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SARDAR PATEL UNIVERSITY
Third Semester (EXAM ON DEMAND)
B.Sc. EXAMINATION (CBCS)
US03ECHE05   BASIC ANALYTICAL CHEMISTRY

Date: 14/6/2022   Time: 12.00 TO 2.00 PM
TUESDAY   Maximum Marks: 70

Q-1	**Multiple Choice Questions. Write The Correct Option in Your Answer Sheet.** 10
1	What defines the degree of closeness between a series of measured value with true result?
	(a) accuracy (b) precision (c) error (d) none of these
2	The error which can be avoided or whose magnitude can be determined is known as _____.
	(a) systematic error (b) random error (c) functional error (d) none of these
3	The systematic error includes _____.
	(a) error of the method (b)instrumental error (c) reagent error (d) all of them
4	Organic nitrogen can be estimated with the help of _____.
	(a)cracking method (b)Kjeldahl's method (c)isocratic method (d)evaporation method
5	The difference between end point and theoretical end point is known as _____.
	(a) titration error (b) random error (c) 'a' and 'b' both (d) none of above
6	Saponification value test is used for the determination of...
	(a) buffers (b) acids (c) bases (d) oils and fats
7	While preparing the solution of iodine, KI is added; which forms ___complex.
	(a)EDTA (b) I_3^- (c) I^- (d) none of these
8	Which of the following statement is wrong?
	(a) $KmnO_4$ is a powerful oxidizing agent (b) $KmnO_4$ is a weak oxidizing agent
	(c) $K_2Cr_2O_7$ is an oxidizing agent (d) NaOH is a strong base
9	In Mohr's method, which indicator is used?
	(a)K_2CrO_4 (b) $KmnO_4$ (c) KNO_3 (d) none of these
10	Fluorescein and Eosin are _____.
	(a) adsorption indicators(b)redox indicators (c) acid-base indicators(d)none of these

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Q-2	**FILL IN THE BLANKS.** 08
1	An average value of the given data is also known as _____. (mean / deviation)
2	Difference between experimental value and true value is known as _____. (error / mean)
3	_____ will show colour change when titration completes. (Indicator / buffer)
4	_____ is acid base titration indicator. (methyl red / eosin)
5	K2Cr2O7 is _____ agent. (oxidizing / buffering)
6	EDTA is _____. (complexing agent / buffer)
7	_____ can be used as one of the method to determine end point in precipitation titration. (Mohr's method / Distillation method)
8	Gravimetry is _____ analysis. (quantitative /potentiometric)

(P.T.o.)

Q-3   **Answer the following in short. (Any ten)**   **20**

1   Discuss on: t-test with its equation.
2   Define the terms: Accuracy and Precision.
3   Explain absolute method for the determination of accuracy.
4   What is acid-base titration?
5   What is middle tint of an indicator?
6   What is saponification value of oils and fats?
7   How I2 solution is prepared?
8   Potassium permanganate is not a primary standard. why?
9   Name types of EDTA titration.
10 Write the advantages of gravimetric method.
11 What is gravimetry?
12 Explain the term: Colloidal state.

Q-4   **Attempt any EIGHT from the following.**   **32**

1   Discuss t-test and F-test in detail.
2   Define: Error and give complete classification of errors.
3   Write a note on: Primary and Secondary Standards.
4   Discuss the neutralization curve for strong acid vs. strong base titration and show
    how pH changes during the titration.
5   Discuss EDTA titration in detail.
6   Show how potential changes during oxidation-reduction titration.
7   List out the methods used for determining the end point in the precipitation titration.
    Explain any two of them.
8   Discuss the method for determination of total hardness.

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