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Reg. No. : .....

Name : .....

Fourth Semester B.Sc. Degree Examination, May 2021

First Degree Programme Under CBCSS

Chemistry

Complementary Course for Botany

CH 1431.3 — ORGANIC CHEMISTRY

(2019 Admission Regular)

Time : 3 Hours Max. Marks : 80

SECTION – A

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

1. Give an example for partition chromatography.
2. Define R_f value.
3. What are Zwitterions?
4. Give two examples of essential amino acids.
5. Draw the structure of D-Lactic acid.
6. What are diastereomers?
7. Define saponification value.
8. Draw the structure of nicotine.
9. Give one example each for substantive dyes and vat dyes.
10. What are antipyretics?

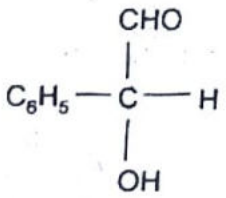
(10 × 1 = 10 Marks)

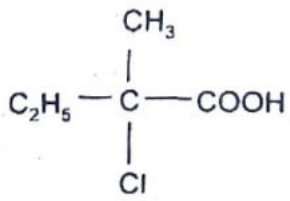
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SECTION – B

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

11. Explain the principle involved in TLC.
12. Discuss the applications of ion exchange chromatography.
13. Explain the classification of vitamins with examples.
14. Write a note on different types of RNA and its functions.
15. Name the nitrogen bases present in DNA and RNA.
16. What is meant by denaturation of proteins? Give an example for irreversible denaturation of protein.
17. Discuss the steps involved in the synthesis of proteins.
18. Name any two natural sources of citral. How is it isolated?
19. How are the dyes classified according to its applications? Give one example each.
20. How will you prepare methyl orange?
21. Discuss the terms chromophore and auxochrome with examples.
22. Assign R and S configuration to the following Fischer projections.





23. Distinguish between meso and racemic forms of tartaric acid.
24. Draw the structure of (2R, 3S)-Tartaric acid.
25. What are antacids? Give any two examples.
26. How is aspirin synthesised?

(8 × 2 = 16 Marks)

SECTION – C

Answer **any six** questions. **Each** question carries **4** marks.

27. Write briefly on column chromatography.

28. Give a brief account on gas chromatography.

29. What are soaps? Discuss the cleansing action of soap.

30. Discuss the structure of protein.

31. Write a note on D and L notations taking glyceraldehyde as an example.

32. Explain erythro and threo isomers with suitable examples.

33. What is meant by isoelectric point of amino acids?

34. Discuss the colour reactions for the deteciion of proteins.

35. Write short note on the classification of amino acids.

36. How is indigo synthesised from aniline?

37. How are antibiotics classified? Give one example for any four.

38. Discuss the classification of analgesics.

(6 × 4 = 24 Marks)

SECTION – D

Answer **any two** questions. **Each** question carries **15** marks.

39. Describe the principle, instrumentation, advantages and applications of HPLC.

40. (a) Describe the structure of DNA.

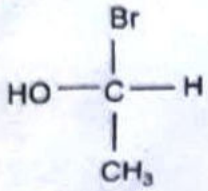
    (b) Explain the synthesis of peptides via carbenzoxy method.

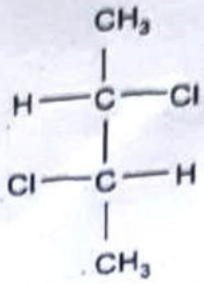
    (c) Write on the structure and stereochemistry of amino acids.

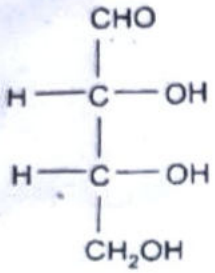
41. (a) Define racemisation. What is resolution?

(b) Discuss any four methods of resolution of racemic mixture.

(c) Specify the configuration of the following molecules.

(i) 

(ii) 

(iii) 

42. (a) Elucidate the structure of coniine.

(b) Write on the terms – iodine value and acid value

(c) Discuss the structure, functions and deficiency diseases of vitamin A and C.

43. Explain the classification of dyes based on its chemical constitution.

44. Write notes on the following :

(a) Anticancer drugs

(b) Synthesis of chloramphenicol

(c) Hypnotics

(d) Structure and uses of sulphaguanidine

(e) Analgesics.

(2 × 15 = 30 Marks)
