

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2016**Sixth Semester****Core Course—CHEMISTRY OF NATURAL PRODUCTS AND BIOMOLECULES****(Common for B.Sc. Chemistry Model I, Model II, B.Sc. Petrochemicals B.Sc. Chemistry —
Environment and Water Management)****[2013 Admissions]****Time : Three Hours****Maximum : 60 Marks****Part A***Answer all questions.**Each question carries 1 mark.*

1. ——— is a non-reducing sugar.
2. What is Rancidification ?
3. ——— is an example for basic amino acid.
4. Write an example for conjugated protein.
5. ——— is an example for condensed heterocycles.
6. Write an example for oxidative enzyme ?
7. Draw the Zwitter ionic form of Alanine.
8. Name of Vitamin C is ———.

(8 × 1 = 8)**Part B***Answer any six questions.**Each question carries 2 marks.*

9. Draw the structure of Nicotine.
10. Write note on isoprene rule.
11. What is isoelectric point ?
12. Why pyrrole is aromatic ?
13. Why pyridine does not undergo electrophilic substitution reaction ?
14. What are green fluorescent proteins ?
15. What is enzyme inhibition ?
16. What are diene hydrocarbons ?

Turn over

17. Draw the structure of cholesterol.
18. Explain the biological functions of lipids.

(6 × 2 = 12)

Part C

*Answer any four questions.
Each question carries 4 marks.*

19. Write note on epimerisation and mutarotation.
20. Discuss Bischler-Napieralski synthesis of isoquinoline.
21. Write briefly on solution phase peptide synthesis.
22. What are the factors affecting the rate of enzyme action ?
23. Explain the methods used for the analysis fats or oils.
24. Write a note on supramolecule ?

(4 × 4 = 16)

Part D

*Answer any two questions.
Each question carries 12 marks.*

25. (i) Establish the structure of Geraniol. Explain its chemical properties.
(ii) Explain the classification and Biological functions of Lipids.
26. (i) How are the following conversions effected (a) Aldopentose into Aldohexose ; (ii) Glucose into Fructose ?
(ii) Discuss briefly on the methods used for the analysis of fats or oils.
27. (i) Write the synthesis and chemical properties of Furan. Discuss its aromaticity.
(ii) Write briefly on industrial applications of cellulose ?
28. (i) Explain primary, secondary and tertiary structure of protein.
(ii) Explain the structure and Biological functions of DNA and RNA.

(2 × 12 = 24)