MATH20912 Feedback

In general I was pleased with how the exam went and how the students did. A typo in 1(c) in the hint was spotted early on in the exam and did not seem to hinder the students at all. I felt that more questions were attempted and more written down than last year due to some extra hints included -- and this was reflected in a higher average score on the exam. This did result in a small number of students doing very well, but at the lower end there were still some students who missed out the start of a question, or incorrectly remembered a formula, and were therefore penalised quite heavily as a result. This meant there was some scaling up from the bottom (20->30, 35->40) but the top marks were left as they were. The papers of students scoring below 30 demonstrated very little knowledge and wrote hardly anything in the exam. I would expect next year that there will be more "unseen" questions to really challenge the good students.

Question specific comments:

(1)

(a) A large number of students were seemingly unaware of the definition of return as stated in the course. Most lost marks by calculating the profit at maturity.

(b) This was much better than last year, probably due to the students expecting this sort of question.

(c) Done mostly ok. Students lost marks if they did not properly explain what they doing when moving from one equation to the next, when deriving an equation in finance the economic arguments are just as important as the maths.

(2)

(a) Mostly done ok. In the final part students should remember to always justify a decision, not just put yes or no to that sort of question.

(b) (i) A suprising number of people plotted this incorrectly (maybe ~50%) even though it was much easier than (1)(b) -- I can only assume a lack of care/attention here. It did have an effect on some students ability to answer part (ii) correctly.

(ii) A lot of students struggling with inequalities by trying to combine them -- this is not allowed. Again a lack of "words" meant that some students that stated equations that worked didn't get full marks because they didn't write the explanation around them.

(iii) Students lost a lot of marks here because they blindly follow the structure without looking at what they are doing. For example, if you take an incorrect portfolio or make a slight mistake meaning \( \Pi_T > 0 \) is not true at the end, you will not get any marks if you say it is. Only one student noted this and got follow through marks. Two wrongs don't make a right.
(3)

(a)(i) failing to arrive at the correct portfolio value by using completely the wrong arguments.

(a)(ii) not realising that there were two different cases to consider for the limit (despite it saying so in the question) and/or not clearly distinguishing between the two cases.

(b)(i) Failing to differentiate correctly and so introducing sign errors or missing the exponential discounting factor.

(b)(ii) Missing the denominator by incorrect computation of the derivative of d10 with respect to S.

(4)

Most people attempted Q4 and the majority managed to do part a ok.

In part b (i), many people were trying to do something similar to what they might have picked up in the notes and came unstuck especially with the followup in b(ii). [Knowledge of how to integrate 1st order odes using the integrating factor seems to be poor].

A large number of students arrived at the right answer to b(iii) (hinted in the question) through incorrect arguments.