D 100524	(Pages: 2)	Name
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SIXTH SEMESTER U.G. (CBCSS—UG) DEGREE EXAMINATION MARCH 2024

Chemistry/Polymer Chemistry

CHE 6B 10—ORGANIC CHEMISTRY—III

(2019 Admission onwards)

Time: Two Hours

Maximum: 60 Marks

Section A (Short answers)

Answer questions up to 20 marks.

Each question carries 2 marks.

- 1. What are red shift and blue shift?
- 2. Calculate the λ_{max} of :

- 3. Write a short note on spin-spin splitting observed in NMR spectroscopy?
- 4. What is mutarotation?
- 5. What is Biuret test?
- 6. What are nucleosides and nucleotides?
- 7. Draw the structure of vitamin C.
- 8. What is denaturation of proteins?
- 9. Define Saponification value and iodine value.
- 10. What are the physiological actions of nicotine?
- 11. What are HDL and LDL?
- 12. What are electrocyclic reactions?

(Ceiling of marks: 20)

Turn over

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Section B (Paragraph)

2

Answer questions up to 30 marks.

Each question carries 5 marks.

- 13. Discuss the UV-Vis spectra shown by polyatomic molecules.
- 14. Write a short note on paper chromatography.
- 15. Convert glucose to fructose and fructose to glucose.
- 16. Differentiate DNA and RNA.
- 17. What are lipids? How are they classified? Explain.
- 18. Write a short note on Sanger's method for the structure elucidation of peptides.
- 19. Discuss the mechanism of Cope and Claisen rearrangements.

(Ceiling of marks: 30)

Section C (Essay)

Answer any **one** questions.

Each question carries 10 marks.

- 20. (i) Discuss with mechanism of the solid phase synthesis of peptides.
 - (ii) What is meant by DNA fingerprinting? What are its applications?
- 21. (i) Write a short note on the cyclic structure of glucose.
 - (ii) What is Chemical shift? What are the factors affecting it?

 $(1 \times 10 = 10 \text{ marks})$