

5/ZOO-301 (Th) Syllabus-2023

2025

(Nov-Dec)

FYUP : 5th Semester Examination

MAJOR

ZOOLOGY

(Biochemistry and Immunology)

ZOO-301

Marks : 56

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

Answer Question No. **1** and **any four** from the rest

1. Write notes on any four of the following :

3×4=12

- (a) Significance of K_m
- (b) Rheumatoid arthritis
- (c) Binding energy and transition stage
- (d) T-cell receptors
- (e) Acid-base catalysis
- (f) Gibbs free energy

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(Turn Over)

(2)

2. Define glycolysis. Describe the sequential steps involved in glycolysis mentioning various enzyme, co-factor and co-enzyme involved in each step. $2+5+4=11$
3. Describe in detail with the help of diagrams the mitochondrial electron transport system. $2+9=11$
4. Enumerate the steps involved in the formation of urea via the urea cycle mentioning the enzyme and co-enzymes involved in each step. $5+6=11$
5. What do you understand by the term 'immunization'? Explain the active, passive and herd immunity. $2+9=11$
6. Discuss the activation and differentiation of B-cells. $5+6=11$
7. (a) Describe the allosteric regulation of enzymes. $5\frac{1}{2}$
(b) Explain binding energy and activation energy in enzyme-catalyzed reactions. $5\frac{1}{2}$
8. Write notes on any *two* of the following : $5\frac{1}{2}\times 2=11$
 - (a) Transamination
 - (b) Primary SCID
 - (c) Enzyme inhibition
