

SEQUENCE MODELS - AI-3102

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Summary of Coverage

Topic 1: Time Series analysis - covered the following

- Modules: 1.1, 1.2, 1.3: Basic Concepts
 2.3: Second-order Sample properties
 4.1, 4.3, 4.4, 4.5: Model Analysis - ACF
 6.3: optimal prediction / forecast.

• Read through these modules

• Review questions: (Continuation of the earlier list)

8.) Compute ACF for the following models:

MA (a) : $q = 1, 2, 3$ - (module 4.3)

AR (b) : $p = 1, 2$ (module 4.4)

ARMA (b, c): (module 4.5)

9.) Module 6.3 Derive the formula for optimal prediction using Wiener's approach.

10.) Generate an expression for one-step prediction in a general time series using Wiener's approach.

Topic 2: MLE, HMM - Handwritten notes uploaded.

• Read through this set of notes

• Work out the following problems ① and ② in page 2.