

**Q1.**

What are variable sampling plans? Discuss some fundamental variable sampling plans (like the one based on  $\bar{X}$  and  $S^2$ ) with their procedural details and performance evaluations.

**Q2.**

Review the following control charts and provide their design structures, run length properties, and their comparisons with the usual approach.

- Combined Shewhart-EWMA
- Combined Shewhart-CUSUM
- Double EWMA and Double CUSUM