MFE5209 Homework 5 Answer Sheet

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**1.**This is a AR(1)/ARCH(1) model, the conditional mean and variance of will be **non-constant**.

Since and , we can rewrite the equation of as follows:

**a)** The conditional mean of is

According to P479 of *SDAFE*, for a ARCH(1) process , the conditional mean =0. Thus we have

So,

**b)**The conditional variance of is

Thus, we have

**2.**