

C 22063

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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)