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Reg. No. : ...........................

Name : ..................................

## Sixth Semester B.Sc. Degree Examination, March 2021

### First Degree Programme under CBCSS

### Chemistry

### Core Course XI

### CH 1642 : ORGANIC CHEMISTRY III

### (2018 Admission Regular)

Time : 3 Hours                                                                 Max. Marks : 80

### PART – A

Answer **all** questions. Answer in **one** word to maximum **two** sentences. Each question carries **1** mark.

1.   What is the monomer of Teflon?

2.   Draw the structure of aspirin.

3.   Define saponification value of an oil.

4.   Draw the structure of quinoline.

5.   What is the disease caused by the deficiency of vitamin C?

6.   Give the monomer of nylon - 6.

7.   Draw the structures of $\beta - D$ - fructofuranose.

8. What are essential oils?

9. What will be the product formed when methyl lithium reacts with $CO_2$ followed by acid hydrolysis?

10. Define isoelectric point.

**(10 × 1 = 10 Marks)**

## PART – B

Short answer type. Answer **any eight** questions from the following. Each question carries **2** marks.

11. What are nitrile rubbers? What are its merits over SBR?

12. What are the heterocyclic bases present in RNA?

13. Explain the preparation of Nylon-6,6.

14. What are the advantages of detergents over soaps?

15. What is meant by vulcanization? Explain.

16. What is the structure of geraniol? What are its uses?

17. Define the term degree of polydispersity.

18. What are anomers?

19. What is meant by translation in protein synthesis?

20. What are non-essential amino acids? Give an example.

21. What is Reformatsky reaction?

22. What is Pal-Knor synthesis of pyrrole?

23. Draw the structure of chloroquine. What are its uses?

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24. Define the term number average molecular mass of a polymer.

25. Explain the hydrogenation of oils. What is its significance?

26. What is rancidity? Explain.

**(8 × 2 = 16 Marks)**

## PART – C

Short answer type. Answer **any six** questions from the following. Each question carries **4** marks.

27. Explain the replication of DNA.

28. What is a protecting groups used in peptide synthesis? Give any two examples.

29. Discuss about the interconversion of glucose and fructose.

30. Discuss about the classification of amino acids.

31. Explain the preparation and uses of (a) Phenol-formaldehyde resin and (b) Teflon.

32. What are sulpha drugs? Explain the mode of action of sulpha drugs.

33. Discuss about the preparation and properties of pyridine.

34. Explain the cleansing action of soaps.

35. Explain the classification of drugs.

36. Write short note on biodegradable polymers.

37. Explain Skraup synthesis of quinoline.

38. What is Gilman reagent? How it is prepared? Explain the reactions of Gilman reagent.

**(6 × 4 = 24 Marks)**

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## PART – D

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

39. Write an essay on classification of polymers.

40. Write a note on

    (a) Classification of carbohydrates

    (b) Mutarotation

    (c) Chain lengthening of aldoses.

41. Elucidate the structure of nicotine.

42. Discuss about

    (a) Preparation and reactions of Grignard reagent.

    (b) Preparation and synthetic applications of ethyl acetoacetate.

    (c) Synthetic applications of $SeO_2$.

43. Write a brief note on :

    (a) Aromaticity of heterocyclic compounds

    (b) Give the structure and functions of DNA.

44. Write a brief note on :

    (a) Classification of terpenes.

    (b) Strecker synthesis of amino acids.

    (c) Biological functions of oils and fats.

**(2 × 15 = 30 Marks)**

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