

**M.Sc. (Final) Examination, 2001**

**ZOOLOGY**

**Fourth Paper (A)**

**(Special Paper)**

**CELL BIOLOGY**

**(Structure and, Function)**

Time Three Hours

Maximum Marks: 100

*Attempt **four** questions in all, selecting  
at least **two** questions from each section.  
All questions carry equal marks.*

**SECTION A**

1. What is fluid mosaic membrane? Describe the various proteins and lipids associated with membranes.
2. Describe in detail pentose phosphate pathway.
3. What is Cancer biology? Discuss the role of viruses in malignant tumors.
4. Write short notes on
  - (A) Entropy and enthalpy.
  - (B)  $\beta$ —oxidation of fatty acids.

**SECTION B**

5. Give an account of the enzymes present on mitochondria and lysosomes and the part played by them.
6. Write short notes on
  - (A) Total energy, production from catabolism of glucose.
  - (B) Oxidative phosphorylation.
7. Describe the structure and functions of the following:
  - (A) Smooth and rough endoplasmic reticulum.
  - (B) Golgi apparatus.
8. Write short notes on
  - (A) Nuclear envelope.
  - (B) Structure and functions of t-RNA and m-RNA.