



**Subject: Oral sheet for organic polymer**

**Code no. CHEM 410**

**Date: 22/7/ 2020**

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**Answer All Questions**

**Fourth year: Chemistry  
Final examination 2<sup>nd</sup> semester**

**Time: 3 hrs.**

**(10 Marks)**

**Q1)What are you doing in the following cases?**

1-If you need to have optimal or high molecular weight using condensation polymerization reaction

2-You have to obtain cross-linked poly phenol-formaldehyde

3- If you want to obtain foam during the preparation of polyurethane polymer.

4-If you want to synthesis crystalized and high molecular weight poly propylene

**B)Select the most suitable answer**

**1. Which of the following monomers cannot undergo chain growth polymerization?**

- a)  $\text{CH}_2=\text{CH}_2$
- b)  $\text{CH}_2=\text{CHCN}$
- c)  $\text{CH}_2=\text{CHCOOR}$
- d)  $\text{COOH}-\text{CH}_2-\text{COOH}$

**2. What does chain initiation step of free radical polymerization consists of?**

- a) decomposition of initiator
- b) addition of free radical to monomer
- c) all of the mentioned
- d) none of the mentioned

**3. Which of the following type of termination is not possible in ionic polymerization?**

- a) bimolecular termination
- b) unimolecular termination
- c) termination through transfer to monomer or solvent
- d) none of the mentioned

**4. Which of the following monomer has highest reactivity towards cationic polymerization?**

- a) isobutylene
- b) isoprene
- c) vinyl ethers
- d) styrene

**C) Write briefly on the following :**

**i)Kevlar polymer**

**iii)Tacticity**