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**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-IV(NEW) – EXAMINATION – SUMMER 2019****Subject Code:2140405****Date:09/05/2019****Subject Name: Cell Biology and Industrial Biotechnology****Time:02:30 PM TO 05:30 PM****Total Marks: 70****Instructions:**

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

		MARKS
Q.1	(a) What do you mean by word plasmid.	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
<b>OR</b>		
	(c) Explain plasma membrane fluid mosaic model with appropriate diagram.	7
Q.3	(a) What are endospores?	3
	(b) Define the term vacuoles. Give structural and functional details of it	4
	(c) Explain in detail the transport across plasma membrane.	7
<b>OR</b>		
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 in detail with diagram.	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
<b>OR</b>		
Q.4	(a) What is the role of MPF?	3
	(b) What is the function of endoplasmic reticulum?	4
	(c) Criteria to use carbon as media source.	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
<b>OR</b>		
Q.5	(a) What are the criteria for good fermentation medium?	3
	(b) Discuss about theoretical yield vs practical yield with example of penicillin.	4
	(c) Detailed note on media optimization.	7

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