

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

**CLASS: BTECH/BHMCT  
BRANCH: BT/CHEMICAL/CIVIL/MECH/PIE/HMCT**

**SEMESTER: I  
SESSION: MO/2022**

**SUBJECT: BE101/ BER101 BIOLOGICAL SCIENCE FOR ENGINEERS**

**TIME: 2 HOURS**

**FULL MARKS: 25**

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 5 marks and total 25 marks.
  2. Attempt all questions.
  3. The missing data, if any, may be assumed suitably.
  4. Tables/Data handbook/Graph paper etc., if applicable, will be supplied to the candidates
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		CO	BL
Q.1(a)	Define the term life.	[2] 1	1
Q.1(b)	Give a brief illustration on any two theories of origin of life	[3] 1	3
Q.2(a)	Enlist the name of any two vitamins, with their source and disease caused by deficiency of these vitamins.	[2] 1	1
Q.2(b)	Explain the steps of cell cycle.	[3] 1	2
Q.3(a)	State the first law of thermodynamics and give a suitable mathematical expression for it.	[2] 2	2
Q.3(b)	How will you differentiate between Plant and Animal cells? Explain with their contrasting features.	[3] 1	2
Q.4(a)	Name the storage polysaccharides in plants and in animals. Which hormone is responsible for conversion of stored polysaccharide to glucose?	[2] 1	1
Q.4(b)	Distinguish between aerobic and anaerobic respiration with suitable examples.	[3] 2	2
Q.5	How glucose molecules are broken down into pyruvates? Give the metabolic steps involve in it.	[5] 1	3

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