

B. Sc. DEGREE END SEMESTER EXAMINATION - MARCH 2020**SEMESTER – 6: CHEMISTRY (CORE COURSE)****COURSE: 15U6RCHE10: ORGANIC CHEMISTRY - IV***(Common for Regular 2017 Admission & Supplementary 2016 /2015 Admissions)*

Time: Three Hours

Max. Marks: 60

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

1. What is rancidification?
2. Mention one function of cholesterol in the human body.
3. The prosthetic group in haemoglobin
4. What is gun cotton?
5. Name a heterocyclic compound which undergoes Diels Alder reaction.
6. Name a fat soluble vitamin
7. Name the basic unit of natural rubber.
8. Give the structure of fructopyranose.

(1 x 8 = 8)

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

9. What is mutarotation? Explain using glucose.
10. How can the specificity of enzymes action be best explained?
11. What are zwitter ions?
12. What is isoprene rule? Show the isoprene linkage in geraniol molecule.
13. What is Chichibabin reaction?
14. What happens when glucose is treated with excess of phenyl hydrazine?
15. Write a note on vulcanization of rubber.
16. What is meant by epimerization?

(2 x 6 = 12)

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

17. Which is more basic- pyridine or piperidine? Rationalise your answer.
18. Explain the methods used for the analysis of fats and oils.
19. What is Kiliani synthesis? Give an example.
20. How is the structure of citral established?

21. Illustrate Fischer Indole synthesis.
22. Discuss replication of DNA. (5 x 4 = 20)

SECTION D

Answer any two questions. Each question carries 10 marks

23. i) Write the synthesis and chemical properties of Furan. Discuss its aromaticity
ii) Write briefly on industrial applications of cellulose?
24. i) Explain the classification and biological functions of lipids.
ii) Explain the structural differences between DNA and RNA
25. How is the ring structure of glucose established? Give the reaction of glucose with
a) Bromine water b) H_2/Ni c) Hydroxyl amine
26. i) Discuss the mechanism of enzyme action
ii) Write briefly on solution phase peptide synthesis. (10 x 2 = 20)
