STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2015 – 2016 & thereafter)

SUBJECT CODE: 15BI/PC/BC14

M. Sc. DEGREE EXAMINATION, NOVEMBER - 2018
BIOINFORMATICS
FIRST SEMESTER

COURSE : CORE
PAPER : BIOCHEMISTRY
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION – A

ANSWER ALL QUESTIONS: **(20X1=20)**

I. Choose the right answer

1. Feed- back inhibition is
   a) The substrate is similar to the inhibitor b) the product is the inhibitor c) the diet inhibits the reaction d) the reaction proceeds backwards

2. The anomalous temperature of water is
   a) 100 degrees C b) 4 degrees C c) 25 degrees C d) 0 degrees C
   b) Write any two properties of water.

3. Oxidative deaminationis done by the enzyme
   a) Oxidative deaminase b) Glutamate dehydrogenase c) Transaminase d) a & c
   .
4. Xenobiotics happens in the
   a) Lungs b) Kidneys c) Liver d) Muscle

5. An example of a prosthetic group is
   a) TPP b) Magnesium ion c) ATP d) UTP

II. Fill in the blanks

6. Branching and debranching enzymes are _____
7. An oxidation method of detoxification is _____
8. Draw the structure of sucrose.
9. Two reducing agents in cells are _____
10. A second messenger in signal transduction is _____

III. Define

11. Define motifs.
12. Allosteric modulators
13. Competitive inhibition.
14. Zwitter ions.
15. Vmax

II. Answer in a line or two

16. Write the importance of domain.
17. What do you mean by conformation of proteins
18. Mention the significance of Km.
19. Define entropy.
20. Define respiratory chain.

..2

SECTION - B

ANSWER ANY FOUR QUESTIONS (4X10=40)

21. Discuss the importance of water in biosystems.
22. Derive Michaelis and Menten equation for enzyme catalyzed reaction.
23. Write the classification of amino acids and their structures
24. Discuss the mechanism of enzyme action.
25. Comment on ATP as the energy currency of the cell.
26. Outline the steps involved in urea cycle.
27. Describe the Watson and Crick model of DNA structure.

SECTION – C

ANSWER ANY TWO QUESTIONS (2X20=40)

28. Give a detailed account of β oxidation of fatty acids.
29. Elaborate on the four levels of protein structure.
30. Describe the steps involved in the TCA cycle.
31. Discuss the components of respiratory chain. Explain Chemi-osmotic theory of oxidative phosphorylation.

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