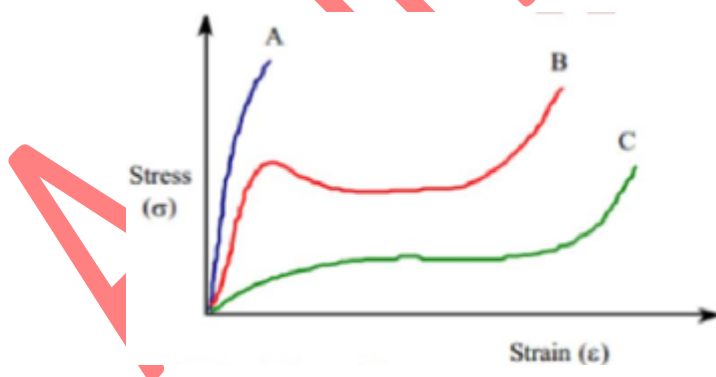


Sample Questions

Polymer Technology

1. Which of the following polymers is/are used in artificial eye parts, signal light lenses and television screens?
 - a. Buna-S
 - b. Poly (methyl methacrylate)
 - c. Polytetrafluoroethylene
 - d. Polyurethane
 - e. All of the above
2. Which of the following types of polymers can poly acrylonitrile be classified as?
 - a. Condensation polymer
 - b. Addition polymer
 - c. Natural polymer
 - d. None of the above
3. What does the area under the stress vs. strain curve quantify?



- a. The compliance of the material with the specifications
- b. The energy to elastically change the shape of the material
- c. The impact strength of the material
- d. Toughness of the material

4. A sample of atactic polystyrene, separated into 4 fractions is shown in the table. What is the average molecular weight?

Fraction	Number of moles	Molecular Weight
1	25	50,000
2	25	50,000
3	25	30,000
4	25	70,000

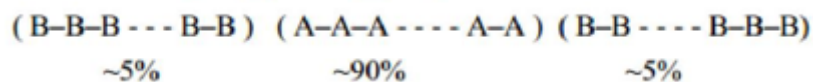
- a. 40,000
 b. 50,000
 c. 60,000
 d. 70,000

5. Which of the following is/are NOT a suitable oxidizing agent for oxidative doping of polyacetylene?

- a. Iodine vapor
 b. Acidified potassium dichromate
 c. Iodine in carbon tetrachloride
 d. Sodium naphthalide in THF

- a. Only i
 b. Only iii
 c. i and iii
 d. i, ii and iv
 e. i, ii, iii, iv

6. Consider the shown figure

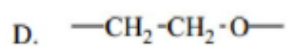
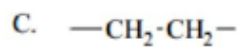
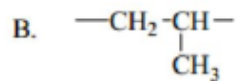
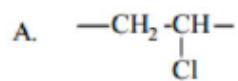


If A = butadiene and B = styrene, how would this polymer be synthesized?

- a. By anionic polymerization
 b. By using a Ziegler Natta catalyst
 c. By condensation polymerization
 d. By coordination polymerization

7. A partially miscible blend of two polymers will have _____.
- a single T_g
 - two T_g values closer to T_g values of original polymers
 - a single T_g value that lies in between T_g values of original polymers
 - no T_g

8. Which of the following polymers will have the highest T_g value?



- A
 - B
 - C
 - D
9. Which of the following techniques is commonly used to make lotion bottles?
- Stretch blow molding
 - Injection blow molding
 - Extrusion blow molding
 - Spin trimming molding