CS1025 Laboratory Experiment 4:

1) Connect the circuit shown in the following diagram:

R=2.2KΩ

5V pk-pk

22nF
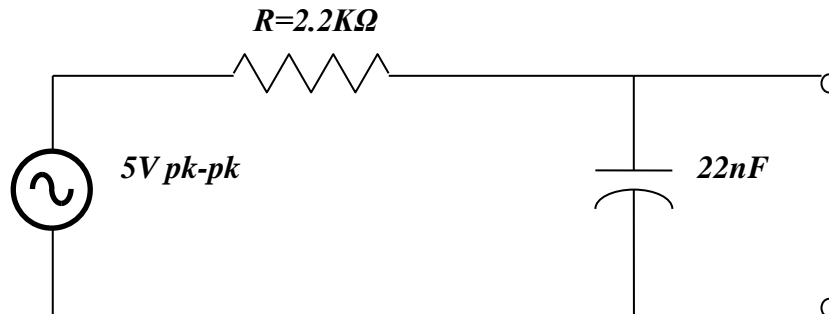
2) Apply a sine wave input at 10KHz and make a superimposed plot of the input and output.

3) Determine the gain (20log(Vout/Vin)) as a function of frequency starting at say 100Hz and finishing at 20KHz in steps of approx. 1KHz.

4) Plot your results on graph paper.

5) Interchange R and C and repeat 2) to 4) above.

6) These circuits are simple Low and High Pass filters respectively. Suggest some applications for them.

Laboratory Report:

Reports should be submitted via Blackboard before the subsequent laboratory session for your group.

Your name, student number, date the experiment was performed, your lab session and details of any attachments such as letters of permission etc. should be clearly indicated on the cover page.

The report for this experiment should include the circuit diagrams and the respective measurements in tabular and graphical form as appropriate.

The report should be neatly written. Students should note that ~25% of marks are awarded for presentation of results, ~75% for explanation and interpretation of results – assuming the experiment was performed correctly. If you discover following your lab session that you have made a mistake then your report should identify that mistake and explain how it should be corrected.