

SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES



UNIT 1

COURSE NAME: MEDICINAL BIOCHEMISTRY

TOPIC: CELL AND ITS BIOCHEMICAL ORGANISATION

Q.No	Marks	Question	Unit / Topic	PCI-B.Pharm Syllabus Mapping	Exam Source & Year*	Bloom's Level
1	10	Describe the structure and functions of a eukaryotic cell with a neat labeled diagram.	Cell Structure	Cell Biology & Organization	PCI 2019, TNMGR U 2021	Understand → Analyze
2	10	Explain the biochemical organization of the cell with reference to carbohydrates, proteins, lipids and nucleic acids.	Biomolecules	Biomolecules (B.Pharm & Pharm D)	PCI 2020, GPAT 2019	Understand → Apply
3	10	Describe the structure, composition and functions of cell membrane	Cell Membrane	Biological Membranes	PCI 2018, GPAT 2021	Analyze

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		emphasizing the fluid mosaic model.				
4	10	Explain the structure and functions of mitochondria and its role in cellular metabolism.	Cell Organelles	Energy Metabolism	TNMGR U 2022, NIPER 2020	Understand → Analyze
5	10	Describe endoplasmic reticulum and ribosomes with their role in protein synthesis.	Cell Organelles	Protein Biosynthesis	PCI 2020, GPAT 2017	Understand
6	10	Explain the structure and functions of nucleus and its importance in genetic regulation.	Cell Organelles	Genetic Material	PCI 2019, NIPER 2018	Analyze
7	10	Write a detailed note on lysosomes and peroxisomes with biomedical significance.	Cell Organelles	Subcellular Organelles	TNMGR U 2020, MRB 2023	Understand → Evaluate
8	10	Describe cytoskeleton	Cytoskeleton	Cell Architecture	GPAT 2020,	Analyze

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		components and their role in cell shape and intracellular transport.			NIPER 2021	
9	10	Explain the cell cycle and phases of mitosis with significance.	Cell Division	Cell Cycle Regulation	PCI 2022, GPAT 2019	Understand → Apply
10	10	Describe apoptosis and necrosis highlighting biochemical differences.	Cell Death	Cell Injury & Death	PCI 2023, NIPER 2022	Analyze → Evaluate
11	5	Define cell and list its major components.	Cell Basics	Cell Biology	PCI 2019	Remember
12	5	Differentiate between prokaryotic and eukaryotic cells.	Cell Types	Cell Biology	TNMGR U 2020, GPAT 2018	Understand
13	5	Explain the fluid mosaic model of cell membrane.	Cell Membrane	Biological Membranes	PCI 2021	Understand
14	5	List biological functions of	Biomolecules	Carbohydrate Biochemistry	GPAT 2019	Remember

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		carbohydrates in cells.				
15	5	Write biological functions of proteins.	Biomolecules	Protein Biochemistry	PCI 2020, MRB 2022	Understand
16	5	List functions of lipids in cell structure.	Biomolecules	Lipid Biochemistry	RRB 2021	Remember
17	5	Write a short note on nucleic acids.	Biomolecules	Nucleic Acids	PCI 2018	Understand
18	5	Write functions of mitochondria.	Cell Organelles	Energy Metabolism	GPAT 2020	Remember
19	5	Write functions of endoplasmic reticulum.	Cell Organelles	Protein & Lipid Synthesis	PCI 2019	Remember
20	5	Write functions of Golgi apparatus.	Cell Organelles	Post-translational Modification	TNMGR U 2021	Remember
21	5	Write functions of lysosomes.	Cell Organelles	Intracellular Digestion	PCI 2020	Remember
22	5	List components of cytoskeleton.	Cytoskeleton	Cell Architecture	GPAT 2018	Remember

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23	5	Define cell cycle and list its phases.	Cell Division	Cell Cycle	PCI 2022	Remember
24	5	Differentiate between mitosis and meiosis.	Cell Division	Cell Division	TNMGR U 2019	Understand
25	5	Define apoptosis and mention its significance.	Cell Death	Programmed Cell Death	NIPER 2021	Understand
26	5	Differentiate between apoptosis and necrosis.	Cell Death	Cell Injury	PCI 2023	Analyze
27	5	Write a short note on peroxisomes.	Cell Organelles	Oxidative Reactions	MRB 2022	Understand
28	5	Write the role of nucleus in protein synthesis.	Cell Organelles	Gene Expression	GPAT 2021	Understand
29	5	Define biochemical organization of cell.	Cell Organization	Cellular Biochemistry	PCI 2020	Remember
30	5	Write the medical importance of cell organelles.	Applied Biochemistry	Clinical Biochemistry	TNMGR U 2023	Evaluate