

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(MID SEMESTER EXAMINATION MO/2024)

CLASS: BTECH
BRANCH: BIOTECHNOLOGY

SEMESTER : III
SESSION : MO/2024

SUBJECT: BE202 CELL AND MOLECULAR BIOLOGY

TIME: 02 Hours

FULL MARKS: 25

INSTRUCTIONS:

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates

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Q.1(a)	Sketch an Electron micrograph structure of cell wall.	[2]	3 6
Q.1(b)	Discuss about the detailed structural organization of the plasma membrane.	[3]	1 4
Q.2(a)	Evaluate the importance of Patch clamp method in the study of ion channels.	[2]	2 5
Q.2(b)	Give a diagrammatic sketch of nucleus and mitochondria and explain their importance in eukaryotic cells.	[3]	3 6
Q.3(a)	Diagrammatically sketch the principles of cell communication showing the involvement of cell-surface receptors or intracellular receptors.	[2]	3 6
Q.3(b)	Give an explanation showing detailed steps of signaling via enzyme linked cell-surface receptors.	[3]	3 5
Q.4(a)	Discuss about the different forms of intercellular signaling.	[2]	3 4
Q.4(b)	Diagrammatically explain the detailed steps involved in signaling via G-protein linked cell-surface receptors.	[3]	2 6
Q.5(a)	Evaluate the importance of the changes taking place in different phases of cell cycle.	[2]	2 5
Q.5(b)	Diagrammatically justify that various proteins are involved in the regulation of cell cycle progression.	[3]	2 6

:19/09/2024:E