

B.Sc. DEGREE EXAMINATION, APRIL 2011
BRANCH V.A. – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
BRANCH VI.A. – ADVANCED ZOOLOGY AND BIOTECHNOLOGY
FOURTH SEMESTER

Reg. No

COURSE : ALLIED – CORE
PAPER : BIOCHEMISTRY - II
TIME : 30 MINUTES
MAX. MARKS : 20

SECTION – A
TO BE ANSWERED ON THE QUESTION PAPER ITSELF
ANSWER ALL QUESTIONS (20 X 1 = 20)

I Choose the correct answer:

- 1) Cerebrosides are lipids which contain
a) Carbohydrates b) One fatty acid c) Sphingosine d) All of these
- 2) Casein is a
a) Nucleoprotein b) Chromoprotein c) Phosphoprotein d) None of these
- 3) Watson and Crick were awarded the Nobel prize for their finding that
a) RNA is single stranded. c) DNA is double stranded.
b) DNA is genetic material. d) DNA guides mRNA synthesis.
- 4) The hormone secreted in the pituitary is
a) Glucagon c) Thyroid stimulating hormone
b) Nor-epinephrine d) Androgen

II State whether true or false:

- 5) Vitamin C prevents rancidity of lipids.
- 6) Out of 200 different amino acids found in nature only 20 amino acids are present in proteins.
- 7) The purine bases of DNA are adenine and cytosine.
- 8) Insulin is a protein.

III Fill in the blanks:

- 9) _____ moles of ATP are formed in one cycle of β -oxidation.
- 10) The protein that contains iron is _____.
- 11) DNA strands are antiparallel because of _____ bonds.
- 12) Steroid hormones are derived from _____.

IV Match the following:

- | | |
|-----------------|----------------------------|
| 13) Beeswax | a) Basic proteins |
| 14) Albumin | b) Glucose metabolism |
| 15) DNA | c) Mericyl palmitate |
| 16) Epinephrine | d) 1600 – 9000 nucleotides |

V. Answer the following in one or two lines:

17) Define Iodine number.

18) List out the essential amino acids.

19) Define hormones.

20) What is a nucleotide?



STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted during the academic year 2008-09 & thereafter)

SUBJECT CODE: CH/AC/BC43

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PAPER : BIOCHEMISTRY - II
TIME : 2 HOURS **MAX. MARKS : 80**

SECTION – B

ANSWER ANY FOUR QUESTIONS: (4x10 = 40)

- 1) What are phospholipids? Give their types with applications.
- 2) How are lipids digested in the intestines?
- 3) Classify proteins based on their shape, composition and solubility.
- 4) With a neat labeled diagram explain the structure of DNA.
- 5) List out and explain the functions of insulin and thyroxin.
- 6) Explain the primary, secondary and tertiary structure of proteins with illustrations.
- 7) With neat illustrations explain the structure and functions of RNA.

SECTION – C

ANSWER ANY TWO QUESTION: (2x20 = 40)

- 8) Explain the synthesis and breakdown of fatty acids.
- 9) Classify the steroids and non- steroid hormones. Explain the mechanism of action of tyrosine kinase.
- 10) Write a note on transamination, oxidative deamination and the urea cycle.
- 11) Explain a) The steps involved in protein synthesis, b) Gene cloning.

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