1. Test 1
2. Panel data is a combination of Cross-sectional and Time series data. It consists of measurements (either qualitative or quantitative) that are taken on variables from observing a population (cross-sectional) through time at equally spaced time intervals.   
   For example: a dataset that contains monthly sales at Kmart stores in different locations and within different departments.
3. Dependence on the past (also called autocorrelation) is a pattern

important pattern in time series to model because the past can and does influence the future. The dependence on the past gives us a pattern to build suitable models of time series to forecast the future.

1. Assume data is quarterly and
2. White noise is a stationary time series that is constant mean (0) and constant variance. Further in a white noise series the observations are independent and come from a normal distribution. White noise is important in Time Series modelling as when the residual series of a time series model is white noise, we are confident linear model assumptions are met and thus the predictions are reliable.
3. Differencing in a Non-stationary time series allows us to remove trend and seasonality (and rarely used to remove cycles) from a non-stationary time series converting it into a stationary time series of differences. To remove a linear trend, use first order differencing and to remove seasonality difference between seasonal observations to remove seasonal component.

2019 FC Test 1

1. Stationary time series have a constant mean and variance while Non-stationary time series contain trend, seasonality and cycles. Both stationary and non-stationary time series may contain autocorrelation and will contain a random component.
2. Dependence on the past (also called autocorrelation) is important pattern in time series to model because the past can and does influence the future. The dependence on the past gives us a pattern to build suitable models of time series to forecast the future.
3. ACF plot – no trend but seasonal component