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

CLASS: B TECH **SEMESTER: VII**
BRANCH: ALL **SESSION: MO/2022**

SUBJECT: CL422 POLYMER COMPOSITE

TIME: 2 HOURS **FULL MARKS: 25**

INSTRUCTIONS:
1. **The total marks of the questions are 25.**
2. **Candidates attempt for all 25 marks.**
3. **Before attempting the question paper, be sure that you have got the correct question paper.**
4. **The missing data, if any, may be assumed suitably.**
5. **Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.**

			CO	BL
Q1 (a)	Sketch the time Vs. Temperature graph for the vacuum bag process and explain the significance of different steps.	[2]	CO422.1	Sketch(3), Explain(1)
Q1 (b)	Compare the thermoset matrix composites with thermoplastic composites. Explain in terms of tensile properties, thermal resistance and weathering	[3]	CO422.4	Compare(2)
Q2 (a)	Compare the compression moulding and Vacuum bag moulding techniques. Sketch the tooling used in these methods	[3]	CO422.3	Compare(2)
Q2 (b)	Illustrate the drawbacks of SMC which prompt us to go for Spray lay up process? Which thermoset resins are normally used in this process?	[2]	CO422.2	Illustrate(4)
Q3 (a)	Write the principle of SRIM technology of polymer composites manufacturing. Compare SRIM with RIM?	[2]	CO422.1	Compare(2)
Q3 (b)	Write down the steps in Pultrusion process. Which polymers and fibres are normally used in Pultrusion process?	[3]	CO422.1	Write(6)
Q4 (a)	Differentiate between melt spinning and solution spinning process.	[2]	CO422.2	Differentiate (2)
Q4 (b)	Describe Nylon 66 manufacturing process. Discuss its properties.	[3]	CO422.2	Describe, Discuss (2)
Q5 (a)	Demonstrate by schematic diagram of fibre manufacturing by Dry Spinning process.	[2]	CO422.3	Demonstrate (3)
Q5 (b)	Discuss manufacturing techniques of ceramic fibres. Contrast the advantages and disadvantages of composites made from glass rovings and chopped glass fibre.	[3]	CO422.2	Discuss, Contrast(2)

:::::: 30/09/2022 ::::::M