B. Sc DEGREE END SEMESTER EXAMINATION MARCH 2016

SEMESTER – 4 :COMPLEMENTARY COURSE FOR BOTANY AND ZOOLOGY

COURSE: U4CPCHE6 – ADVANCED BIO-ORGANIC CHEMISTRY

Time : Three Hours　　　　　　　　　　　　　　　　　　Max. Marks: 60

Section A

Answer **all** the questions. **1** mark each

1. The only α-amino acid in which α-carbon is not an asymmetric carbon atom is ....

2. All protein amino acids have the .... configuration

3. The sugar unit present in DNA is ....

4. Give an example for a non-reducing sugar

5. Which is the metal present in Vit.B_{12}?

6. The female sex hormones are called ....

7. The acid value of an oil or fat indicates....................

8. The chief constituents of essential oils are ....　　　　(1 × 8 = 8)

Section B

Answer **any Six** questions. **2** marks each

9. What is a Zwitter ion?

10. What is meant by genetic code?

11. Explain: fructose does not contain any reducing group but it reduces Tollen's reagent and Fehling's solution.

12. What are bile acids?

13. What are hormones? Why are they called chemical messengers?

14. What is meant by Hardening of oils?

15. Draw the structure of isoprene and state isoprene rule.

16. What are nucleosides?　　　　　　　　　　　　　　　　(2× 6 = 12)

Section C

Answer **any Four** questions. **5** marks each

17. Describe any one method for the synthesis of glycine.

18. Describe the Michaelis-Menten theory of enzyme catalysis.

19. Write a note on the industrial application of cellulose.

20. What are hormones? Explain their physiological importance taking suitable examples.

21. Write a note on the cleaning action of soaps.

22. Give an account of the general methods of extraction of essential oils and terpenoids. $(5 \times 4 = 20)$

Section D

Answer **any Two** questions. **10** marks each

23. Discuss the 1^0 and 2^0 structures of proteins.

24. Discuss the structural details of DNA and RNA and make a critical comment on the biological functions of those molecules.

25. How can you convert glucose to fructose and vice versa?

26. a) Discuss Vitamin deficiency diseases

    b) Write a note on detergents $(10 \times 2 = 20)$

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