



K23U 1110

Reg. No. :

Name :

IV Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/
Improvement) Examination, April 2023
(2019 Admission Onwards)
COMPLEMENTARY ELECTIVE COURSE IN CHEMISTRY/POLYMER
CHEMISTRY
4C04CHE/PCH (PS) : Chemistry (For Physical Science)

Time : 3 Hours

Max. Marks : 32

SECTION – A

Very short answer type. Each carries 1 mark. Answer all 5 questions.

1. Define colligative property.
2. Write down the electrode reaction of Calomel electrode.
3. What is Lycopodium Cup ?
4. Define specific conductance.
5. What are Weiss indices ? (5×1=5)

SECTION – B

Short answer type. Each carries 2 marks. Answer any 4 questions out of 6.

6. What are the factors affecting the solubility of gas in liquid ?
7. What is Nernst Equation ? Explain the terms in it.
8. How molar conductance varies with dilution ?
9. Define mean free path.
10. State Henry's Law.
11. What are the equations to find out the average velocity and RMS velocity of gases ? (4×2=8)

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SECTION – C

Short Essay type. Each carries 3 marks. Answer any 3 questions out of 5.

12. Define the term transport number. What are the methods to determine transport number ?
13. What are the difference between crystalline solids and amorphous solid ?
14. Define liquid crystals. What are the different types of liquid crystals ?
15. Explain the deviation of gas from ideal behaviour.
16. Explain the Maxwell distribution of velocities. (3×3=9)

SECTION – D

Long essay type. Each carries 5 marks. Answer any 2 questions out of 4.

17. How to determine the molecular mass from osmotic pressure ?
18. What are concentration cells ? Explain the different types of concentration cells.
19. Explain potentiometric titration and mention its application.
20. Discuss the different synthetic methods of nanoparticles. (2×5=10)