

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted from the academic year 2004-05 & thereafter)

SUBJECT CODE: CH/MC/BC64
B.Sc. DEGREE EXAMINATION, APRIL 2008
BRANCH IV - CHEMISTRY
SIXTH SEMESTER

Reg. No

COURSE : MAJOR – CORE
PAPER : BIOCHEMISTRY
TIME : 30 MINUTES

MAX. MARKS : 30

SECTION – A

TO BE ANSWERED ON THE QUESTION PAPER ITSELF.

ANSWER ALL THE QUESTIONS.

(30x1=30)

I. Choose the correct answer:

- In oxidative phosphorylation the electrontransfer to oxygen takes place in following sites.
a) 2 b) 3 c) 4 d) 5
- In gluconeogenesis the following conversion takes place.
a) glucose to glycogen b) glycogen to glucose
c) amino acids to glucose d) glucose to lactate
- GTP is formed in the following step of the TCA cycle.
a) succinyl CoA to succinate b) malate to oxaloacetate
c) succinate to fumarate d) citrate to isocitrate
- The following amino acid is utilized in urea cycle
a) alanine b) aspartic acid c) glutamic acid d) arginine
- Coenzymes are said to be
a) proteins b) carbohydrates c) fat soluble vitamins d) water soluble vitamins
- The high sap value of an oil indicates the presence of
a) more of short chain FA b) more of long chain FA
c) more of double bonds in FA d) less of double bonds in FA
- Hardening of oils involve
a) freezing b) hydrolysis c) hydrogenation d) polymerization
- A hypoglycemic hormone is
a) androgen b) insulin c) ACTH d) adrenaline
- A hormone that inhibits the contraction of uterus during pregnancy is
a) androgen b) estrogen c) progesterone d) testosterone

10. Insulin deficiency causes the following
 a) hyperglycemia b) glycosuria c) polyuria d) all of them

II. State whether true or false:

11. In glycogenesis UTP is utilized.
 12. TCA cycle takes place in cytoplasm.
 13. Absence of the enzyme tyrosinase causes albinism.
 14. Oleic acid is an essential fatty acid.
 15. Hypothyroidism in children causes Cretinism.

III. Match the following:

- | | | |
|----------------|---|---------------|
| 16. Bile Salt | - | a) Amino Acid |
| 17. Codon | - | b) Emulsifier |
| 18. Anti Codon | - | c) tRNA |
| 19. Maltase | - | d) rRNA |
| 20. Ninhydrin | - | e) Enzyme |

IV. Fill in the blanks:

21. _____ is an emergency hormone.
 22. β cells of Langerhans secretes _____
 23. Linoleic Acid is an _____.
 24. The degree of unsaturation on a FA is determined by _____.
 25. Amino Acids cannot be titrated against a base because it forms _____

V. Answer the following in one or two sentences:

26. Phenylketonuria
 27. EFA
 28. Coenzyme
 29. Competitive Inhibition
 30. Hemophilia

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TIME : 2 ½ HOURS

MAX. MARKS : 70

SECTION – B

ANSWER ANY FIVE QUESTIONS.

(5x6=30)

1. How Enzymes are classified? Give an example for each.
2. Give the complete sequence of Glycolysis?
3. How Urea is formed in the Biological System?
4. Give a brief account of how blood sugar level is maintained in the body?
5. By a flow Chart explain the interrelation ship between Proteins, Lipids & Carbohydrates.
6. How Proteins are Digested and absorbed?
7. Write a note on electron transport chain?

SECTION – C

ANSWER ANY TWO QUESTIONS.

(2x20=40)

8. Write a note on the following
 - a) Factors affecting Enzyme reaction
 - b) β Oxidation
9. Write an account of the following
 - a) Protein Biosynthesis
 - b) Fischer & Koshland model of Enzyme action
10. Give the complete sequence of TCA cycle. How many ATPs are formed in one cycle?
11. Give a note on the following
 - a) Gluconeogenesis
 - b) Mechanism of blood coagulation
