General comments on the paper EE1-10B: Mathematics 1B, Section B, 2014

Q3. This is a question on ordinary differential equations. The students have done well on this question, scoring approximately 73%.

  (a) This is a second order ODE with constant coefficients and is a typical study group question.

  (b) This is an exact ODE and is a slight variation on a typical study group question.

  (c) This is a linear ODE and is a typical study group question.

Q4. This question is on functions of two variables. The students did less well on this question, scoring an average mark of 48%.

  (a) This is a question on the solution of a partial differential equation which has radial symmetry. It requires the use of the chain rule to transform the variables. It requires a very good and clear understanding of the chain rule. A particularly difficult part is that the final equation is of degree 2.

  (b) This is a rather difficult question since it requests the stationary points of an implicitly defined function. Thus the students need to have a very good understanding of the two concepts (implicitly defined functions and stationary points) and how to relate them.