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# B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2019

## Sixth Semester

Core Course—CHEMISTRY OF NATURAL PRODUCTS AND BIOMOLECULES

[Common for 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. Monomer unit of cellulose is ————.
2. What is iodine ?
3. What term describe the $p^H$ at which an aminoacid zwiter ion carries no net charge ?
4. Define isoelectric point.
5. ———— is the only α-ainoacid isolated from protein that is not optically active.
6. Which is meant by optimum temperatence of an enzyme ?
7. Which vitamin has a structure that include cobalt atom.
8. Hetero atom present in furan is ————.

(8 × 1 = 8)

## Part B

*Answer any* **six** *questions*

*Each question carries* 2 *marks.*

9. Draw the Pyranox ring structure of α-D glucose.
10. Give the structure of Vitamin A and C.
11. What is meant by prinary and secondary structure of protein ?
12. Discuss the structure and furan according to the resonance concept.
13. Illustrate the Reimer-Tieman reaction of pyridine with equation.
14. Write a short note on mutarotation.

**Turn over**

15. Write a short note on specificity of enzyme action.

16. Name and formulate an aromatic aminoacid found among protein.

17. Name two non essential aminoacid.

18. Give the structural formula of alanine. Give its IUPAC name.

(6 × 2 = 12)

## Part C

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

19. Explain the extraction and refining of fatty acids.

20. Write a note on structure elucidation of conine.

21. Explain why thiophene is more reactive than benzene but less reactive than pyrole in electrophilic substitution reaction.

22. Explain the term rancidity and RM value.

23. Define the term holoenzyme, apoenzyme and cofactor.

24. Explain about HDL, LDL and Vitamin D.

(4 × 4 = 16)

## Part D

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

25. (i) Explain the action of phenyl hydraxine on (a) Glucose and (b) Fructose.

    (ii) Explain one chemical test each to distinguish between (a) Glucose and fructose ; (b) Fructose and Sucrose.

26. (i) Explain structure and function of Cholesterol.

    (ii) Explain the term host-quest interaction.

27. (i) What are nucleosides and nucleotides.

    (ii) Difference between RNA and DNA.

28. (i) Explain the electrophilic and nucleophilic substitute reaction of pyridine.

    (ii) Explain the electrophilic substitution recation of isoquinoline.

(2 × 12 = 24)