

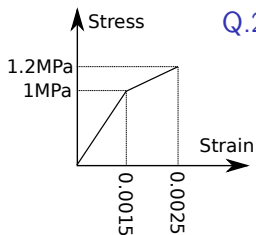
Q.1

a In Figure 1, Y-axis and X-axis denotes σ_A/σ_Y and number of load cycle (n) respectively. Find σ_A for $n=25$ if $\sigma_y = 250\text{MPa}$. There is a major flaw in Figure 1, point it out.

b For Figure 2, find Yield stress from extension method.

c Find modulus of resilience and toughness for Figure 2.

Figure: 1



Q.2

a What will happen if diameter of vicat's plunger in standard consistency test is increased? Explain.

b How capillary voids form in cement? How their volume changes with water-cement ratio?

c Write down compound which contributes most to cement composition. What will happen if its percentage is reduced in cement?

Figure: 2