SUBJECT : CHEMISTRY
PAPER NAME : ANLYTICAL CHEMISTRY-I
PAPER NO.: CHEM/IV/EC/07
SEMESTER : IV

A. Multiple Choice Questions (25)

1. The stage during titration at the titant and titrand just completely react is
     (a) end point
     (b) equivalent point
     (c) analize
     (d) none of the above

2. When a solute is present in very minute amount the concentration is expressed in
     (a) normality
     (b) morality
     (c) parts per million (PPM)
     (d) all of the above

3. A plot between PH of solution during titration the amount of and added from the burrete is called
     (a) titration curve
     (b) indicators
     (c) redox titration
     (d) complexometric titration

4. The process of distillation include all the following process except
     (a) changes of state
     (b) boiling
     (c) condensation
     (d) evaporation

5. A bottle containing two immiscible liquids can be separated by
     (a) fractional distribution
     (b) separating funnel
     (c) vacuum distillation
     (d) steam distillation

6. The closeness of a measurement to its true or accepted value is known as
     (a) precision
     (b) accuracy
     (c) error
     (d) average value

7. Which of the following sets have the same significant figures
     (a) 0.102 and 0.001
     (b) 0.0102 and   0.1002
     (c) 0.01001 and 0.1001
     (d) 2.302 and 0.232

8. The number of significant figures in 1.0001 is
     (a) 1

    (b) 5

    (3) 2

    (d) 3

9. The total relative error (%) for the expression (15.02+/- 0.02)(0.2000+/- 0.0001) is

    (a) +/- 0.13

    (b) +/- 0.05

    (3) +/- 0.18

    (d) +/- 0.20

10. The result of an analysis is 36.97g compared with the accepted value of 37.06g what is the relative error in percent

    (a) – 0.24%

    (b) -0.09%

    (3) 0.24%

    (d) -2.4%

11. When organic compound pass directly from solid to vapous state on heating the process is known as

    (a) crystallization

    (b) fractional distillation

    (c) sublimation

    (d) none of the above

12. The numbers of moles of the solute dissolved per litre of the solution is called

    (a) molarity

    (b) normality

    (c) parts per millions

    (d) all of the above

13. The chemical substance that is added to the solution of an analyte to produce an observable physical change

    (a) indicator

    (b) standard solution

    (c) Primary standard

    (d) end point

14 A mixture of oil and water can be separated by

    (a) filtration

    (b) separating funnel

    (c) fractional distillation

    (d) sublimation

15. The method use for separating a compound based on their solubilities into different immiscible liquid is

    (a) liquid-liquid extraction

    (b) crown ether

    (c) craig method

    (d) sublimation

16. precipitation takes place when the product of concentration of ions ;

(a) exceeds the solubility product

(b) equqls the solubility product

(c) is less than the solubility product

(d) is negligible

17. What will be the effect of adding some solid $AgNO_3$ to a saturated solution of AgCl

(a) The $AgNO_3$ will not dissolve.

(b) More solid AgCl will dissolve.

(c) More solid AgCl will be produced.

(d) There will be no effect on AgCl equilibrium.

18. Which of the following is NOT a laboratory safety rule?

(a) You should never mix acids with bases

(b) You should tie back your long hair

(c) You should never add water to acid

(d) All of the above are valid safety rules

19. When H_2S gas is passed through an acidic solution containing Cu^{2+} and Zn^{2+} ions

(a) Cu^{2+} is precipitated as sulphide

(b) Zn^{2+} is precipitated as sulphide

(c) both Cu^{2+} and Zn^{2+} will be precipitated

(d) None of the above

20. Interfering radicals are

(a) cations

(b) anions

(c) neutral

(d) none of the above

21. With which of the following analytical methods is it possible to have the greatest precision?

(a) volumetric titration

(b) linear calibration

(c) gravimetric

(d) spectrophotometric

22. - On the gravimetric determination of Clif the weight of AgCl ppt. was 1.433 g. the weight of Clin the sample will equals to: ..... (AgCl molecular weight = 143.3 and Cl-=35.5)

(a) 0.355 g.

(b) 3.55 g.

(c) 0.1433 g.

(d) 143.3/35.5 g.

23. 1- Gravimetry is:
(a) Determination of the specific gravity of the analyte.
(b) One of the volumetric methods of analysis.
(c) One of the instrumental methods of analysis.
(d) A determination method based on weighing.

24. Ksp of Ag_3PO_4 equals:
(a) $[3Ag^+]\ 3[PO_4^{3-}]$
(b) $[Ag^+]\ 3[PO_4^{3-}]$
(c) $[Ag^+]\ [PO_4^{3-}]^3$
(d) $[3Ag^+]\ [PO_4^{3-}]$

25. In gravimetric analysis, the ideal product should be
(a) very pure, soluble, and should possess a known composition.
(b) very pure, insoluble, easily filterable, and should possess an unknown composition.
(c) very pure, insoluble, easily filterable, and should possess a known composition.
(d) None of the above.

B. Fill up the Blanks
1. Normality of solution changes with ……………………………………
2. …………………………is a very useful method to get metals with very high purity such as sillycon an germanium
3. A method use for separating analytes with similar distribution ratio is called…………………………………..
4. The greater the scatter of data point the lower the ……………………………
5. …………………………..are cyclic chemical compounds that consist of a ring containing several ether groups
6. Methyl orange cannot be used as an endicator for titrating …………………………………..against strong base.
7. A ………………………………………… substance is that whose standard solution cannot be prepare by direct weighing.
8. …………………………………..are the number at the upper and lower end of a confidence level.
9. An …………………………..is any statistical test in which the test statistic has an f- distribution
10. under the null hypothesis.
11. An …………is a drug, chelating substance, or a chemical that counteracts (neutralizes) the effects of another drug or a poison.
12. Filtration is a process used to separate……. from liquids.
13. …………. is used to convert Fe2+ toFe3+ in qualitative analysis.

14. 'The gradual deposition of an impurity from solution when the solution and the impurity are left in contact' is known as …………..

15. Dimethyl glyoxime gives an insoluble red chelate with …… ion in ammonical solution.

16. Organic reagents are advantageous over inorganic reagents in gravimetric analysis because the organic precipitation products greatly reduce ………… .

Key Answers:

A. Multiple Choice Questions (25)

1.(a)
2.(c)
3.(a)
4.(d)
5.(b)
6.(b
7.(c)
8.(b)
9.(c)
10.(a)
11.(c)
12.(a)
13.(a)
14.(c)
15.(a)
16. (a)
17. (c)
18. (d)
19. (a)
20. (b)
21. (c)
22. (a)
23. (d)
24. (c)
25. (c)

B. Fill up the Blanks

(1) temperature
(2) zone refining
(3) graig method
(4) precission
(5) crown ether
(6) weak Acid
(7) secondary standard

(8) confidence limits

(9) f-test

10. antidote

11. solids

12. Conc. HNO_3

13. Post-precipitation

14. Ni^{2+}

15. Co-precipitation