

Name.....

Reg. No.....

**SIXTH SEMESTER U.G. (CBCSS—UG) DEGREE EXAMINATION
MARCH 2024**

Chemistry/Polymer Chemistry

CHE 6B 10—ORGANIC CHEMISTRY—III

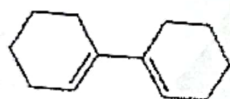
(2019 Admission onwards)

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

Section B (Paragraph)

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)

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 x 10)