

Reg. No.....

Name.....

B. Sc. DEGREE END SEMESTER EXAMINATION - APRIL 2021**SEMESTER –6: CHEMISTRY (CORE COURSE)****COURSE: 15U6CRCHE10: ORGANIC CHEMISTRY – IV***(Common for Regular 2018 Admission & Improvement 2017/Supplementary 2017/2016/2015 Admissions)*

Time: Three Hours

Max Marks: 60

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

1. ----- is also known as vitamin B₂.
2. Fats and oils are triesters of ----- and fatty acids.
3. Glucose reacts with Conc. HNO₃ to form -----.
4. α – D – Glucose and β – D – Glucose are -----.
5. Pyrrole is ----- basic than Pyridine.
6. ----- is the sugar unit present in RNA.
7. Bases present in nucleic acids is classified as ----- and -----.
8. Cholesterol on ----- with Se gives Diel's Hydrocarbon.

(1 × 8 = 8)

SECTION B***Answer any six questions. Each question carries 2 marks***

9. What is isoprene rule? Give an example.
10. Explain the terms - saponification value, acid value.
11. Glucose, an aldose sugar doesn't restore the pink colour of Schiff's reagent. Why?
12. How does fructose react with Phenyl hydrazine? Explain using reactions involved.
13. Pyrrole reacts with KOH to form potassio pyrrole. What are the reasons supporting the reaction?
14. Explain Chichibabin reaction stating the mechanism.
15. Write a short note on Zwitter ions.
16. Draw the structure of cholesterol. Give 2 biological functions.

(2 × 6 = 12)

SECTION C***Answer any four questions. Each question carries 5 marks***

17. How is Aniline converted to Quinoline. Explain the reactions.
18. a) Show that fructose can exist as a five membered ring structure?
b) Explain the term Mutarotation?
19. Explain the Biological importance of DNA?
20. Explain the synthesis of Glycyl alanyl glycine.
21. Explain the terms – i) Substrate specificity of enzymes ii) Enzyme inhibition.

22. Give the names and structures of bases present in nucleic acids. (5 × 4 = 20)

SECTION D

Answer any two questions. Each question carries 10 marks

23. a) Explain why nucleophilic substitution reactions in pyridine occurs at position 2 where as electrophilic substitution reactions take place at position 3. (6 Marks)
b) Describe the molecular orbital picture of Pyridine? (4 Marks)
24. Elucidate the structure of Fructose in the sequence i) Open chain structure
ii) Configuration iii) Ring structure iv) Ring Size. (2 + 3 + 2 + 3 Marks)
25. What do you understand by Primary, Secondary, Tertiary and Quaternary structure of a Protein. (2 + 3 + 3 + 2 Marks)
26. a) Write short notes on Green Fluorescent Proteins. (3 Marks)
b) Explain synthesis of conine (7 Marks)
- (10 × 2 = 20)
