



Reg. No. :

Name :

Sixth Semester B.Sc. Degree Examination, April 2018

First Degree Programme Under CBCSS

CHEMISTRY

Core Course - X

CH 1641 : Organic Chemistry - II

(2013 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

SECTION - A

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

1. Draw the Zwitter ion form of glycine.
2. What is the product obtained when phenol is treated with Con.HNO_3 ?
3. What is the action of heat on anthranilic acid ?
4. Give any one method of preparation of coumarin.
5. What is the product of the reaction $2\text{CH}_3\text{CHO} \xrightarrow{\text{OH}^-}$?
6. What are anomers ?
7. What is the product obtained when glucose is acetylated ?
8. What is a prosthetic group ?
9. Give an example for a synthetic detergent.
10. What is special isoprene rule ?

(10×1=10 Marks)

SECTION - B

Short answer type. Answer **any 8** questions from the following.**Each** question carries **two** marks.

11. Phenol is a weaker acid than acetic acid. Explain.
12. Give any one method of preparations of catechol.

P.T.O.



13. What happens when $\text{CH}_3\text{CH}=\text{CH}-\text{CHO}$ is reduced with NaBH_4 ?
14. Why is the α -hydrogen in aldehydes and ketones acidic.
15. How will you obtain cinnamic acid by knoevenagel reaction ?
16. Why are carboxylic acids much stronger than alcohols ?
17. What are epimers ? Give an example.
18. Draw the Haworth ring structure of α -D fructose.
19. What is denaturation of proteins ?
20. Write a note on stereochemistry of amino acids.
21. Write a note on chemistry of vision.
22. What is genetic code ?

(8×2=16 Marks)

SECTION - C

Short essay type. Answer **any 6** questions from the following.
Each question carries **four** marks.

23. What is Fries rearrangement. Explain the mechanism.
24. Explain the preparation and use of :
 - i) Picric acid
 - ii) Resorcinol
 - iii) Quinol.
25. What is witting reaction ? Explain the mechanism.
26. Explain with mechanism the oxidative cleavage of diols using lead tetra acetate and periodic acid reagent.
27. How is salicylic acid prepared ? How would you convert it into :
 - a) Phenol
 - b) Benzoic acid
 - c) Aspirin.



- 28. Explain the preparation, properties and structure of cellulose and starch.
- 29. Explain Sheehan method of peptide synthesis.
- 30. What is Wolff-Kishner reduction ? Give its mechanism.
- 31. Explain the classification of vitamins and represent the structure of vitamins A, B₁ and C. (6×4=24 Marks)

SECTION - D

Answer **any 2** questions. **Each** question carries **15** marks.

- 32. Explain the mechanism of following reactions :
 - i) Aldol condensation
 - ii) Perkin reaction
 - iii) Knoevenagel condensation
 - iv) Wolff-Kishner reduction.
- 33. Explain elaborately, the structure of glucose.
- 34. Explain elaborately, the structure elucidation and extraction of nicotine.
- 35. a) Explain any two, preparation and uses of :
 - i) Salicylic acid
 - ii) Tartaric acid
 - iii) Anthranilic acid
 - iv) Citric acid.b) Explain :
 - i) Structure of RNA and DNA
 - ii) Replication of DNA.(15×2=30 Marks)