

Appendix A

Extra's

A.1 Homework 1 + Solutions

Homework 1

Q1 For the following group rings, (i) find the group of units and show what abstract group it is isomorphic to, (ii) find the augmentation ideal and (iii) find the set of zero-divisors.

- (a) \mathbb{Z}_2C_2 .
- (b) $\mathbb{Z}_{11}C_1$.
- (c) \mathbb{Z}_2C_3 .
- (d) \mathbb{Z}_3C_3 .
- (e) \mathbb{Z}_2C_4 .
- (f) $\mathbb{Z}_2C_2 \times C_2$.
- (g) \mathbb{Z}_2S_3 .

What conjectures can you come up with after doing these examples ?