

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

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

**SEMESTER: I  
SESSION: MO/2025**

**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)	Discuss the 2 experiment to disapprove theory of spontaneous generation.	[5] 1	1
Q.1(b)	Throw light on the importance of Biology in engineering giving examples.	[5] 1	2
Q.2(a)	Who was the father of Genetics? Explain the laws of Mendelian genetics.	[5] 2	1
Q.2(b)	Discuss the rDNA Technology and its applications.	[5] 2	3
Q.3(a)	Give the stepwise illustration of the pathway of glycolysis along with ATP calculation.	[5] 2	3
Q.3(b)	What are enzymes? Discuss the factors affecting enzyme activity.	[5] 1,2	1
Q.4(a)	Define Biomaterials. Give the common applications of biomaterials in life sciences.	[5] 1,3	3
Q.4(b)	Write a descriptive note on biosensors and bioelectronics including applications.	[5] 4	2
Q.5(a)	Write short note on intersection of AI and Biology.	[5] 2,4	4
Q.5(b)	Elaborate the effect of climate change on food security and suggest two remedies.	[5] 1,3	2

:16/12/2025:M