

EE2302 Foundations of Information and Data Engineering

Assignment 10

Due: 11 pm, Dec 2 (Wed)

(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 relabelling 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.