

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI**  
**(MID SEMESTER EXAMINATION MO/2023)**

**CLASS: BTECH**  
**BRANCH: CP&P**

**SEMESTER : VII**  
**SESSION : MO/2023**

**SUBJECT: CL407 POLYMER TECHNOLOGY II**

**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
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			CO	BL
Q.1(a)	Write down the chemical structures of precursors of unsaturated polyester and name them.	[2]	1	Write
Q.1(b)	Describe the process of preparation of phenol formaldehyde resin? Mention the reactants used.	[3]	1	Describe
Q.2(a)	How can we bring down the moulding shrinkage for PPO/PS blend?	[2]	2	How
Q.2(b)	Suggest the suitable polymer name and write down the reasons for the polymers used for manufacturing the following items: marine engines & propulsion, feeding bottles, transformer housing, drink vending machine valve,	[3]	2	Suggest
Q.3(a)	Describe the various methods of polymer blend preparation. Give example of each.	[4]	3	Describe
Q.3(b)	Define miscibility and compatibility of polymers in blends.	[1]	3	Define
Q.4(a)	Compare between Epoxy resin with vinyl ester in respect of chemical structure and crosslinking methods.	[3]	1	Compare
Q.4(b)	Illustrate the characteristic features of vinyl ester suiting the polymer for marine industry.	[2]	1	Illustrate
Q.5(a)	Compare between Polyethylene and Polyacetal in terms of chemical structure, thermal properties, solubility and mechanical properties.	[4]	2	Compare
Q.5(b)	Write down at least one process of manufacturing Polyether sulphone.	[1]	2	Write

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