

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

School of Basic Sciences
Bachelor of Science Honours in Chemistry
Semester End Examination - Nov 2023

Duration : 180 Minutes
Max Marks : 100

Sem V - C1UB503T - Polymer Chemistry

General Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) What are natural polymers, give a suitable example? K1 (2)
- 2) Illustrate the molecular weight influence the glass transition temperature (T_g) of polymers. K2 (4)
- 3) Explain the factors influencing LCST and UCST transitions in polymer solutions. K2 (6)
- 4) Apply the concept of the glass transition temperature (T_g) to real-world polymer applications. K3 (9)
- 5) Apply the concept of solubility parameter to predict the solubility of a polymer in a specific solvent. K3 (9)
- 6) Conclude polystyrene considered a versatile polymer, and what are its common applications. K5 (10)
- 7) Predict the polyamides differ from other polymer types, and what are their common uses. K4 (12)
- 8) Justify the polymerization and explain its significance in polymer synthesis with examples. K5 (15)
- 9) Justify the role of initiator molecules in polymerization reactions and write the mechanism of free radical polymerization with examples. K5 (15)
- 10) Elaborate the classification of polymerization processes important for understanding reaction mechanisms. K6 (18)