

E 3378

(Pages : 2)

Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH/APRIL 2012

Sixth Semester

Core Course – CHEMISTRY OF NATURAL PRODUCTS AND BIOMOLECULES

(Common for B.Sc. 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 questions.

Each bunch of four questions carries a weight of 1.

- I. 1. Draw the structure of Fructose.
2. Write the reaction showing the presence of C = O in fructose.
3. D. configuration of Glyceraldehyde is _____.
4. Name of Vitamin C is _____.
- II. 5. Write Michaelis-Menten equation.
6. One reducing sugar is _____.
7. Two units present in starch are _____.
8. Zwitter Ionic forms of Glycine is _____.
- III. 9. Give one function of Vitamin B6.
10. Monomer units in Natural Rubber is _____.
11. What are oils chemically?
12. Purine Bases in DNA are _____.
- IV. 13. Enzymes are _____.
14. What is Diels Hydrocarbon?
15. What is Vulcanization?
16. What do you mean by Denaturation of protein?

(4 × 1 = 4)

Turn over

Section B

Answer any five questions.

Each question carries a weight of 1.

17. Define Iodine Value of fat or oil. What does it signify?
18. What is anomerisation? Explain. Give the anomers of Glucose.
19. What is Mutarotation?
20. Draw the structure of Sucrose. Sucrose is a non-reducing sugar. Give reason.
21. Give one method for the preparation of Furan.
22. What is Vitamin D? Mention its function.
23. Give the reactions involved in the preparation of Glucose osazone from Glucose.
24. Tertiary amines are stronger base than Pyridine. Give reason.

(5 × 1 = 5)

Section C

Answer any four questions.

Each question carries a weight of 2.

25. Compare the Basicity of Pyridine, Piperidine and Pyrrole. Give explanation for your suggestion.
26. Explain Skraup synthesis for the preparation of Quinoline.
27. Draw the structure of Coniine and give any four reactions to substantiate the structure.
28. Discuss briefly on the Mechanism of Enzyme action.
29. Write briefly on the Industrial applications of Cellulose.
30. Discuss on Primary, Secondary and Tertiary structure of Protein.

(4 × 2 = 8)

Section D

Answer any two questions.

Each question carries a weight of 4.

31. (a) Elucidate the structure of Geraniol.
(b) Write briefly on HDL and LDL cholesterol and their functions.
32. (a) How will you convert Glucose into Arabinose and vice versa?
(b) Write briefly on Solid Phase peptide synthesis.
33. (a) How are the following synthesized : (i) Pyridine ; (ii) Indole.
(b) Discuss on cyclic structure of Glucose.

(2 × 4 = 8)