

5665

M.Sc. (Previous) Examination – 2024

ZOOLOGY

Fifth Paper

[Biochemistry]



3440914

Time Allowed: Three Hours

Maximum Marks: 100

Note: In M.Sc. Zoology Previous Examination the theory papers will have the following pattern.

Question papers will have 5 (five) questions in all having equal marks.

(i) Question number 1 will be compulsory and will have 20 very short answer question of 1 mark each.

(ii) Question numbers 2 and 3 will consist of only short answer type questions with 4 subdivisions of 5 marks each. There will be internal choice in these questions.

(iii) Question numbers 4 and 5 will be long answer type questions with internal choice.

No supplementary answer-book will be given to any candidate. Hence the candidates should write the answer precisely in the main answer-book only.

All the parts of one question should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

PART-A

1. Answer the following questions in brief -

[1×20=20]

- (a) What are the pseudoknot structures of nucleic acid?
- (b) What are essential fatty acids?
- (c) What is Zwitterion?
- (d) Write the significance of Vitamin K.
- (e) What is Methemoglobin?
- (f) Differentiate Coenzymes and Isoenzymes.
- (g) What is a chaperon?
- (h) Write the name of the method used for Sequencing of DNA.
- (i) What is the motif?
- (j) What do you mean by signal transduction?
- (k) What are protein domains?
- (l) What are steroids?
- (m) What do you mean by protein splicing?
- (n) Write the name of aromatic amino acids.

- (o) What do you mean by divergent evolution?
- (p) Name of any two disease caused by protein misfolding.
- (q) Why are oil remains in liquid form at room temperature?
- (r) What is Gaucher disease?
- (s) Write effect of morphine alkaloids.
- (t) Write two functions of Terpenoids.

PART-B

2. Describe the followings -

[10+10=20]

- (a) Edman's degradation method of amino acids sequencing
- (b) Covalent modification of proteins

OR

Write short notes on -

[10+10=20]

- (a) Fibrous protein
- (b) Structure of bone

3. Write short notes on -

[10+10=20]

- (a) Levinthal Paradox
- (b) Ramachandran Plot

OR

Write short notes on -

[10+10=20]

- (a) Myoglobin
- (b) Sickle cell anemia

4. Describe the following -

[10+10=20]

- (a) Phospholipids
- (b) Modified nucleosides

OR

Write short notes on -

[10+10=20]

- (a) Phenolics
- (b) Vitamin B complex (any four)

5. Write short notes on -

[10+10=20]

- (a) Structure and form of DNA
- (b) Hairpin structure of RNA

OR

Write short notes on -

[10+10=20]

- (a) Ribozymes
- (b) Phenylketonuria and Galactosemia