

TX1212

Minor 2

Time 45 minutes

Answer all questions

1 ~~(a)~~ It is important to maintain moisture-free inert atmosphere during PET production. Explain with chemical reactions. 2

~~(b)~~ What are the side reactions during PET polymerization during melt spinning? 3

2. ~~(a)~~ Explain the mechanism of thermo-oxidative degradation of polypropylene and enumerate the methods by which it can be inhibited. 4

~~(b)~~ Explain basic working principle of FTIR. 1

3 ~~(a)~~ Why most polymer melt/solutions show shear-thinning behavior? 2

~~(b)~~ Which signatures of polymeric fluids separate them from Newtonian behavior? 3

4 ~~(a)~~ What are the necessary requirements for spinnability? 2

~~(b)~~ On which factors die swell depends? 2

$$\sigma = \frac{\mu \cdot d}{1}$$

~~(c)~~ What is the characteristic feature of Bingham Fluid? $\mu-d$