

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

CLASS: BTECH.  
BRANCH: BIOENGINEERING AND BIOTECHNOLOGY

SEMESTER : III/ADD  
SESSION : MO/2025

SUBJECT: BE24243 BIOCHEMISTRY

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)	Schematically propose the pathway of gluconeogenesis and regulation?	[5] 1	1
Q.1(b)	Investigate the electron transport chain and oxidative phosphorylation?	[5] 3	4
Q.2(a)	Reveal different physicochemical properties of amino acids?	[5] 4	2
Q.2(b)	Propose the mechanism of ammonia removal from our system?	[5] 2	3
Q.3(a)	Explain the structure and functions of RNA molecules?	[5] 2	2
Q.3(b)	Discuss the general pathways of purine synthesis?	[5] 3	3
Q.4(a)	What are different classifications of lipids. Explain with examples?	[5] 1	3
Q.4(b)	Illustrate the various steps and regulatory enzymes of lipid oxidation?	[5] 4	5
Q.5(a)	Elucidate importance of Michaelis- Menten equation as well significance of Km?	[5] 4	4
Q.5(b)	Signify the various features responsible for optimizing enzyme catalysis?	[5] 4	5

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