

D4BCH2202

Reg.No.....

Name:

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2024

(Regular/Improvement/Supplementary)

CHEMISTRY: COMPLEMENTARY COURSE FOR PHYSICS, BOTANY AND ZOOLOGY

GCHE4C04T: PHYSICAL AND APPLIED CHEMISTRY

Time:2Hours

MaximumMarks: 60

SECTION A: Answer the following questions. Each carries *two* marks.

(Ceiling 20 Marks)

1. What is Electrophoresis?
2. Write the synthesis of Buna-S.
3. What are quantum dots? Give an example.
4. Comment on green solvents.
5. What is R_f value?
6. Mention the toxic effects of CO.
7. Write the basic principle of a chromatographic technique.
8. State Hardy-Schulze Rule.
9. What is the term acid rain?
10. Explain Beer-Lambert's law.
11. What is a chromophore? Give two examples.
12. What are analgesics? Give an example.

SECTION B: Answer the following questions. Each carries *five* marks.

(Ceiling 30 Marks)

13. Explain the cleansing action of soaps and detergents.
14. Discuss the electrical properties of nanomaterials and their size-dependence.
15. Explain the principle and process of paper chromatography.
16. What is PHBV? How is it prepared? What are its uses?
17. Explain greenhouse effect. What are the consequences of greenhouse effect?
18. Write an explanatory note on food preservatives and anti-oxidants.
19. Explain the terms chromophore and auxochromes with suitable example.

SECTION C: Answer any *one* question. Each carries *ten* marks.

20. a) Sketch the different vibrational modes of CO₂. Classify them as IR active and IR inactive modes and explain your answer.
b) How can NMR method be used to distinguish between the structure of propan-1-ol and propan-2-ol
21. Give a detailed account on the manufacture, composition and setting of cement.

(1 x 10 = 10 Marks)