

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 2016
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. Normal pH of blood is
a) 7.0 b) 7.2 c) 7.3 d) 7.4
2. Specialized fluid in human body composed of blood cells and blood plasma is called
a) indigenous fluid b) glycolysis c) blood d) cellulose
3. Beta-oxidation takes place in
a) mitochondria b) nucleus c) cytoplasm d) ribosomes
4. Saponification number is the number of milligrams of KOH required to saponify 1 g fat. Which of the following statement is true about saponification number?
a) The shorter is the chain length of fatty acids the higher is the saponification number
b) The shorter is the chain length of fatty acids, the lower will be the saponification number
c) The higher the chain saturation of fatty acid, the lower will be saponification number
d) The lower is the saturation of fatty acid, the higher will be saponification number
5. Albinism is due to the deficiency of
a) Phenylalanine Hydroxylase b) Homogentisic acid oxidase
c) Tyrosinase d) Tyrosine hydroxylase
6. Glycogenolysis is
a) synthesis of glycogen b) breakdown of glycogen
c) synthesis of glucose d) breakdown of glucose
7. Factors affecting enzyme action
a) temperature b) pH c) substrate concentration d) all the above
8. Ligases helps in the
a) splitting of two molecules b) joining of molecules
c) oxidation of molecules d) both B and C

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9. What is the other name of thyroxine?
a) tetraiodothyronine b) thyroid c) thymus d) diiodothyronine
10. Second messengers are activated in response to
a) steroid hormones b) insulin c) thyroxine d) all the above

II Fill in the blanks:

(10x1=10)

11. Water in blood which has metabolites, salts, proteins and wastes dissolved in it is called _____.
12. Acidosis occurs if blood pH falls below _____.
13. Acid value is the mass of _____ to neutralize 1 gm of fatty acid.
14. Nucleosides are made up of _____ & _____.
15. Coenzymes _____ and NADH^+ are involved in the production of ATP in ETC.
16. Transamination is carried out by _____ enzyme.
17. Coenzymes are _____.
18. Competitive inhibition is always _____.
19. Insulin is secreted by _____.
20. Steroid hormones are derived from _____.

III State whether true or false:

(5x1=5)

21. Percentage of water in plasma is about 90-92%.
22. DNA synthesis is called replication.
23. Synthesis of glycogen is called gluconeogenesis.
24. Increase in substrate concentration increases the rate of the reaction up to V_{max} .
25. Hormones act as second messenger.

IV Answer the following in a line or two:

(5x1=5)

26. Which buffer plays an important role in intracellular fluid?
27. What are the different types of RNA?
28. What are Ketone bodies?
29. Define enzymes.
30. Define hormones.

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SECTION - B

(5x6=30)

Answer any FIVE questions.

1. Explain the mechanism of blood coagulation.
2. Explain the Watson & Crick model of DNA.
3. Explain glycogenesis.
4. Detail on the mechanism of enzyme inhibition.
5. Detail on the source and function of insulin.
6. Explain Urea Cycle.
7. Based on saponification classify the lipids.

SECTION - C

(2x20=40)

Answer any TWO questions.

8. Detail on the structured organization of proteins.
9. Explain glycolysis & TCA cycle.
10. a) Explain Michaelis-Menten theory.
b) Describe the beta oxidation of fatty acids.

(10+10)
