



EASTERN UNIVERSITY SRI LANKA

FIRST YEAR FIRST SEMESTER EXAMINATION IN SCIENCE

2008/2009 (OCT. / NOV. 2010)

CH105 INTRODUCTION TO POLYMER CHEMISTRY

Answer all questions

Time: One Hour

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1. a) What is a polymer? How polymers differ from other chemical compounds?
- b) Briefly discuss each of the following chain polymerization steps, using the free radical polymerization of $\text{CH}_2=\text{CHR}$ to illustrate each step:
- Initiation
 - Propagation
 - Termination by transfer to polymer
 - Termination by disproportionation
- c) What are the differences between step growth and chain polymerization reaction?
2. a) Write down the products of the following polycondensation reactions
- Dimethyl terephthalate + glycol
 - Maleic acid + ethylene glycol
 - Hexamethylene diamine + adipic acid
- b) List out the four types of copolymers.
- c) Write down the structure of the graft co polymer of polystyrene with acrylonitrile.
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