**Time Series**

**Practical 2**

1. Take the detrended Lake Huron series - after subtracting the quadratic model values from the original series. Copy it to Minitab, making sure that the data only is copied into the spreadsheet cells, with any title in the top row. Go to the **Stat** menu and select the **Time Series** option, then **Autocorrelation**. Click the column where you put the series so that it gets selected into the box. Click OK and see what the sample autocorrelation looks like. Repeat for the **Partial Autocorrelation**. Examine the two graphs together to see what you estimate the underlying process to be – HINT, some order p of AR(p). What we will do is try to overfit the series. Got to **Time Series** again and select **ARIMA**. Select your series and enter the appropriate value to try an AR(p+1) model. Note that the **Constant** box is ticked. Click OK and notice the output. Conclusions. Refit with the appropriate model, selecting to save the fits and residuals. Check the after modelling diagnostics, ie. the autocorrelation of the residuals, and the Ljung-Box statistics. Write all this up.
2. Repeat for the other three series.