

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

**CLASS: BTECH  
BRANCH: CSE/EEE/IT/ECE**

**SEMESTER : III  
SESSION : MO/19**

**TIME: 3 HOURS**

**SUBJECT: BE101 BIOLOGICAL SCIENCE FOR ENGINEERS**

**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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- Q.1(a) Give a brief illustration on any two theories of origin of life. [5]  
Q.1(b) Briefly explain the structure and function of Protein. [5]
- Q.2(a) What is electron transport chain? Explain the process with suitable diagram. [5]  
Q.2(b) What is Entropy? Explain the spontaneity of process with special reference to change in entropy. [5]
- Q.3(a) Give a brief overview on Induced fit hypothesis of enzymatic process. [5]  
Q.3(b) Write a note on the any three factors affecting the activity of enzyme. [5]
- Q.4(a) Define the term Paracrine, Autocrine, Juxtacrine and Endocrine signaling. [5]  
Q.4(b) Give a brief overview on the signaling pathway in human system. [5]
- Q.5 What is Polymerase Chain Reaction? Explain the process of PCR. [10]

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