CSIR NET UNIT 2 SYLLABUS

CELLULAR ORGANIZATION

CSIR NET UNIT 2 includes the mentioned topics: membrane structure and function, intracellular organelles, organization of genes and chromosomes, cell division, and microbial physiology. Topics include lipid bilayers, organelle functions, gene organization, cell cycle regulation, and microbial growth strategies.

CSIR NET UNIT 2	Topics
A) Membrane Structure and Function	- Structure of model membrane - Lipid bilayer and membrane protein diffusion - Osmosis - Ion channels - Active transport - Membrane pumps - Mechanism of sorting and regulation of intracellular transport - Electrical properties of membranes
B) Structural Organization and Function of Intracellular Organelles	- Cell wall - Nucleus - Mitochondria - Golgi bodies - Lysosomes - Endoplasmic reticulum - Peroxisomes - Plastids - Vacuoles - Chloroplast - Structure & function of the cytoskeleton and its role in motility
C) Organization of Genes and Chromosomes	- Operon - Unique and repetitive DNA - Interrupted genes - Gene families - Structure of chromatin and chromosomes - Heterochromatin - Euchromatin - Transposons
D) Cell Division and Cell Cycle	- Mitosis and meiosis, their regulation - Steps in the cell cycle - Regulation and control of cell cycle

E) Microbial Physiology	- Growth yield and characteristics - Strategies of cell division - Stress response

Study tips for CSIR NET UNIT 2: Create visual aids for organelle structures, focus on gene organization principles, understand cell cycle regulation intricacies, and apply stress response strategies in microbial physiology for effective preparation.