



# UNIVERSITY OF THE PUNJAB

B.S. 4 Years Program / Sixth Semester – 2020

Paper: Bio Chemistry

Course Code: CHEM-323 Part – I (Compulsory)

Time: 15 Min. Marks: 10

Roll No. in Fig. ....

Roll No. in Words. ....

Signature of Supdt.: .....

**ATTEMPT THIS PAPER ON THIS QUESTION SHEET ONLY.**

**Division of marks is given in front of each question.**

**This Paper will be collected back after expiry of time limit mentioned above.**

Q.1. Encircle the correct choice.

(10x1=10)

I. All of the following is true regarding enzymes except :

- (a) Heat labile (b) Consume during reaction (c) Colloidal (d) High molecular mass

II. Pepsin belongs to which class of enzymes :

- (a) Oxidoreductase (b) Transferase (c) Hydrolase (d) Ligase

III. Zinc is integral part of which enzyme:

- (a) Carbonic anhydrase (b) cytochrome oxidase (c) chymotrypsin (d) All of these

IV. Biological important compounds derived from cholesterol except :

- (a) Vitamin D (b) Sex hormones (c) Adrenocortical hormones (d) Niacin

V. Rancidity of fat occurs due to following factors :

- (a) Exposure to air (b) Oxidation of unsaturated fatty acids  
(c) Partial hydrolysis of triglycerides by bacterial enzymes (d) All of these

VI. The part of food which is not digested by humans :

- (a) Carbohydrate (b) Lipids (c) Proteins (d) Fibers

VII. In each dimer of haemoglobin how many amino acids are present :

- (a) 141 (b) 146 (c) 287 (d) 574

VIII. Myosin is which type of protein :

- (a) Fibrous (b) Spherical (c) Functional (d) Globular

IX. The protein associated with DNA is:

- (a) Histone (b) Glycine (c) Valine (d) Proline

X. Our body needs vitamins and minerals to:

- (a) Provide energy (b) Help carry out metabolic reactions  
(c) Insulate organs (d) withdraw heat from body



**ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED**

**Q.2: Short Answer Questions:**

**10×2=20**

- (i) Discuss briefly how amino acids are classified on the basis polarity of R group.
- (ii) How amino acids can act as buffer.
- (iii) Elaborate zymogen with example.
- (iv) Differentiate competitive and non- competitive inhibition .
- (v) Write short note on coenzymes.
- (vi) Give biological importance of peptides.
- (vii) Explain briefly the significance of prostaglandin.
- (viii) Brief about thermogenic effects of food ?
- (ix) Define Basal Metabolic Rate (BMR)?
- (X) What is the phenomenon of electrophoresis .

**SUBJECTIVE QUESTIONS**

- Q3. (a) Give in detail the types of specificities observed in enzymes . (7)  
(b) write detailed note on immobilized enzymes. (3)
- Q4. (a) Describe the structure and functions of steroids in human body. (5)  
(b) How proteins are classified on the basis of their structure. (5)
- Q5. (a) what is collagen . Give its types. (7)  
(b) Define acid value, saponification value and iodine no. (3)