STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2006 – 07 & thereafter)

SUBJECT CODE: BY/PC/BC14

M. Sc. DEGREE EXAMINATION, NOVEMBER 2008
BIOTECHNOLOGY
FIRST SEMESTER

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

SECTION – A

ANSWER ALL QUESTIONS: **(20 x 1 = 20)**

1. After all the particulate matter has been removed from a cell the remaining part is the
   a) nucleus b) cytosol c) DNA d) RNA
2. In normal conditions the conversion of acetyl CoA to ketone bodies is called.
   a) Ketogenesis b) Ketosis c) Ketoacidosis d) Ketonuria
3. Enzymes which are produced by a cell and function within it are called
   a) Proenzymes b) Preenzymes c) endoenzymes d) exoenzymes
4. Simple protein molecules linked with non-protein group are called.
   a) Prosthetic group b) Coenzyme c) Conjugated protein
   d) isoenzymes.
5. Which of the following is a contractile protein
   a) rennin b) troponin c) elastin d) pepsin
6. Changes in weight, fluctuation in BMR and pulse rate and to have an imbalanced thyroid hormone secretion is called.
   a) hyperthyroidium b) hypothyroidism c) Calorigenic effect
   d) myxedema.
7. The hormone responsible for regular genital cycle is
   a) estrogen b) progesterone c) insulin d) Thyroxine
8. The launching enzyme that links one more glucose to the existing glycogen molecule is _____.
9. The ester of fatty acids and glycerols are also called _____.
10. The main organic constituent of bile is _____.
11. The sequence of three ritonucleotide units that code for a particular amino acid is called the _____.
12. The partially digested food that passes from the stomach to the small intestine is called _____.
13. The sight, smell and taste of food which induces certain reflexes occurs in the _____ phase.
14. Define Carbohydrates.
15. What are isoenzymes?
16. What happens during transamination?
17. Define metabolism.
18. List any two functions of auxins.
19. What is the fate of lipids in the small intestines?
20. Mention the enzymes useful in detecting liver disorders.

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SECTION – B

ANSWER ANY FOUR QUESTIONS: (4 x 10 = 40)

21. Give an account on the configuration and cyclic structure of carbohydrates.
22. Illustrate how lipids with even number of carbon atom are oxidized.
23. Explain the anabolism of proteins.
24. List out the clinical applications of enzymes.
25. Enumerate the steps involved in gluconeogenesis.
26. Explain the role of the various plant hormones.
27. Give the structure of hemoglobin and describe its role in respiration.

SECTION – C

ANSWER ANY TWO QUESTIONS: DRAW DIAGRAMS WHEREVER NECESSARY: (2 X 20 = 40)

28. a) What are the steps involved in the formation and breakdown of glycogen?
    b) Explain the TCA cycle. Give the energetics for the same.

29. a) Elucidate the structure of protein with examples.
    b) Describe the Krebs urea cycle.

30. a) Explain the classification of enzymes according to the IUB.
    b) What are the factors which influence the rate of enzyme action?

31. a) Write a detail note on eukaryotic cell.
    b) How are cell fractions obtained and identified?

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