

ATOMIC ENERGY CENTRAL SCHOOL NARORA

UNIT TEST --2

2018-19

Time : 90 Min

Class : XI.

Sub Chemistry.

Max.50

General Instructions :

{i} Question Nos. 1 to 5 are carrying 1 mark each

{ii} Question Nos.6 to 10 are carrying 3 marks each

{iii} Question No.11 to 16 are carrying 5 marks each.

1. In qualitative analysis on what basis cations are grouped?
2. What is the effect of temperature on solubility product ?
3. Under what conditions is a substance precipitated ?
4. If $K_w = 49 \times 10^{-16}$ what will be neutral pH of H_2O ?
5. Arrange the following in increasing order of pH , $KNO_3(aq)$, $CH_3COONa(aq)$, $NH_4Cl(aq)$, $C_6H_5COONH_4(aq)$
6. (a) Calculate the pH of 5 molar H_2SO_4 solution
(b) Calculate the H^+ concentration in human saliva whose pH is 6.4
7. The ionization constant of acetic acid is 1.74×10^{-5} . Calculate the degree of dissociation of acetic acid in its 0.05 M solution . Calculate the concentration of acetate ion in the solution and its pH
8. What is disproportionation reaction? Write any two examples
9. : Find the oxidation number of the following under lined element in the given species
(i) $S_2O_8^{2-}$ (ii) SO_5^{2-} (iii) $Al_2(SO_4)_3$
10. : From the given data explain which is the strongest oxidising agent with proper reason ? $E^0 Zn^{2+} = -0.76V$, $E^0 Cr^{2+} = -0.74V$, $E^0 H^+/H_2 = 0$
 $E^0 Fe^{3+}/Fe^{2+} = 0.77V$
11. : Balance the following redox reaction in basic medium by ion electron method
(i) $P_4 + OH^- \rightarrow PH_3 + H_2PO_2^-$
(ii) $N_2H_4(l) + ClO_3^- \rightarrow NO(g) + Cl^-$
12. Describe the preparation of H_2O_2 from 2-ethyl anthraquinone . what happens when H_2O_2 is treated (i) $FeSO_4/H^+$ (ii) $KMnO_4/H^+$ (iii) KNO_3/H^+
13. Predict the hybridization in oxygen of H_2O and H_2O_2 . Draw the structure of H_2O and H_2O_2 with proper bond angle
14. : Define 10 volume of H_2O_2 . Calculate Normality Molarity and percentage strength of 10 volume of H_2O_2
15. Write any four anomalous behavior of Be and Li in their respective group . what is diagonal relationship
16. (a) Write any four similarities between Li and Mg and Be and Al separately
(b) What happens when Na_4C and Al_4C_3 is treated with D_2O