Version 1 - 3rd March 2013

Part 1: Principal Component Analysis

- Principal Component Analysis is a data reduction technique. Explain what this term means.

- The KMO is used to measure what characteristic of the data. Explain how the KMO measure should be interpreted.

- Briefly describe the Bartlett Test for Sphericity, with reference to the null and alternative hypotheses, and how those statements relate to the purpose of the test.

Part 2: Factor Analysis

Part 3: Cluster Analysis

- In the context of hierarchical cluster analyses, distinguish between agglomerative clustering and divisive clustering.

- What is a vertical icicle plot used for? Give a brief dscription, supporting your answer with sketches.

- Compute the Euclidean distance between the following points.

Part 7: Missing Data

- Compare and contrast the following types of missing data: Missing At Random, Missing Not At Random, Missing Completely at Random.

- Briefly describe the technique of Imputation.

Formulae