C 80160 (Pages : 2) Name.....

Reg. No.....

SIXTH SEMESTER B.A./B.Sc. DEGREE EXAMINATION, MARCH 2020

(CUCBCSS—UG)

Chemistry

CHÈ 6B 10—ORGANIC CHEMISTRY–III

Time : Three Hours Maximum : 80 Marks

Section A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. Sketch the NMR spectrum of ethanol.
2. What is isoelectric point ?
3. What is Tollen's reagent ?
4. Draw the structure of methandrostenolone.
5. State Isoprene rule.
6. Draw the structure of geraniole.
7. State the occurance of citral.
8. What are steroid hormones ? Give an example.
9. Give the chemical names of vitamins A, B, and B_2.
10. What are nucleosides and nucleotides ?

(10 × 1 = 10 marks)

Section B

Answer any **ten** *questions.*
Each question carries 2 *marks.*

11. What are the different steps in the biosymthesis of proteins ?
12. Write short note on nutarotation.
13. Write short note on strecker synthesis.
14. Discuss in detail - Denaturation of proteins.
15. Write short note on Killiani - Fischer synthesis.
16. What are the applications of carbohydrates.

17. What are epimers and anomers ?
18. What are the biological functions of lipids ?
19. What are carbohydrates ? How are they classified ?
20. Discuss the uses of waxes with examples.
21. Write short note on chemical shift.
22. What is meant by Zwitterion ? How does isoelectric point influence the properties of an amino acid ?

(10 × 2 = 20 marks)

Section C

Answer any **five** *questions.*
Each question carries 6 *marks.*

23. Briefly discuss secondary and teritiary structure of proteins.
24. How will you distinguish between the following pairs of compounds on the basis of IR spectroscopy :
    (a) Ethyl alcohol and diethyl ether.
    (b) Acetic acid and ethyl acetate.
25. What is meant by spin-spin splitting ? Illustrate taking the case of ethyl alcohol.
26. Discuss the structure of starch and cellulose.
27. Discuss the structural details of RNA and DNA and make a critical comment on the functions of mese molecules.
28. Discuss the uses of lemon grass oil and Eucalyptus oil.
29. Write short note on Diels-Alder reaction.
30. How are vitamins classified ? Give the structure of one vitamin belonging to each class.

(5 × 6 = 30 marks)

Section D

Answer any **two** *questions.*
Each question carries 10 *marks.*

31. Discuss the source, structure and physiological functions of coniine and piperine.
32. Explain in detail DNA fingerprinting and its applications.
33. (a) Write short note on Anabolic steroids and their abuse.
    (b) Write short note on Hydrogenation and drying of oils.
34. (a) Discuss colour tests for proteins.
    (b) Inversion of cane sugar.

(2 × 10 = 20 marks