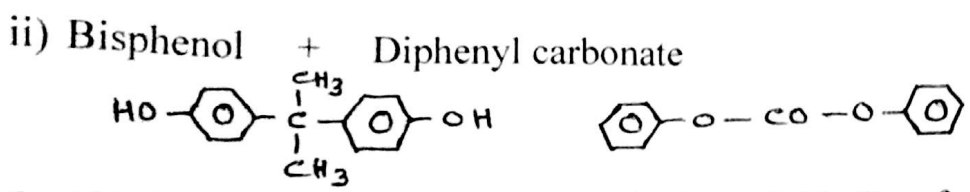
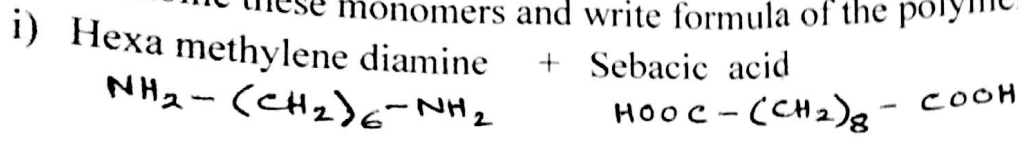
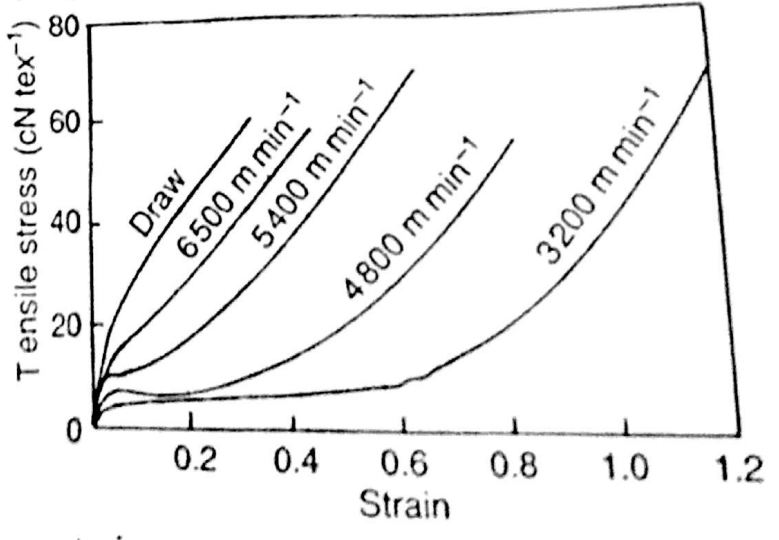
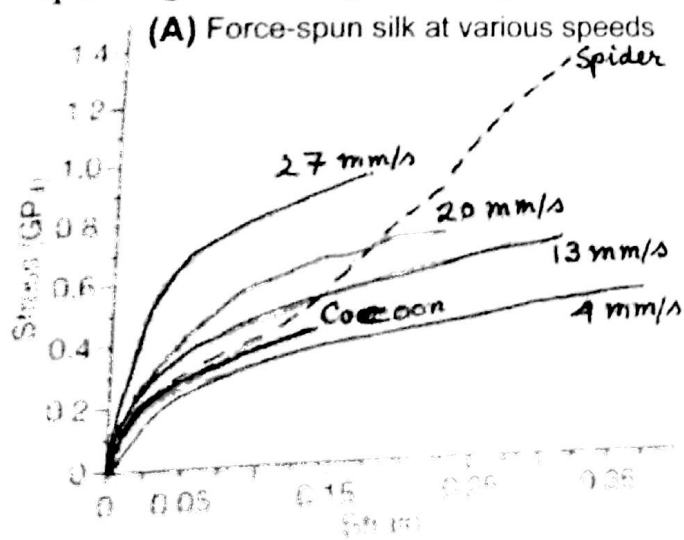


1. Polypropylene has helical structure, but polyethylene is linear. Explain with formula. 2
2. Why isotactic, syndiotactic polymers can crystallize easily, but atactic polymers are difficult to crystallize? 3
3. In the gland of silkworm 30% vol/vol fibroin protein remains without aggregation/precipitation. Which factors are responsible for solidification during fibre spinning? 3
4. Explain basic principle of Ramachandran plot. 3
5. Combine these monomers and write formula of the polymer: 2



6. (A) A scientist has done forced spinning of silk fibre from silkworm and measured stress-strain curves. Explain which structural changes take place during forced spinning, that are governing mechanical properties? 3



- (B) The other figure is showing stress-strain curve of PET filaments. Explain structure development during various spinning speed during high speed spinning and correlate with mechanical property. 4

7. What are the functions of spin finish? 2
8. Explain PET formation by DMT route (with chemical formula) 3