C 22063 **(Pages : 2)** **Name.....**

Reg. No.....

SECOND SEMESTER (CBCSS—UG) DEGREE EXAMINATION
APRIL 2022

Chemistry

CHE 2C 02—PHYSICAL CHEMISTRY

(2021 Admissions)

Time : Two Hours Maximum : 60 Marks

Section A (Short Answers)

Answer at least **eight** *questions.*
Each question carries 3 *marks.*
All questions can be attended.
Overall Ceiling 24.

1. What is isothermal process ?
2. Discuss different types of systems.
3. Distinguish between extrinsic and intrinsic properties.
4. What is most probable velocity ?
5. What is Maxwell distribution law of velocity ?
6. Define Boyle's law.
7. What is real gas ?
8. Define isotonic solution with example.
9. What are the units of viscosity ? How does it vary with temperature ?
10. Define osmosis and osmotic pressure.
11. What is a buffer solution ?
12. Define specific conductance and molar conductance.

(8 × 3 = 24 marks)

Turn over

Section B (Paragraph)

Answer at least **five** *questions.*
Each question carries 5 *marks.*
All questions can be attended.
Overall Ceiling 25.

13. Explain third law of thermodynamics.
14. Explain Gibbs free energy and its physical significance.
15. Derive Bragg's equation and explain its application.
16. How is viscosity of a liquid determined ? Discuss the effect of temperature on it.
17. Define surface tension. How does surface tension of liquid vary with temperature.
18. What is electrode potential ? Discuss the effect of concentration on it.
19. Distinguish between galvanic cell and electrolytic cell.

(5 × 5 = 25 marks)

Section C (Essay)

Answer any **one** *question.*
The question carries 11 *marks.*

20. a) What is an ideal gas ?
    b) What are the causes of deviation of gas from ideal behaviour ?
21. Explain the following conductometric titration with graph :
    a) Strong acid × strong base .
    b) Weak acid × strong base.

(1 × 11 = 11 marks)