

Reg. No. :

Name :

Sixth Semester B.Sc. Degree Examination, March 2020

First Degree Programme under CBCSS

Chemistry

Core Course XI

CH 1642 — ORGANIC CHEMISTRY – III

(2017 Admission)

Special Examination

Time : 3 Hours

Max. Marks : 80

SECTION – A

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

1. Carbohydrates are chemically _____.
2. What product would be formed when D-glucose is treated with Benedict's reagent?
3. _____ are classes of terpenes that consist of three isoprene units.
4. _____ is a synthetic rubber obtained by radical polymerisation of chloroprene.
5. Write the structure of sulphapyridine.
6. The individual amino acids are joined by _____.

P.T.O.



7. Pyrrole is weakly acidic. Justify.
8. What is an essential oil?
9. Write the name of monomers of Teflon and classify them as whether addition or condensation polymers.
10. What is the main product of the reaction of Benzaldehyde with ethyl magnesium bromide followed by an acid work-up?

(10 × 1 = 10 Marks)

SECTION – B

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

11. Discuss the Ruff degradation of D-Glucose.
12. Draw the partial structure of amylase.
13. How would you convert cyclopentadiene into an aromatic compound?
14. Give the structure and name of the product by the reactions of pyridine and fuming nitric acid.
15. Explain the mode of action of ampicillin.
16. What is isoelectric point?
17. Write the structure and uses of Limonene.
18. What is mean by an Iodine value of oil?
19. Why plasticizer is used during moulding of plastics?
20. What is epoxy resin?
21. Write the scheme of preparation of Gilman reagent.
22. Give one synthetic use of Frankland reagent.

(8 × 2 = 16 Marks)



SECTION – C

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

23. Discuss the classification of monosacharjdes based on the number of carbon atom.
24. Predict the reactions of carbohydrates in basic solutions.
25. Discuss Paal Knorr synthesis.
26. Write a brief note on the following alkaloids.
 - (a) Morphine and
 - (b) Codein.
27. Show how the strecker synthesis can be used to prepare Alanine.
28. Propose the mechanism of radical polymerization of ethene.
29. What is the role of Ziegler Natta catalyst in directing the tacticity in polypropylene?
30. Discuss the mechanism of Claisen condensation.
31. Write the synthetic application of Ethyl acetoacetate.

(6 × 4 = 24 Marks)

SECTION – D

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

32.
 - (a) Discuss the elementary steps involved in Skraup synthesis.
 - (b) Explain the Fischer-Indole synthesis.
 - (c) Illustrate how soap emulsifies non-polar substances in water.

(6 + 4 + 5)



33. (a) Discuss in detail on Solid Phase peptide synthesis.
(b) Write a short note on the structure of RNA.
(c) Discuss in brief on Bio-degradable polymer. **(6 + 4 + 5)**
34. (a) Write the tandem synthetic steps involved in the preparation of Cinnamic acid from Benzaldehyde.
(b) Show the synthetic applications of the following reagents
(i) LiAlH_4
(ii) SeO_2 . **(5 + 5 + 5)**
35. Write an essay on the reactions of Organo lithium compounds to show its synthetic applications. **(2 × 15 = 30 Marks)**
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