Review questions: Time Series Analysis

$\boxed{\text{Modules } 1.1 - 1.3,\ 2.3}$

1) Read through Modules 1.1, 1.2 and 1.3

2) What is strong stationarity, weak stationarity?

3) What is an ensemble and how does it differ from a time series?

4) Let $\{x_t\}_{t=1}^{N}$ be a weakly stationary time series and ~~you~~ are given the values of this time series. How would you compute:

   the mean, variance, autocorrelation r_k

   and autocovariance ρ_k

   using the sample values given to you.

Refer to 2.3

5) What is the condition for ergodicity of a time series

6) What is absolute summability? Give examples.

7) Show that the correlation coefficient ρ is such that $|\rho| \le 1$.

[redacted]