ST. SAINTS COLLEGE LTD. TRIVANDRUM

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Reg. No. : .....

Name : .....

Fourth Semester B.Sc. Degree Examination, July 2019

(First Degree Programme Under CBCSS)

Complementary Course for Botany

CH 1431.3 ORGANIC CHEMISTRY

(2017 Admn)

Time : 3 Hours Max. Marks : 80

PART – A

Answer **all** questions. Answer in one word to a maximum of two sentences.

Each question carries **1** mark.

1. Explain the process of elution in chromatography.

2. What is R_f value?

3. What is peptide linkage?

4. What is meant by genetic code?

5. What is chiral carbon atom?

6. Give two examples for molecules exhibiting optical isomerism.

P.T.O.

7. Give the molecular formula of vitamin C.

8. What is the source of nicotine?

9. Give the names of two natural dyes.

10. Name two anticancer compounds from plants.

(10 × 1 = 10 Marks)

PART – B

(Short answer type. Answer **any eight** questions. Each question carries **2** marks)

11. What is the difference between adsorption and partition chromatography?

12. Give two applications of ion-exchange chromatography.

13. Distinguish between essentional and non-essentional amino acids.

14. Explain the denaturation of proteins.

15. What are the elements of symmetry?

16. Determine the R and S notations of meso tartaric acid.

17. Explain diastereoisomerism.

18. What is meant by iodine number with respect to a fat or oil?

19. Draw the structure of isoprene and state isoprene rule.

20. Draw the structure of conine.

21. What is the difference between acidic dyes and basic dyes?

22. What is schiff's reagent?

(8 × 2 = 16 Marks)

PART – C

(Short essay type. Answer **any six** questions. Each question carries **4** marks)

23. Explain the principle of paper chromatography.

24. Write Carbobenzoxy method for the synthesis of peptide.

25. Give two colour tests for proteins.

26. Explain the primary and secondary structure of proteins.

27. Amino acids can be considered as amphoteric electrolytes. Justify.

28. Explain erythro and threo enantiomerism with suitable examples.

29. How geraniol and citral isolated from natural sources?

30. Explain the cleansing action of soaps and detergents.

31. Give a short note on sulpha drugs.

(6 × 4 = 24 Marks)

PART – D

(Essay type questions. Answer **any two** questions. Each question carries **15** marks)

32. (a) Discuss the principle and technique involved in HPLC. **(5 each)**

(b) Explain any two applications of HPLC.

(c) Explain

(i) Zone electrophoresis

(ii) Capillary electrophoresis

33. (a) What are nucleic acids? How do DNA differ from RNA. **(5 each)**

(b) Explain

(i) DNA finger printing

(ii) DNA Replication

(c) Explain

(i) Translation

(ii) Transcription

34. (a) What is racemisation? Discuss any two methods for the resolution of racemic mixture. **(5 each)**

(b) Discuss optical isomerism in lactic acid.

(c) What are meso compounds? Explain with examples.

35. (a) Discuss the following with suitable examples. **(5 each)**

(i) Analgesics

(ii) Antipyretics

(b) Write the synthesis of

(i) Aspirin

(ii) Chloroamphenicol

(c) Write the preparation of

(i) Methyl Orange

(ii) Phenolphthaleins

(2 × 15 = 30 Marks)
