FBQ1: Small value of standard deviation indicates that a set of data is _____to the mean.
Answer: Close

FBQ2: Errors are _____ that naturally accompany the experiment performed.
Answer: Variations

FBQ3: When an experiment is performed more than once and the results obtained are compared, the degree of agreement between the results obtained is termed _____.
Answer: precision

FBQ4: The last stage of the process of formation of a precipitate is _____.
Answer: Crystal growth

FBQ5: The sample container of a spectrometer must be _____ in the wavelength region being measured.
Answer: Transparent

FBQ6: A molecule upon absorption of a photon of energy moves to higher energy state called _____.
Answer: Excited state

FBQ7: _____ is used to prevent an element from interfering in the analysis of another element.
Answer: Masking agent

FBQ8: In complexometric titration, the complex formed with metal ion is called _____.
Answer: Chelate

FBQ9: _____ entails dividing a heterogeneous population into varying homogeneous groups or strata and random sample is drawn from each stratum and pooled together.
Answer: Stratified sampling

FBQ10: Round off 17.05 to three significant figures.
Answer: 17.1

FBQ11: _____ is suitable either when the sample source is known to vary with time or when sample source composition varies in space.
Answer: Grab Sample

FBQ12: _____ sample are collected over a predetermined part or to entire depth of an area with respect to location and time.
Answer: depth- integrated

FBQ13: The procedure or operations involved in obtaining a laboratory size sample that is a true representative of population or a whole lot for a particular analytical exercise is called _____.
Answer: Sampling

FBQ14: The nature of a _____ must be the same with that of the population and must remain so throughout the analytical exercise.
Answer: Sample

FBQ15: The technique which involves pouring the sample so that it takes on a conical shape, and then flattening it out into a cake. The cake is then divided into quarters and two quarters which face opposite one another are discarded, whilst the other two are combined and constitute the reduced sample is called _____ method of sample selection
Answer: Coning and Quartering

FBQ16: A good sample is one that the nature is the same with that of the population and remains unchanged in this nature throughout the _____.
Answer: Analytical exercise

FBQ17: Composite samples provide more representative sampling of_____ matrices in which the composition of the analyte of interest may vary over a period of time and or space.
Answer: Heterogeneous

FBQ18: _____ samples compose of mixture of grab samples collected from different points simultaneously or as nearly so as possible.
Answer: Integrated

FBQ19: Samples brought to the laboratory require further _____before analysiscommences due to the need to convert the sample from the nature in which it exist at the site of sampling to the form in which it can be analysed.
Answer: Treatment

FBQ20: _____ help in eliminating the possible sources of contamination and sample degradation that could lead to sample destruction, and ensure the homogeneity of samples.
Answer: Treatment of sample

FBQ21: Analytically experiments requiring reduction of the water content in a sample material can be achieved through _____.
Answer: Concentration

FBQ22: _____ involves converting sample material in solid form to solution.
Answer: Dissolution

FBQ23: Dry ashing is normally carried out in a _____ .
Answer: Muffle furnace

FBQ24: _____ is an analytical technique that deals with reactions between measured volumes of a reagent against the test substance called analyte in a stoichiometric manner.
Answer: Volumetric analysis

FBQ25: The process by which the precise concentration of a solution is determined is _____.
Answer: Standardisation

FBQ26: Ideal reagents that produce good result in titrimetric analysis have purity above 99.9 %, this grade of reagents is called _____.
Answer: Primary standard

FBQ27: That point in an acid-base titration when the amount of acid added to the base is the exact amount necessary for stoichiometric reaction is _____.
Answer: Equivalence point

FBQ28: In titration between a strong base and a weak acid, the titrant is _____.
Answer: Strong base

FBQ29: In titration between a strong base and a weak acid, from the first addition of NaOH until before the _____, there exist a mixture of unreacted HA and the A- produced by the reaction.
Answer: Equivalence point

FBQ30: In titration of strong acid against strong base, after reaching equivalence point, pH is determined by the excess _____ in the solution.
Answer: H+

FBQ31: Titration error is difference between the _____. and end point.

Answer: equivalence point

FBQ32: The tendency to oxidise or reduce depends on the _____ of a substance.
Answer: Reduction potential

FBQ33: The device in which electrolysis of solution takes place is known as _____.
Answer: Electrochemical cell

FBQ34: A typical electrolytic cell is made up of electrodes, salt bridge and _____.
Answer: Electrolyte

FBQ35: In redox titration potentiometer is used to measure concentration of _____ .
Answer: analyte in voltage

MCQ1: An acid base titration experiment was repeated three times to get triplicate measurements and it was observed that there was agreement between the replicate measurements; this indicates that there was _____ between the replicate measurements.
Answer: Precision

MCQ2: _____ allow effective attack of reactant by reagent during reaction.
Answer: Grinding and crushing

MCQ3: The concentration of a solution whose concentration is unknown can be determined by _____.
Answer: Standardisation

MCQ4: _____ analytical technique involves chemical reaction of the analyte/specie of interest with a reagent which leads to the formation of a product of limited solubility.
Answer: Precipitation gravimetry

MCQ5: The process by which precipitates carry down from solution other constituent that are normally soluble, causing contamination of precipitate is called _____.
Answer: Coprecipitation

MCQ6: _____ statistical tool is most frequently used to compare the mean values from experimental procedure.
Answer: Variance

MCQ7: The actual point when a reaction is observed complete is known as _____.
Answer: Equivalence point

MCQ8: Precipitation occurs through _____.
Answer: Supersaturation - Nucleation and Crystal growth

MCQ9: Spectrometry is a _____ technique.
Answer: Quantitative and qualitative

MCQ10: _____ is a device which disperses radiation into its component wavelength.
Answer: Monochromator

MCQ11: Confidence level is a statistical tool which enables analyst to determine _____.
Answer: The likelihood that the true value falls within the range

MCQ12: In stratified sampling, the population is divided into varying

_____.
Answer: Homogenous groups or strata from which random sample is drawn and pooled together

MCQ13: The difference between the true value and the measured value of a set of data is known as_____.
Answer: Error

MCQ14: An analyst wants to perform an experiment, from the sample he has, following systematic procedure he obtains some quantity from the sample that is adequate for his experiment, which represents the whole sample. The operation the analyst performed to obtain the needed sample for his experiment is called _____.
Answer: Sampling

MCQ15: In random sampling technique each item of the population has _____ of being included in the samples
Answer: Equal chance

MCQ16: While preparing a stock solution of ammonium nitrate, a technologist weighed 0.5g of the substance which actually is 0.7g, with a faulty analytical balance. The type of error that occurred is called _____.
Answer: Instrumental error

MCQ17: Errors indicated by small differences in successive measurements made by the same analyst under almost identical experimental conditions is an example of _____.
Answer: Random error

MCQ18: Express 7.1054 as three significant figures
Answer: 7.105

MCQ19: If the results obtained do not tally when different analytical methods are used to measure the same quantity, it means _____.
Answer: That there is an error associated with one of the methods.

MCQ20: Electromagnetic spectrum is _____.
Answer: Broken down into different region according to wavelength

MCQ21: It is important to correct errors observed in experimental analysis because it _____.
Answer: Affects the accuracy and precision of a measured quantity

MCQ22: Random errors cannot be determined or avoided because they are due to _____.
Answer: Limitations of physical measurement

MCQ23: Homogeneity in a set of data is observed when _____.
Answer: Standard deviation is small

MCQ24: Major activities during the preparation of samples include _____.
Answer: Concentration

MCQ25: One way of enhancing effective reaction between reagents and samples is by _____.
Answer: Increasing the surface area of the sample through grinding and crushing

MCQ26: It is essential that solid samples be thoroughly mixed in order to ensure _____.
Answer: Radom distribution of the components in the sample

MCQ27: Titration reaction must be _____.
Answer: Rapid

MCQ28: The most common form of titration in which titrant is added to the analyte> until reaction is complete is known as _____.
Answer: Direct titration

MCQ29: The most obvious application of neutralization titration includes determination of innumerable inorganic, organic and biological species that possess inherent _____.
Answer: Acidic or basic properties

MCQ30: Dry ashing is usually carried out in _____.
Answer: A muffle furnace

MCQ31: The difference between equivalence point and end point is known as _____.
Answer: Titration error

MCQ32: Which of these does standard deviation measure?
Answer: How closely data cluster about the mean

MCQ33: _____ is the correct sequence of arrangement of the components of a spectrophotometer.
Answer: Source - Monochromator - Sample – Detector- Read out

MCQ34: All of the following are methods of sample preparation except _____.
Answer: Sample preservation

MCQ35: Which of the following ensure random distribution of components of an analytical sample?
Answer: Mixing of solid laboratory samples