

C 3519

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Name.....

Reg. No.....

**FOURTH SEMESTER (CBCSS—UG) DEGREE EXAMINATION  
APRIL 2021**

Chemistry

CHE 4C 04—PHYSICAL AND APPLIED CHEMISTRY

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. Why are lyophilic sols more stable than lyophobic sols ?
2. Define Gold number.
3. Write note on green solvent.
4. What is the significance of surface to volume ratio ?
5. What is meant by elution ?
6. Discuss the principle of IR spectroscopy.
7. What is bathochromic shift ?
8. What is COD ?
9. What is greenhouse effect ?
10. What is octane number ?
11. Compare LPG and CNG.
12. How are dyes classified ?

(8 × 3 = 24 marks)

**Section B (Paragraph)**

*Answer at least five questions.*

*Each question carries 5 marks.*

*All questions can be attended.*

*Overall Ceiling 25.*

13. Explain different purification techniques of colloids.
14. What is the principle of UV spectroscopy ?
15. Explain application of nanomaterial's in electronics and robotics.
16. Explain briefly TLC.
17. What are Pollutants ? How are they classified ?
18. Explain briefly different theories of dyes.
19. Define and give an example of antipyretics, analgesics, antibiotics, antacids and antiseptics.

(5 × 5 = 25 marks)

**Section C (Essay)**

*Answer any one question.*

*The question carries 11 marks.*

20. Discuss briefly different spectroscopic techniques used in the structural determination of organic molecules.
21. What are biodegradable polymers ? Explain application of biodegradable polymers.

(1 × 11 = 11 marks)