LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – **ADVANCED ZOOLOGY AND BIOTECHNOLOGY**

THIRD SEMESTER – APRIL 2017

CH 3204- CHEMISTRY FOR BIOLOGISTS - II

Date: 04-05-2017   Dept. No.   Max. : 100 Marks
Time: 09:00-12:00

Part-A

Answer ALL questions.   (10 x 2= 20)

1. What are essential and non-essential amino acids?
2. Distinguish between dehydrogenase and oxidase.
3. What are bile salts? Write any one of functions.
4. Mention any two functions of androgens.
5. List out the differences between DNA and RNA.
6. What is replication of DNA?
7. Draw the structure of sucrose.
8. What are reducing and non-reducing sugars? Cite an example for each.
9. Write any two importances of anthocyanins.
10. What are NPK fertilizers? Give an example.

Part-B

Answer any EIGHT questions.   (8 x 5= 40)

11. What are enzymes? How are they classified? Give an example for each.
12. How is the N-terminal amino acid of a peptide determined by Edman's method?
13. What are lipoproteins? Discuss the various types and functions of lipoproteins.
14. Write a note on the following (i) lecithins (ii) cephalins.
15. Mention and draw the structures of purine and pyrimidine bases in DNA.
16. What is mutation? Explain the various types of mutations.
17. Mention the various types of RNA and their functions.
18. Explain the process of inversion of cane sugar.
19. What is mutarotation? Explain with an example.
20. Discuss the structure and uses of 2,4-D and 2,4,5-T.
21. What are fertilizers? How are they classified?
22. Discuss the various applications of lime-sulphur and DDT.

Part-C

Answer any FOUR questions.   **(4 x 10= 40)**

23a. Explain the various factors affecting the enzyme activity.   (5)

   b. Describe the secondary structure of proteins in detail.   (5)

24a. Discuss the lock and key model and induced fit theory of enzyme action.   (6)

   b. What are the functions of phospholipids?   (4)

25. Write a short note on (i) Saponification (ii) Rancidity (iii) Iodine number

     (iv) Acid number. $(4 \times 2.5 = 10)$

26a. What is Chargaff's rule?   (2)

   b. Describe the double helical structure of DNA.   (8)

27. What is TCA cycle? Describe the steps involved in the cycle.

28a. How are terpenes classified? Explain with suitable examples.   (5)

   b. Describe the isolation and importance of flavones.   (5)

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