



Eastern University, Sri Lanka

Faculty of Science

Second Year Second Semester in Science- 2020/2021 (2024)

CH 2071-Introductions to Polymer Chemistry

Answer all questions

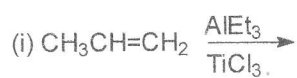
Time: One Hour

- 1 a) 'Polymers are always macromolecules but macromolecules are not always polymers' *Explain* this statement. (20 Marks)
- b) *Distinguish* between the terms homopolymer and copolymer with the help of an example of each. (20 Marks)
- c) *Write* the monomers used for getting the following polymers.  
(i) Polyvinyl chloride (ii) Teflon (iii) Bakelite (30 Marks)
- d) *Write* the possible polymerization steps for cationic and anionic polymerization with  $\text{CH}_2=\text{CH}_2$ . (30 Marks)
- 2 a) *State what* the degree of polymerization is and *explain* how it could be related to the molecular weight of the polymer. (20 Marks)
- b) *Define* and derive the different molar mass averages that may be used to characterize a given polymer. *Explain* the relationship between the different types of molar mass averages. (20 Marks)

*Contd.*

c) *What is a biodegradable polymer? Give an example of a biodegradable aliphatic polyester*

d) *Write a plausible mechanism for the following reactions and find out the product/s.*



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