

**B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2017****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 Admission onwards]

Time : Three Hours

Maximum Marks : 60

**Part A**

*Answer all questions.*

*Each question carries 1 mark.*

1. Maltose on hydrolysis gives \_\_\_\_\_.
2. What is acid value?
3. \_\_\_\_\_ is an example for Basic amino acid.
4. Write an example for conjugated protein.
5. \_\_\_\_\_ is used as a standard for determining configuration in sugar chemistry.
6. Write an example for hydrolytic enzyme.
7. Sesquiterpenoids contains \_\_\_\_\_ isoprene units.
8. Nature of Vitamin C is \_\_\_\_\_.

(8 × 1 = 8)

**Part B**

*Answer any six questions.*

*Each question carries 2 marks.*

9. Write note on Epimerisation.
10. What is isoprene rule?
11. What is meant by Denaturation of protein?
12. Explain the aromaticity in Furan.
13. Write Fisher's indole synthesis.
14. What are Green Fluorescent protein?
15. What are Diels hydrocarbons?

Turn over

16. Differentiate HDL and LDL cholesterol.
17. Draw the structure of Nicotine.
18. How is Pyrrole obtained from succinimide?

(6 × 2 = 12)

### Part C

*Answer any four questions.*

*Each question carries 4 marks.*

19. What are Osazones? How it is prepared?
20. Discuss the skraup synthesis of Quinoline.
21. Briefly explain the mechanism of enzyme action.
22. Discuss the classifications of Vitamin.
23. Explain the structure of DNA and RNA.
24. Write note on Supramolecules.

(4 × 4 = 16)

### Part D

*Answer any two questions.*

*Each question carries 12 marks.*

25. (i) Establish the structure of Citral.  
(ii) Explain the classification and biological functions of Lipids.
26. How are the following conversions affected?  
(i) (a) Fructose into Glucose.  
(b) Aldopentose into Aldohexose.  
(ii) Write briefly on industrial applications of cellulose.
27. (i) Discuss on Primary, Secondary and Tertiary structure of Cellulose.  
(ii) Write briefly on solution phase peptide synthesis.
28. (i) Discuss the synthesis and chemical properties of pyridine and piperidine.  
(ii) Compare the basicity of pyrrole, pyridine, piperidine with amines.

(2 × 12 = 24)