

SECOND SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2011

(CCSS)

BC 2C 05 – ELEMENTARY BIOCHEMISTRY – II

Time : Three Hours

Maximum : 30 Weightage

I. Answer *all* questions :

1. All t RNAs have _____ bases at the end 3' end.
(a) GGC. (b) CCA.
(c) AAC. (d) UUC.
2. A double stranded DNA molecule has 3694 cytosine bases. How many guanine bases it will have?
(a) 1847. (b) 3694.
(c) 7388. (d) 0.
3. An amino acid containing hydroxyl group is :
(a) Serine. _____ (b) Leucine. _____
(b) Alanine. _____ (d) Methionine. _____
4. The component monosaccharides of lactose are :
(a) Mannose and galactose. (b) Glucose and galactose.
(c) Fructose and galactose. (d) Xylose and galactose.
5. Ninhydrin reacts with proline to give :
(a) A purple colour. (b) Yellow colour.
(c) Red colour. (d) Green colour.
6. _____ is a w-6-fatty acid.
(a) Oleic acid. (b) Linoleic acid.
(c) Linolenic acid. (d) Arachidonic acid.

Fill up the blanks :

7. Polysaccharides consist of monosaccharides linked by _____ bonds.
8. _____ is an aromatic amino acid.
9. RNA is a _____ stranded molecule.
10. Most sphingolipids are derivatives of _____

Turn over

Name the following :

11. Name a pentose.
12. Name an essential fatty acid.

(12 x $\frac{1}{4}$ = 3 weightage)

II. Answer *all* questions :

13. What is a peptide bond?
14. Define Saponification.
15. Draw the structure of ergosterol.
16. Give an example of an anomeric pair.
17. Give examples of reducing and non-reducing disaccharides.
18. What is a Zwitterion?
19. What happens when amino acid reacts with 1 fluoro 2 4 dinitrobenzene?
20. Bring out the structural differences between purines and pyrimidines.
21. Define iodine number of fats.

(9 x 1 = 9 weightage)

III. Answer any *five* questions :

22. Explain Mutarotation.
23. Difference between Amylose and Amylopectin.
24. Write any *two* methods of protein denaturation.
25. Write down major differences between DNA and RNA.
26. Describe specific tests for the identification of the following amino acids :
(a) Arginine ; (b) Tyrosine ; (c) Tryptophan ; (d) Histidine.
27. Write note on heteropolysaccharides.
28. Write down the important functions of iodine.

(5 x 2 = 10 weightage)

IV. Answer any *two* questions :

29. Describe the physiological functions of lipids and classifications of fatty acids.
30. Name the different types of RNAs and describe their structure.
31. Describe the structure and properties of glycogen and cellulose.

(2 x 4 = 8 weightage)