

**NRT/KS/19/2054**

**Bachelor of Science (B.Sc.) Semester–II Examination**  
**ZOOLOGY**  
**(Cell Biology)**  
**Optional Paper—2**

Time : Three Hours]

[Maximum Marks : 50

**N.B. :—** (1) **ALL** questions are compulsory.

(2) All questions carry equal marks.

(3) Draw suitable diagrams wherever necessary.

1. Give an account of the ultrastructure and functions of the plasma membrane. 10

**OR**

Write notes on :—

(A) Ultrastructure of Eukaryotic Cell (Diagram only). 5

(B) Functions of Endoplasmic Reticulum. 5

2. Describe polymorphism in lysosomes. Add a note on functions of lysosomes. 10

**OR**

Write notes on :—

(A) Ultrastructure of mitochondria. 5

(B) Kreb's cycle. 5

3. Describe the ultrastructure and functions of nuclear membrane. 10

**OR**

Write notes on :—

(A) Structure and functions of nucleolus. 5

(B) Polytene chromosome. 5

4. Give an account of cell cycle and phases of mitosis. 10

**OR**

Write notes on :—

(A) Lake's model of ribosome (diagram only) 5

(B) Synaptonemal complex. 5

5. Write **4 to 5** lines on the following (any **TEN**) :—

(i) Mesosome

(ii) Nucleoid

(iii) Acrosome formation

(iv) Cytochrome

(v) ATP

(vi) Dehydrogenase

(vii) Nucleosome

(viii) Histone protein

(ix) Submetacentric chromosome

(x) Functions of ribosome

(xi) Zygotene

(xii) Necrosis. 10