

Exam. Code : 211201

Subject Code : 3871

M.Sc. Zoology 1<sup>st</sup> Semester

CELL BIOLOGY

Paper—ZOO-C-503

Time Allowed—Three Hours] [Maximum Marks—100

**Note** :— Paper consists of **EIGHT** questions of **20** marks each (**TWO** questions from each Sections A-D). Candidates are required to attempt **FOUR** questions, at least **ONE** from each section and **5<sup>th</sup>** question may be selected from any section.

**SECTION—A**

1. (a) Discuss various events involved in origin of prokaryotes to eukaryotes.  
(b) Write about recent views related to Endo symbiotic theory. 14,6
2. (a) Discuss general properties of cell membrane, its chemical composition and concept of unit membrane.  
(b) Explain various lipoprotein models with well labelled diagrams. 12,8

**SECTION—B**

3. Discuss structure, compartmentalization of enzymes, metabolites and their functions in endoplasmic reticulum. 5,5,4,6

4. Describe elaborations of plasma membrane into various parts of mitochondria and site of multi enzyme complexes with well labelled diagrams. 12,8

**SECTION—C**

5. Explain complex of ribonucleoproteins, association-disassociation of ribosomes and their role in translation. 5,7,8
6. (a) Discuss structure, organization and role of microtubules in cell division.  
(b) Explain the functions of intermediate filaments. 12,8

**SECTION—D**

7. Write about cytoplasmic inclusions based on inert cell storage materials, glycogen, lipids and metabolic crystals. 5,5,5,5
8. (a) Explain various stages of meiosis with well labelled diagrams.  
(b) Differentiate meiosis and mitosis. 12,8