

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– IV (New) EXAMINATION – WINTER 2019

Subject Code: 2140405

Date: 07/12/2019

Subject Name: Cell Biology and Industrial Biotechnology

Time: 10:30 AM TO 01:30 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

			MARKS
Q.1	(a)	What is a virus? Name any three viruses.	3
	(b)	Draw and explain the structure of mitochondria.	4
	(c)	Write a detailed note on origin of life.	7
Q.2	(a)	Write a short note on bacterial DNA.	3
	(b)	What are inclusion bodies?	4
	(c)	Write detailed note on plant cell wall and bacterial cell wall.	7
		OR	
	(c)	Explain plasma membrane fluid mosaic model with appropriate diagram.	7
Q.3	(a)	Write a short note on peroxisomes	3
	(b)	What are capsule and slime layers?	4
	(c)	Explain in detail the transport across plasma membrane.	7
		OR	
Q.3	(a)	Differentiate between cilia and flagella.	3
	(b)	Draw and annotate the neat diagram of animal cell.	4
	(c)	Explain the Golgi complex.	7
Q.4	(a)	What is euchromatic and heterochromatin?	3
	(b)	Differentiate between prokaryotic and eukaryotic ribosomes.	4
	(c)	Explain G protein coupled receptors.	7
		OR	
Q.4	(a)	What is the role of MPF?	3
	(b)	What is the function of endoplasmic reticulum?	4
	(c)	Explain enzyme linked receptors.	7
Q.5	(a)	What are secondary metabolites?	3
	(b)	What is the role of DNA damage checkpoint?	4
	(c)	Explain the production of any antibiotic	7
		OR	
Q.5	(a)	What are the criteria for good fermentation medium?	3
	(b)	What is the role of Cell cycle checkpoints?	4
	(c)	Explain the production of any industrial enzyme.	7
