

**U.G. 2nd Semester Examination - 2024****CHEMISTRY****[Skill Enhancement Course (SEC)]****Course Code : CHEM-SEC-T-2****(IT Skills For Chemists)****[NEP-2020]**

Full Marks : 35

Time :  $1\frac{1}{2}$  Hours*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*1. Answer any **five** questions : 1×5=5

- a) Explain relative error with example.
- b) What is the degree of polynomial function?  
 $f(y) = 0.y^7 + 16.y^5 + 5.y^4 - 2.y^7 + 1.y^2$
- c) Define significant figures with example.
- d) What is the base of binary system?
- e) State the difference between RAM and ROM.
- f) Write the characteristics of the Gaussian distribution curve.
- g) Explain the term operating system with an example.
- h) What is the full form of i) CPU and ii) DOS?

*[Turn over]*

2. Answer any **two** questions :  $5 \times 2 = 10$

- a) Draw and explain a potentiometric titration curve.
- b) Write the characteristic of Gaussian distribution curve.
- c) What is a truth table? Write short notes on OR, AND and NOT gate.
- d) What is standard deviation? Explain the differences between accuracy and precision.

3. Answer any **two** questions :  $10 \times 2 = 20$

- a) i) Discuss the stepwise conversion of given decimal number to binary number 99 and 112.

ii) Briefly explain the Least Square Method.

$5+5$

- b) i) Calculate pH of 1.0 M acetic acid (given,  $K_a$  of acetic acid  $1.8 \times 10^{-5}$ ).

ii) Describe Trapezoidal rule of integration.

$5+5$

- c) i) Explain the differences between Compiler and Interpreter.

ii) What are the types of errors in the experimental measurements? Explain with suitable examples.

$5+(2+3)$

- d) i) Express the Van der Waals equation of state as a cubic equation of V.
- ii) Differentiate between Random and Systematic Error. 5+5
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