

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-III (NEW) EXAMINATION – WINTER 2024****Subject Code:3130406****Date:29-11-2024****Subject Name:Cell Biology****Time:10:30 AM TO 01:00 PM****Total Marks:70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) Differentiate between prokaryotic and eukaryotic cell	03
	(b) Compare Gram positive and Gram negative cell.	04
	(c) Draw and explain structure of Outer membrane and explain its function.	07
Q.2	(a) Explain the terms plasmid, nucleoid and chromosome.	03
	(b) Explain structure of mitochondria.	04
	(c) How do microbes have locomotion? Explain structure of organelle responsible for it.	07
	OR	
	(c) Explain structure and types of lysosomes.	07
Q.3	(a) Explain the terms cytoplasm, protoplasm and nucleoplasm	03
	(b) Explain passive transport process with an example.	04
	(c) Explain co translational pathway of protein synthesis on RER	07
	OR	
Q.3	(a) What is function of cell wall and cell membrane?	03
	(b) Compare prokaryotic and eukaryotic ribosomes.	04
	(c) Explain the process of lipid synthesis on SER	07
Q.4	(a) What is function of chloroplast?	03
	(b) Write a short note on tight junction and gap junction.	04
	(c) Explain any one complete pathway for Signal transduction mediated by G protein coupled receptor	07
	OR	
Q.4	(a) What is function of Golgi apparatus?	03
	(b) Write a note on adhesion junction	04
	(c) Explain any one complete pathway mediated by cytokine receptor.	07
Q.5	(a) Explain various phases of cell cycle.	03
	(b) Compare mitosis and meiosis process.	04
	(c) Explain process of formation of endospore.	07
	OR	
Q.5	(a) What are mesosomes? Explain its function	03
	(b) Explain active transport with suitable example.	04
	(c) Explain prophase I of meiotic phase with diagram.	07
