

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

CLASS: BTECH  
BRANCH: Chemical

SEMESTER : VII  
SESSION : MO/2025

SUBJECT: CL433 POLYMER COMPOSITE

TIME: 02 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
- 

		CO	BL
Q.1(a)	Classify composites based on the type of polymer matrix and the other matrix.	[2]	III I
Q.1(b)	Describe the advantages of using composites over metals in terms of their applications.	[3]	I II
Q.2(a)	Define reinforcement with examples	[2]	II I
Q.2(b)	Explain the role of reinforcement in the composite system.	[3]	II II
Q.3(a)	Explain role of interface in achieving superior mechanical properties.	[2]	III II
Q.3(b)	Define and compare these mechanical properties: Stiffness, toughness, and impact resistance.	[3]	III I
Q.4(a)	Classify composites based on reinforcement types and orientations	[2]	III III
Q.4(b)	Explain the influence of structure, size and orientation of the fibers on composite properties?	[3]	IV II
Q.5(a)	Compare and contrast the properties and cost of carbon fiber with glass fiber	[2]	III V
Q.5(b)	Describe the manufacturing process of carbon fibers	[3]	IV II

:::::19/09/2025 :::::M