

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2011 – 12 & thereafter)
SUBJECT CODE: 11BY/PC/BC14
M. Sc. DEGREE EXAMINATION - NOVEMBER 2014
BIOTECHNOLOGY
FIRST SEMESTER

COURSE : CORE
PAPER : BIOCHEMISTRY
TIME : 3 HOURS

MAX. MARKS: 100

SECTION – A

ANSWER ALL QUESTIONS:

(20 x 1 = 20)

1. The kidney maintains pH by
 - a) reabsorption of filtered bicarbonates
 - b) excretion of fixed acids
 - c) Both a & b
 - d) only b
2. Alkalosis refers to
 - a) increase in hydrogen ions
 - b) increase in oxygen ions
 - c) reduction in hydrogen ions
 - d) reduction of oxygen ions
3. Pigments are contained in specialized cells called
 - a) chromatin
 - b) chromatid
 - c) chromatophores
 - d) chromophores
4. The delta cells of the pancreas secrete
 - a) glucagon
 - b) amylin
 - c) pancreatic polypeptide
 - d) somatostatin
5. The non-protein chemical compound that helps in biochemical reactions is
 - a) holoenzymes
 - b) co factor
 - c) enzyme
 - d) apoenzyme
6. Enzymes that change their conformation by the attachment of an effector are called _____ enzyme.
7. The reaction in which an amino acid changes its' amine group with a keto acid is called _____.
8. The aldo-pentose sugar in the HMP-Shunt is
 - a) Ribose
 - b) arabinose
 - c) xylose
 - d) ribulose
9. Fed-state metabolism is
 - a) catabolic state
 - b) absorptive state
 - c) post-absorptive state
 - d) energy state
10. The reaction that converts ethanol to acetaldehyde is a _____ reaction
 - a) reduction
 - b) oxidation
 - c) oxidoreduction
 - d) esterification

Define the following:

11. Coenzyme
12. pH
13. Hormones
14. Active site
15. Leukotrienes
16. Product inhibition
17. ATP
18. Gluconeogenesis
19. Anabolism
20. Fed state

SECTION – B**ANSWER ANY FOUR QUESTIONS:****(4 x 10 = 40)**

21. With a neat diagram illustrate the structure of the cell and list out the functions of the cell organelles.
22. What are porphyrins? Explain their types with structures.
23. Write a note on enzymes in clinical diagnosis.
24. Explain β -Oxidation of fatty acids and write a note on the number of ATP released.
25. Briefly explain the adaptation in metabolism during starvation state.
26. Write short notes on a) Xenobiotics b) Maintenance of body weight.

SECTION – C**ANSWER ANY TWO QUESTIONS:****(2 X 20 = 40)**

27. Classify the carbohydrates and give their structures.
28. How are enzymes classified and what are the factors that affect enzyme action?
29. Elucidate the steps in the anaerobic and aerobic breakdown of glucose.
30. Write short notes on a) Prostaglandins b) Vitamins
