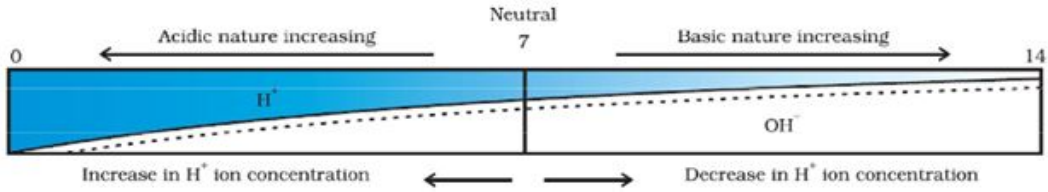
a) I and II

b) I, III and IV

c) II only

d) I and III

6. **[1]**



A solution turns blue litmus red, its pH is likely to be

a) 5

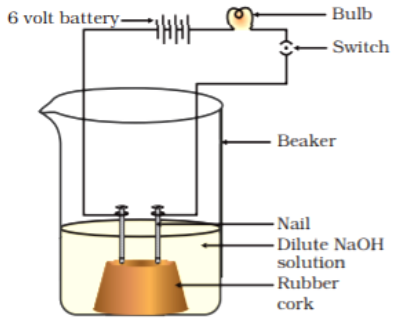
b) 9

c) 10

d) 8

7. In an attempt to demonstrate electrical conductivity through an electrolyte, the following apparatus was set up **[1]**

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 depends upon the type of electrolytic solution

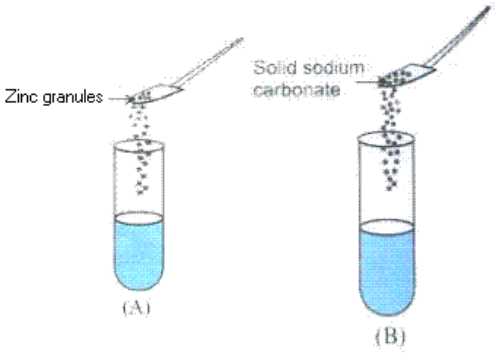
a) (iv) only

b) (ii) and (iv)

c) (ii) only

d) (i) and (iii)

8. A student took two test tubes containing 2 ml of dilute hydrochloric acid and added zinc granules to test tube (A) and solid sodium carbonate to test tube (B) as shown below: **[1]**



The correct observation would be

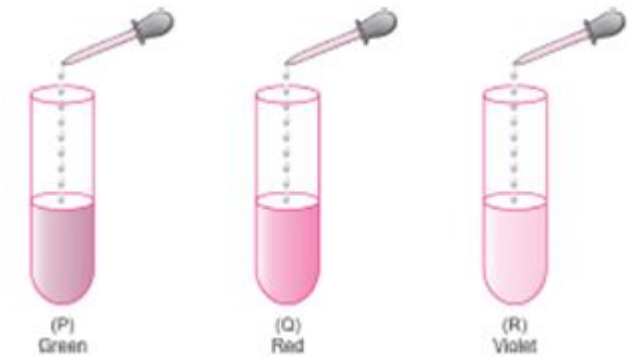
a) Rapid reaction in both the test tubes

b) No reaction in any of the test tubes.

c) Slow reaction in (A) and rapid reaction in (B)

d) Rapid reaction in (A) but a slow reaction in (B)

9. On adding a few drops of universal indicator to three colourless solutions taken separately in three test tubes labelled P, Q, R respectively the colours developed in the solutions are marked in the following figures. **[1]**



The correct order of their pH value is

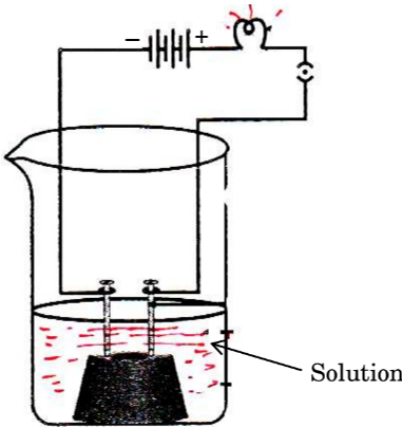
a) P > R > Q

b) Q > R > P

c) R > P > Q

d) P > Q > R

10. In the given experimental set-up, if the experiment is carried out separately with each of the following solutions the cases in which the bulb will glow is/are: **[1]**



i. Dilute hydrochloric acid

ii. Dilute sulphuric acid

iii. Glucose solution

iv. Alcohol

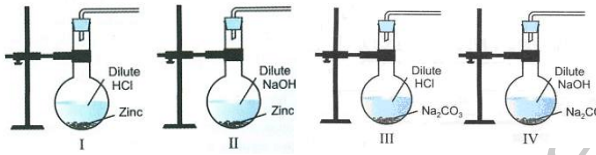
a) (ii), (iii) and (iv)

b) (i) only

c) (i) and (ii)

d) (ii) only

11. Four experimental set-ups are shown below to study the reaction of HCl and NaOH on zinc and sodium carbonate. **[1]**



The set-ups that would results in a rapid evolution of gas would be

a) III and IV

b) I and III

c) II and IV

d) I and II

12. Four student studied reactions of zinc and sodium carbonate with dilute hydrochloric acid and dilute sodium hydroxide **[1]**

solutions and presented their results as follows. The fig '✓' represents evolution of gas, whereas '×' represents absence of any reaction.

	Zn	Na_2CO_3
HCl	✓	✓
NaOH	✓	✗

A

	Zn	Na_2CO_3
HCl	✓	✗
NaOH	✓	✓

B

	Zn	Na_2CO_3
HCl	✗	✗
NaOH	✓	✓

C

	Zn	Na_2CO_3
HCl	✓	✓
NaOH	✗	✗

D

ṇThe right set of observation is that of student

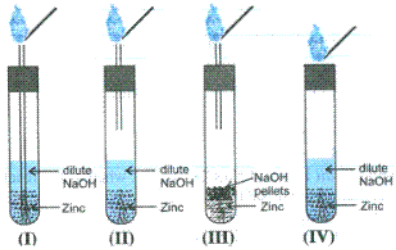
a) A

b) C

c) B

d) D

13. Which one of the following set ups is the most appropriate for the evolution of hydrogen gas and its identification ? **[1]**



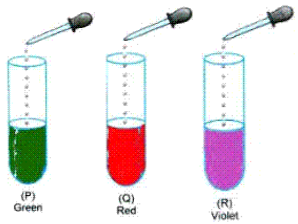
a) III

b) I

c) IV

d) II

14. On adding a few drops of universal indicator to three unknown colourless solution (P), (Q) and (R) taken separately in three test tubes shown in the following diagrams, a student observed the changes in colour as green in (P), red in (Q) and violet in (R). **[1]**



The decreasing order of pH of the solutions taken is :

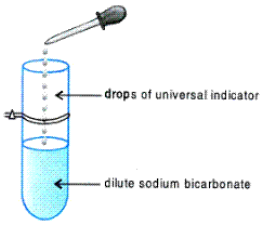
a) R > Q > P

b) Q > P > R

c) R > P > Q

d) P > Q > R

15. A student adds a few drops of the universal indicator to a dilute solut^{i}on of sodium bicarbonate taken in test tube. **[1]**



Which of the following colours, would be observe?

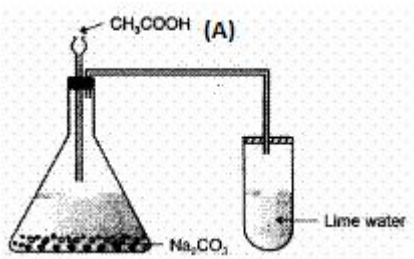
a) Yellow

b) Green

c) Blue

d) Mustard

16. What is wrong in this given set up if lime water does not turn milky? **[1]**



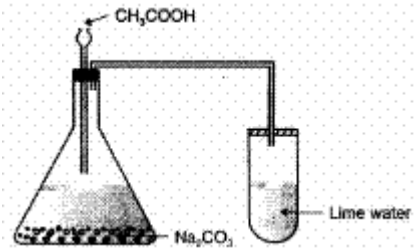
a) in A red litmus turns blue, in B it remains red

b) in A red litmus remains red, in B it becomes blue

c) in both A, B it changes to blue

d) in both A, B it remains red

17. What is wrong in the given set up if lime water does not change milky? **[1]**



a) sodium carbonate should be taken in solution form

b) thistle funnel is not dipping in acetic acid solution and CO_2 gas escape.

c) solid acetic acid should be added

d) apparatus is not air tight

18. A student added dilute HCl to Zn granules taken in a test tube. The correct observation would be **[1]**

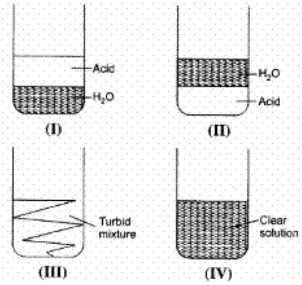
a) evolution of gas

b) no change

c) Zn granules turned green

d) formation of a precipitate

19. 5 ml of acetic acid was added to 5 ml of water in a test tube. The resulting mixture is correctly represented in the diagram **[1]**



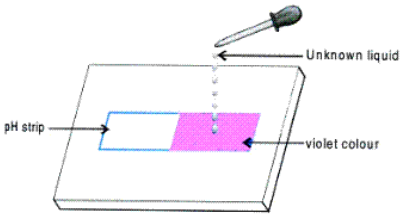
a) II

b) I

c) III

d) IV

20. On putting few drops of an unknown liquid on the pH strip as shown here, the colour of pH strip changed to violet.The liquid taken is likely to be : **[1]**



a) dilute acetic acid

b) dilute sodium hydroxide

c) water

d) dilute hydrochloric acid