STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI-86
(For candidates admitted during the academic year 2011–12 & thereafter)

SUBJECT CODE: 11CH/MC/BC54

B.Sc. DEGREE EXAMINATION, NOVEMBER 2015
BRANCH IV- CHEMISTRY
FIFTH SEMESTER

REG.NO ……..

COURSE : MAJOR CORE
PAPER : BIOCHEMISTRY
TIME : 30 MINUTES **MAX.MARKS : 30**

SECTION - A (30x1=30)

ANSWER ON THE QUESTION PAPER ITSELF:

Answer ALL questions.

I Choose the correct Answer: (10x1=10)

1. The pH of blood ranges from
   a) 6.50 – 8.50 b) 6.55 – 7.25 c) 7.35 – 7.45 d) 4.50 – 6.50

2. The most important carbonic acid produced during metabolic processes
   a) CO_2 b) HCl, c) H_2CO_3, d) H_2SO_4

3. Saturated fats are those which contain
   a) double bonds b) no double bonds c) single bonds d) both a & c

4. Cytosine nucleotide is also called
   a) cytosinic acid b) cytidylic acid c) cytic acid d) cytonic acid

5. When an amidine group is transferred from one amino acid to another amino acid it is called as
   a) transamination b) transamidation
   c) deamination d) oxidative deamination

6. Deficiency of homogentisate oxidase causes
   a) Albinism b) Ketouria c) Aminoaciduria d) Alkaptonuria

7. Which of these amino acid does not show optical activity
   a) Cysteine b) Proline c) Glycine d) Valine

8. The allosteric site on the enzyme is for the
   a) effector b) substrate c) activator d) inhibitor

9. Thyroxine is synthesized from
   a) thyroid b) tyrosine c) trypsin d) threonine

10. Estrogen also occurs as
    a) estrone b) estriol c) β – estradiol d) all of these

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II Fill in the blanks: (10x1=10)

11. Conversion of prothrombin to thrombin is brought about by _____.
12. Fibrinogen is the precursor of _____.
13. The saponifying property of lipids is used in the _____ industry.
14. Ribonucleic acids are involved in the synthesis of _____.
15. Formation of glucose from _____ source is called Gluconeogenesis.
16. Ketone bodies are _____. .
17. Urease exhibits _____ specificity.
18. The prosthetic group which accelerates the rate of a reaction is called _____.
19. Androgen is produced by the cells of _____ in the testes.
20. Hyperglycemia stimulates the production of _____.

III State whether true or false: (5x1=5)

21. Coagulation of blood is a non – spontaneous phenomenon.
22. Denaturation of protein disorganizes it causing the protein to unfold into smaller units.
23. The incomplete conversion of phenylalanine to tyrosine causes phenylketonuria.
24. Enzymes being proteins are colloidal in nature.
25. Glucagon is produced by the β cells of the Islets of Langerhans.

IV Answer the following in a line or two: (5x1=5)

26. Name the types of WBCs.

27. Define peptide bond.

28. What is a nucleotide?

29. What are ketone bodies?

30. Define coenzyme.

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TIME : 2 ½ HOURS **MAX.MARKS : 70**

SECTION - B **(5x6=30)**

Answer any FIVE questions.

1. What is haemophilia? Explain its causes and symptoms.
2. Explain how the N- terminal amino acid can be determined experimentally.
3. Define Iodine number, Saponification number and Acid number of fats.
4. Write a note on electron transport chain.
5. Write an account on any two inborn errors of metabolism.
6. Briefly explain the factors that affect enzyme action. Illustrate the mechanism of enzyme action with Fischer and Koshland models
7. Classify the non – steroid hormones. Explain the action of insulin.

SECTION - C **(2x20=40)**

Answer any TWO questions.

8. Enumerate the steps in glycolysis and TCA cycle.
9. Classify enzymes base on their overall action with suitable examples and comment on their specificity.
10. Write notes on: a) Protein Synthesis, b) β – Oxidation of fatty acids.

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