

15459

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Name.....

Reg. No.....

**FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2011**

(CCSS)

Complementary Course—Biochemistry

BC4 C13—ENZYMOLGY AND METABOLISM—II

Maximum : 30 Weightage

Time : Three Hours

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 B<sub>2</sub>.
- 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<sup>+</sup>. (b) K<sup>+</sup>.  
 (c) Ca<sup>2+</sup>. (d) Mg<sup>2+</sup>.

II. Answer all *nine* questions :

(12 x 3 = 36 weightage)

- 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<sup>+</sup>.

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

(9 x 1 = 9 weightage)

- 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 B<sub>1</sub>.

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)