

(i) Printed Pages : 2

Roll No. ....

(ii) Questions : 9

Sub. Code : 

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Exam. Code : 

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**Bachelor of Science (FYUP) 4<sup>th</sup> Semester  
(2056)**

**ZOOLOGY**

**Biochemistry (Common with B.Sc. Bio-Technology  
4<sup>th</sup> Sem. FYUP)**

**Time Allowed—3 Hours]**

**[Maximum Marks—67**

**Note :—** The students are required to attempt **one** question from each unit. Question No. 1 is compulsory. Draw neat and clean diagrams.

1. Write short answers: 10×1.5=15

- (a) Composition of Bee Wax
- (b) Name 3 globular types of proteins
- (c) NADP
- (d) Phosphodiester bond
- (e) Hairpin RNA
- (f) Zymogens
- (g) Acyl carrier protein
- (h) Name 3 ketone bodies
- (i) Name two hormones that inhibit Glycogenesis
- (j) Structure of Disaccharides.

**UNIT – I**

- 2. (a) Explain the structure and function of tRNA in detail. 7
- (b) Draw and explain the secondary structure of proteins. 6



3. Describe the structure, classification, and functions of compound lipids. 13

### UNIT – II

4. Explain the process of glycolysis in detail. Write the bioenergetics and regulation of this process. 13
5. (a) Write about the mode of action of Enzymes. 8
- (b) Classify the Enzymes according to the chemical reactions they catalyze. 5

### UNIT – III

6. Describe the process of Beta Oxidation of fatty acids. Write about the energy production in the Beta oxidation of Stearic acid. 13
7. Attempt the following:
- (a) Describe the site and mechanism of Ketosis. What is the utilization of ketone bodies in the human body? 8
- (b) Define gluconeogenesis. How do amino acids undergo gluconeogenesis? 5

### UNIT – IV

8. Write in detail about the following:
- (a) Oxidative deamination with the help of two examples. 6
- (b) Transamination by taking an example. 3.5
- (c) Decarboxylation of an amino acid. 3.5
9. Describe the biochemical reactions of the Ornithine cycle in detail. Also, write the regulation and significance of this cycle. 13