

C 26048

(Pages : 3)

Name

Reg. No.....

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2012

(CCSS)

Biochemistry—Complementary

BC 4C 1,3—ENZYMOLGY AND METABOLISM-²

Maximum : 30 Weightage

Time : Three Hours

I. Answer all *twelve* questions :

1 Which enzyme is responsible for the production of lysophospholipid

- (a) Phospholipase A₂.
- (b) Lingual lipase.
- (c) Pancreatic lipase.
- (d) None of these.

2 Unsplit fat in faeces is seen in :

- (a) Steatorrhea.
- (b) Coeliac disease.
- (c) Obstruction of bile.
- (d) None of these.

3 What is the net energy yield from the β -oxydation of one molecule of palmitate.

- (a) 131 ATP.
- (b) 129 ATP.
- (c) 127 ATP.
- (d) 130 ATP.

4 The key enzyme of fattyacid biosynthesis is

- (a) Acyl transferase.
- (b) Acetyl CoA carboxylase.
- (c) Dehydratase.
- (d) Enoyl reductase.

5 Trypsinogen is activated by :

- (a) Chymotrypsin.
- (b) Enterokinase.
- (c) Pancreozymin.
- (d) Chymosin.

6 The rate limiting step of urea synthesis is catalysed by :

- (a) Argininosuccinate synthase.
- (b) Arginino succinate lyase.
- (c) Carbamoyl phosphate synthetase
- (d) HMG CoA-reductase.

7 The direction of polymerisation in DNA replication is :

- (a) 5'—3'.
- (b) 3'—5'.
- (c) 5'—2'.
- (d) 2'—5'.

Turn over

8 Which of the following is a **posttranslational** modification

- (a) Capping. (b) Splicing.
(c) **Polyadenylation.** (d) **Phosphorylation.**

9 Beriberi is due to the deficiency of ;

- (a) **Vit D.** (b) Vit C.
(c) **Vit B₁.** (d) **Vit B₂.**

10 The coenzyme involved in **transamination** reaction is :

- (a) **TPP.** (b) FMN.
(c) **PLP.** (d) NAD +

11 The hormone synthesised by anterior pituitary is ;

- (a) **Oxytocin.** (b) Growth hormone.
(c) Insulin. (d) **Glucagon.**

12 The major cation of **extracellular** fluid is :

- (a) **K⁺.** (b) Na⁺.
(c) **Ca²⁺.** (d) Mg²⁺.

(12 x 3 = 36 weightage)

II. Answer all *nine* questions.

13 What is the role of **carnithine** in fatty acid metabolism ?

14 Write the rate limiting step in the biosynthesis of cholesterol.

15 What is TATA box ?

16 What is Rho factor ?

17 draw the structure of a replication fork showing leading and lagging strands.

18 What is wobble hypothesis ?

19 Mention the nutritional importance of iodine.

20 What is Rickets ?

21 \With one example for the biochemical reactions involving Biotin.

(9 x 1 = 9 weightage)

III. Answer any *five* questions from seven

- 22 Briefly describe how lipids are digested in the body.
- 23 Describe the physiological functions of phospholipids.
- 24 Describe the biosynthetic and degradative pathways for glycine.
- 25 Write note on different types of RNA ?
- 26 Briefly describe the posttranscriptional modifications of mRNA.
- 27 Illustrate the physiological functions of (a) Vit A ; (b) Vit K.
- 28 Outline the biological functions of (a) Thyroxine ; (b) Insulin.

(5 x 2 = 10 weightage)

IV. Answer *two* questions from three

- 29 Outline the pathway for Cholesterol biosynthesis.
- 30 Describe the biosynthesis and degradation of tyrosine.
- 31 Write an essay on replication process in E coli.

(2 x 4 = 8 weightage)