ROYAL COLLEGE OF ARTS, SCIENCE AND COMMERCE

TYBSc SEMESTER VI

ANALYTICAL CHEMISTRY SAMPLE PAPER(USCH604)

01 Polarography is a _____ method of analysis. **(1)**
a) Optical
b) Electroanalytical
c) Thermal
d) Radioanalytical

02 Titration of Bi^{3+} with EDTA at -0.18 V (vs. SCE) is an example of a system in which _____ is/are reducible. **(1)**
a) Reactant
b) Product
c) Titrant
d) Both reactant and titrant

03 Calculate the capillary characteristic if the rate of flow of mercury drop is 4 mg/s and drop time is 3s. **(1)**
a) 1.86
b) 2.65
c) 3.02
d) 4.28

04 Oxygen is readily available _____ in polarography. **(1)**
a) Maxima suppressor
b) Depolariser
c) Supporting electrolyte
d) Indifferent electrolyte

05 _____ can be used aspolarizable electrode for reactions involving the use of oxidizing agents that attack mercury. **(1)**
a. DME
b. RPE
c. SCE
d. SHE

06 Component X had a retention time of 20.4 minutes and peak width of 1.20 minutes on a 40 cm long column. The unretained species had a retention time of 1.40 minutes. The number of theoretical plates in the column is ---- and the capacity factor is ---- cm. **(1)**
a. 17, 0.0686
b. 272, 14.57
c. 4624, 13.57
d. 289, 15.57

07 In GLC, ---- is used as liquid phase for separation of aromatic compounds. **(1)**

a. Benzyl dipyridyl
b. Squalene
c. Pyridine
d. Silicone oil

08 ---- is not used as a detector in GC. **(1)**

a. Thermal conductivity detector
b. Differential refractive index detector
c. Flame ionization detector
d. Electron capture detector

09 An anion exchanger resin is a high molecular weight, cross linked polymer containing ---- group. **(1)**

a. $-NH_2$
b.-OH
c.-COOH
d.$-SO_3H$

10 Ion exchange capacity of a resin is expressed in ----. **(1)**

a. mol/dm^3
b. mM/cm^3
c. meq/dm^3
d. meq/g

11 _____ are the most widely used preservatives in deodorants and antiperspirant. **(1)**

a) Triclosan
b) Aluminium Salts
c) Parabens
d) Propylene glycol

12 Lowenthal method involves oxidation of tannin by _____. **(1)**

a. Potassium permanganate
b. Potassium dichromate
c. Hydrogen peroxide
d. Indigo carmine

13 Fehling's solution A is _____. **(1)**

a. Cuprous oxide
b. Cupric oxide
c. Alkaline sodium potassium tartarate
d. Copper sulphate pentahydrate

14 _____ is used as indicator in Cole's ferricyanide method. **(1)**

a. Methyl red
b. Methyl yellow
c. Methylene blue
d. Starch

15 _____ color appears on addition of concentrated sulphuric acid to milk if benzoic acid is present. **(1)**

a) Violet
b) Green
c) Black
d) Buff d.

16 The type of thermal event in $A_{(s)} + B_{(g)} \rightarrow C_{(s)}$ is ----. **(1)**

a. Sublimation
b. Decomposition
c. Oxidation
d. Combustion

17 In the furnace of TGA, inert atmosphere can be maintained by using --- gas **(1)**

a. N_2
b. CO_2
c. Kr
d. Ne

18 In DTA, for inorganic samples, ---- or ---- is used as reference material. **(1)**

a. Alumina, $CaCO_3$
b. MgO, $CaSO_4$
c. $CaCO_3$, $CaSO_4$
d. Alumina, MgO

19 Thermometric titrations are generally carried out under ---- conditions. **(1)**

a. Isothermal
b. Adiabatic
c. Isobaric
d. Isochoric

20 ---- is a measure of the capacity of an analytical procedure to remain un affected by small but deliberate variation in method parameter. **(1)**

a. selectivity
b. Sensitivity.
c. Ruggedness
d. Robustness

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