(NO. OF PAGES: 2)

(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2022 ONLY)

SUB CODE 22UCY6E1

REG.NO.

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END-OF-SEMESTER EXAMINATIONS : MAY-2025

B.Sc CHEMISTRY **MAXIMUM MARKS: 50**

SEMESTER:VI **TIME : 3 HOURS**

PART - III

22UCY6E1 ANALYTICAL CHEMISTRY - II

SECTION – A (10 X 1 = 10 MARKS)

ANSWER THE FOLLOWING QUESTIONS.(K1)

1. Which of the following analytical method is used to measure the analyte concentration depending on the quantity of light received by the analyte?

(a) Spectroscopy (b) Decantation (c) Potentiometry (d) None of the above

2. The solvent extraction technique is

(a) Qualitative (b) Quantitative (c) Identification (d) None of the above

3. Equal volumes of 10 g H2SO4 aqueous solution and 10 g NaOH aqueous solution are mixed together. The nature of the resulting solution will be

(a) Basic (b)Neutral (c)Acidic (d) Can't determined

4. Loss of electrons is _____

(a) Oxidizing agent (b) Oxidation (c) Reducing agent (d) Reduction

5. What is the alternate name of water?

(a)Azide (b)Hydroxide (c) Oxidane (d)Dihydrogen oxide

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES (K2)

6. What is the wavelength range of the UV spectrum?
7. What is the separation factor?
8. The most suitable indicator for the titration of a strong acid and weak base is-------
9. In this reaction $Cu^{+2} + Zn \rightarrow Cu + Zn^{+2}$, what is an oxidising agent?
10. Name any two water conservation techniques adopted in India.

(CONTD …. 2)

SECTION – B (5 X 3 = 15 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. (K3)

11. a) Explain beer lambert law?

(OR)

b) Compare between UV visible and IR spectroscopy.

12. a) List out the types of extraction.

(OR)

b) Explain about Continuous extraction and Counter current extraction.

13. a) Describe any thermochemical evidence for the Arrhenius idea of heat of neutralization.

(OR)

b) Derive Henderson equation.

14. a) List out the applications of complexometric titrations.

(OR)

b) Propose the various types of precipitation titration?

15. a) Differentiate between pure water and contaminated water?

(OR)

b) Describe the disinfection process used in water treatment.

SECTION – C (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

(K4 (Or) K5)

16. a) Sketch the instrumentation of UV visible spectrometer.

(OR)

b) Explain the application of IR spectroscopy in organic chemistry.

17. a) Discuss about the principle of solvent extraction.

(OR)

b) Elaborate about the Qualitative and quantitative aspects of solvent extraction

18. a) Infer the Theory of Neuralization.

(OR)

b) Compile a note on Buffer solution.

19. a) Explain the principle of complexometric titration.

(OR)

b) Develop a note on Volhard method Procedure using estimation of chloride ions.

20. a) Explain some common water quality parameters and their significance?

(OR)

b) Illustrate with suitable example the types of food adulteration

****

ETHICAL PAPER

ETHICAL PAPER