

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL/MAY 2015
(UG-CCSS)

Complementary Course—Biochemistry
BC 4C 13—ENZYMOLGY AND METABOLISM—II

Time : Three Hours

Maximum : 30 Weightage

I. Answer all *twelve* questions :

- 1 FADH_2 on oxidation yields _____ ATP molecules.
(a) 2. (b) 3.
(c) 1. (d) 0.
- 2 Cholesterol inhibits :
(a) HMG CoA synthase. (b) HMG CoA Reductase.
(c) Thiolase. (d) Reductase Ketoacyl CoA.
- 3 Ammonotelic organisms are :
(a) Birds. (b) Man.
(c) Fishes. (d) None of these.
- 4 Secretin stimulates the production of :
(a) Bicarbonate. (b) HCl.
(c) Pepsinogen (d) Pepsin.
- 5 Chymotrypsin hydrolyses peptide bonds whose carboxyl groups are contributed by :
(a) Lysine. (b) Arginine.
(c) Both (a) and (b). (d) Phenylalanine.
- 6 Proof reading is _____ activity of DNA polymerase.
(a) 5' – 3' pol. (b) 3' – 5' exonuclease.
(c) 5' – 3' exonuclease. (d) 3' – 5' endonuclease.
- 7 Which among the following is an inhibitor of translation :
(a) Dicumarol. (b) Puromycin.
(c) Thyrorine. (d) Statin.

Turn over

8 Initiation codon is :

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|----------|----------|
| (a) UAA. | (b) UAG. |
| (c) UGA. | (d) AUG. |

9 Antirackitic factor is :

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|----------------|----------------|
| (a) Vitamin D. | (b) Vitamin A. |
| (c) Vitamin E. | (d) Vitamin K. |

10 Hormone produced by adrenal cortex :

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|---------------------|------------------|
| (a) Glucogon. | (b) Epinephrine. |
| (c) Glueocorticoid. | (d) Thyroxine. |

11 Copper transport protein is :

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| (a) Ferritin. | (b) Transferin. |
| (c) Ceruloplasmin. | (d) None of these. |

12 The substrates for carbamoyl phosphate synthase are :

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|--|--------------------------------------|
| (a) Serine and CO_2 . | (b) Acetoacetate and CO_2 . |
| (c) CO_2 , NH_4^+ and ATP. | (d) Fumarte and CO_2 . |

(12 x $\frac{1}{4}$ = 3 weightage)

II. Answer all *nine* questions :

- 13 Name any *four* water soluble vitamins.
- 14 What is a lagging strand ?
- 15 What are nonsense codons ?
- 16 What is Shine Dehagrano sequence ?
- 17 Write a biochemical reaction involving NAD.
- 18 What are secondary metabolites ? Give examples.
- 19 What is transamination ? Give example
- 20 What are the functions of vitamin C ?
- 21 Sketch the structure of t-RNA

(9 x 1 = 9 weightage)

III. Answer any *five* questions from seven :

- 22 Describe the digestion and absorption of protein.
- 23 Briefly describe the formation of **palmitic** acid from **acetylCoA**.
- 24 Describe the ribosomal events of translation
- 25 Describe the functions of **TPP** and **PLP**.
- 26 Write the mechanism of action and site of synthesis of **growth hormone**, (b) **Glucagon**.
- 27 Write the physiological role of (a) Se ; (b) Iron.
- 28 Describe the metabolism of **glycine**.

(5 x 2 = 10 weightage)

IV. Answer any *two* questions from three :

- 29 Discuss urea cycle.
- 30 Describe the biosynthesis of cholesterol.
- 31 Describe the physiological function, dietary requirement and deficiency diseases of (a) **Vitamin A** ; (b) **Vitamin D** ; (c) **Biotin**

(2 x 4 = 8 weightage)