EE2302 Foundations of Information Engineering

Assignment 10   **Due: 11 pm, Nov 22 (Mon)**

(Full mark: 16 marks)

1. (6 points) Write down the Cayley tables for **all** groups of order 4. How many **distinct** groups are there? (Two groups are the same if the same table can be obtained by re-labelling some of the elements.)

2. (4 points) Find **all** subgroups of $\mathbb{Z}_6$ under addition.

3. Consider the group of symmetry for equilateral triangles as discussed in the lecture notes.
   a) (4 marks) Write down its multiplication table.
   b) (2 marks) Is it an Abelian group? Explain your answer from the multiplication table.