

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: BTECH/IMSC
BRANCH: BT/CIVIL/CHEMICAL/MECH/PIE/FT/PHYSICS**

**SEMESTER: I/ADD
SESSION: MO/2024**

SUBJECT: BE24101 BIOLOGICAL SCIENCE FOR ENGINEERS

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Before attempting the question paper, be sure that you have got the correct question paper.
 5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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		CO	BL
Q.1(a)	Describe Miller's experiment with suitable diagram.	[5] 1	2
Q.1(b)	Explain the structure and function of mitochondria and plasma membrane with suitable diagram.	[5] 2	3
Q.2(a)	What are protein made of and why they are important for cells?	[5] 2	2
Q.2(b)	Explain the law of segregation in Mendelian genetics.	[5] 3	3
Q.3(a)	How glucose molecules are broken down into pyruvates? Give the metabolic steps involve in it.	[5] 2	2
Q.3(b)	Discuss the different types of cell signalling.	[5] 2	1
Q.4(a)	What are biomaterials? Describe the salient characteristics of biomaterials.	[5] 4	2
Q.4(b)	What is bioinformatics? Describe different components of bioinformatics.	[5] 4	2
Q.5(a)	Write a short note on application of AI in biology.	[5] 4	2
Q.5(b)	Comment on impact of climate change on food security.	[5] 4	2

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