

**MODEL QUESTION PAPER**

**MSC I SEM**

**BIOTECHNOLOGY**

**FIRST PAPER**

**CELL BIOLOGY**

**TIME: 3 HRS**

**MAXIMUM MARKS: 85**

**MINIMUM MARKS: 29**

*Note: The question paper consists of two sections: A and B. attempt all the questions according to the given instructions.*

**Section A**

**Short Answer Type Questions**

**Note: Attempt all questions. Each question carries five marks (5 X 5 = 25)**

Q1. Explain Mechanism of patch clamp technique.

Or

Write a note on Passive transportation.

Q2. Describe protein transportation in ER.

Or

Give a brief introduction to Endocytosis and Exocytosis .

Q3. Define structure of Lysosomes.

Or

Give an overview on Peroxisomes and Vacuoles.

Q4. Explain Integrins.

Or

Write a short note on Cadherin molecules.

Q5. Describe Intrinsic pathway of Apoptosis

Or

Explain phases and significance of Apoptosis.

### **Section B**

#### **Long Answer Type Questions**

**Note: Attempt all questions. Each question carries twelve marks (5 X 12 = 60)**

Q6. Give a detail note on physiochemical properties and organization of cell membrane.

Or

Describe Active transport by ATP powered pumps.

Q7. Describe transport of protein into Mitochondria.

Or

Explain transport of proteins and RNA into Nucleus.

Q8. What is cell junction? Describe intracellular communication through cell junction.

Or

Describe structure and functions of Microtubules.

Q9. Describe organization and functions of ECM of animals.

Or

Write note on molecular mechanism of Ca dependent cell –cell adhesion.

Q10. Describe the different phases and molecular events of eukaryotic cell division.

Or

Write an essay on Cell signaling.