

E 1664

(Pages : 3)

Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2015

Sixth Semester

Core Course—CHEMISTRY OF NATURAL PRODUCTS AND BIOMOLECULES

[Common for Chemistry Model I, Model II, B.Sc. Petrochemicals
and B.Sc. Chemistry Environment and Water Management]

Time : Three Hours

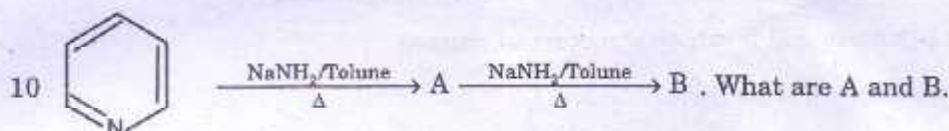
Maximum Weight : 25

Section A

Answer all question.

Each bunch of four questions carries a weight of 1.

- I. 1 What is meant by rancidity ?
2 Define RM value.
3 Name the heterocyclic residue present in coniine.
4 Draw the structure of citral.
- II. 5 Give two examples of reducing sugar.
6 Give two examples of disaccharides.
7 Which reaction indicates fructose contains 5 hydroxyl groups.
8 Write the configuration of aldo triose.
- III. 9 Give two uses of thiophene.



- 11 Convert pyrrole to Iodol.
12 Write the hybridization state N in pyridine and piperidine.
- IV. 13 Give two examples for acidic amino acids.
14 Draw the structure of amino acid contain S.
15 How proteins classified on the basis of physical properties.
16 Give two biological functions of nucleic acid.

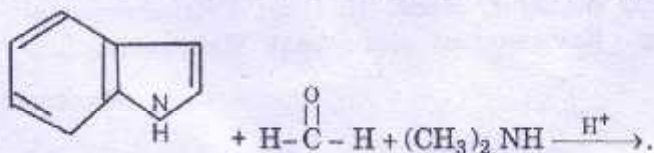
(4 × 1 = 4)

Turn over

Section B

Answer any **five**, each carries weight of 1.

17. Define isoprene rule and saponification value.
18. Explain mutarotation.
19. Complete the reaction and write the structure of electrophile generated during the reaction



20. Explain which is more basic and why pyridine or piperidine.
21. Explain the aromatic nature of pyrrole.
22. Discuss zwitter ion character of amino acids.
23. What are the components in DNA and RNA.
24. What is green fluorescent proteins ?

(5 × 1 = 5)

Section C

Answer any **four** questions.

Each question carries a weight of 2.

25. How vitamins classified ? Draw the structure of Vitamins B_1 and B_6 .
26. Draw both the pyranose and furanose structure of glucose.
27. Write briefly on structure of proteins.
28. What are enzymes ? How they are classified ? Explain its enzymatic action.
29. Briefly explain HDL and LDL cholesterol with their functions.
30. Explain what is meant by supramolecular chemists.

(4 × 2 = 8)

Section D

*Answer any two questions.
Each question carries a weight of 4.*

31. Discuss the methods of isolation of nicotine. Elucidate its structure.
32. Explain the configuration of aldohexose. Draw the structures.
33. (a) Explain Skraup synthesis and Bischler-Napieralski synthesis.
(b) What happens when quinoline and isoquinoline oxidise with KMnO_4 and reduced with $\text{Pt}|\text{AcOH}$.

(2 × 4 = 8)