

7. Explain with examples bacterial and plant two-component signaling pathways.
8. Define quorum sensing. How is quorum sensing beneficial for bacteria ? Explain the phenomenon in both gram positive and gram negative bacteria.

Exam. Code : 210002
Subject Code : 4918

M.Sc. Botany 2nd Semester
CELL BIOLOGY
Paper: BOTC-524

Time Allowed—2 Hours] [Maximum Marks—50

Note :— There are **Eight** questions of equal marks. Candidates are required to attempt any **Four** questions.

1. Write a detailed note on the following:
 - (a) Electrical properties of membranes
 - (b) Intracellular and intercellular transport.
2. Describe with suitable diagrams various models of the bio-membranes. Also, enumerate the function and types of membrane proteins.
3. Discuss structural organization and functions of mitochondria and lysosomes.
4. Elaborate the concept of Gene families and Interrupted genes.
5. Enumerate the various factors regulating cell cycle.
6. How microorganisms respond to different stresses ? Describe growth patterns and different strategies of cell division adopted by microorganisms.