

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2011

(CCSS)

Complementary Course—Biochemistry

BC4 C13—ENZYMOLGY AND METABOLISM—II

Time : Three Hours

Maximum : 30 Weightage

I. Answer all *twelve* questions : —

1 Which among the following are involved in the emulsification of lipids ?

- (a) bile salt. (b) Peristalsis.
(c) Phospholipid. (d) All of these.

2 Split fat in faeces is seen in :

- (a) Steatorrhea. (b) Pancreatic deficiency.
(c) defective absorption. (d) None of these.

3 The fatty acyl CoA is transported across the mitochondria with the help of :

- (a) glycerol. (b) thiokinase.
(c) carboxylase. (d) carnithine.

4 The rate limiting step of cholesterol synthesis catalysed by :

- (a) acetyl CoA synthase. (b) HMG CoA reductase.
(c) Transferase. (d) Squaline synthase.

5 Renin is a

- (a) proteolytic enzyme. (b) milk protein.
(c) hormone. (d) growth factor.

Which of the following RNA is involved in amino acid activation ?

- (a) mRNA. (b) tRNA.
(c) rRNA. (d) SnRNA.

7 Which of the following is a posttranscriptional modification ?

- (a) phosphorylation. (b) ubiquitination.
(c) adenylation. (d) polyadenylation.

Turn over

- 8 Which among the following is a start codon ?
 (a) AUG. (b) UAG.
 (c) UGA. (d) UGC.
- 9 Which of the following is an antioxidant vitamin ?
 (a) Vitamin A., (b) Vitamin C.
 (c) Vitamin D. (d) Vitamin B₂.
- 10 Deficiency of Niacin leads to :
 (a) Beriberi. (b) Pellagra.
 (c) Nictalopia. (d) Xerophthalmia.
- 11 The coenzyme involved in carboxylation reaction is :
 (a) TPP. (b) FAD.
 (c) Biotin. (d) CoA.
- 12 The major cation of intracellular fluid is :
 (a) Na +. (b) K +.
 (c) Cat +. (d) Mg²⁺ +.

(12 x ¼ = 3 weightage)

II. Answer all *nine* questions :

- 13 What is **transamination** ? Give an example.
- 14 Mention any *two* functions of phospholipids.
- 15 What are polysomes ?
- 16 What are okazaki fragments ?
- 17 What are stop codons ?
- 18 Write central dogma of genetics.
- 19 Write the nutritional importance of potassium.
- 20 What is Nictalopia ?
- 21 Give an example for biochemical reactions involving NAD⁺.

(9 x 1 = 9 weightage)

III. Answer any *five* questions from 7 :-

- 22 Briefly describe the absorption of lipids in the body.
- 23 Outline the **degradative** pathway for phenylalaine.
- 24 Describe the structure of tRNA.

25 Describe the major post transcriptional modifications.

26 Describe the physiological functions of (a) Vitamin D (b) Vitamin B1.

27 List out the physiological functions of (a) Glucagon. (b) Epinephrine.

28 Write note on the biological role and the nutritional importance of (a) Iron (b) Copper.

(5 x 2 = 10 weightage)

IV. Answer *two* questions from 3 :

29 Explain the biosynthesis and degradation of fatty acid.

30 Describe urea cycle.

31 Explain the ribosomal events that take place during the translation of mRNA.

(2 x 4 = 8 weightage)