Examination Feedback for EEE220 – Electric and Magnetic Fields
Autumn Semester 2008-09

# Feedback for EEE220 Session:2008-2009

**Feedback:** Please write simple statements about how well students addressed the exam paper in general and each individual question in particular including common problems/mistakes and areas of concern in the boxes provided below. Increase row height if necessary.

**General Comments:**

Generally students performed well on the 2009 paper with several students attaining marks in excess of 90%. However several students did not achieve the 40% pass mark. Question 2 was the most popular question and was attempted by over 90% of students. Question 4 proved the most unpopular question. Common errors included inappropriate use of equations, failure to fully explain derivations and algebraic errors

**Question 1**:

Part a: generally answered well but some students failed to give a value for the forces acting on the beads.
Part b: main error was failure to use correct equation for potential and not calculating separation distance correctly
Part c: some students calculated change in energy using equation for energy stored in a capacitor!

**Question 2**:

Part a: main failure was not using equations for infinite sheet of charge to deduce field between plates of capacitor.
Part b: generally answered well but some students failed to derive correct expression due to algebraic mistakes
Part c: generally answered well but some numerical errors

**Question 3**:

Part a: students lost marks by failing to state assumptions about nature of B field for a long straight wire
Part b: common problems included: wrong directions of individual forces on wires; errors in calculation of separation distance; failure to resolve forces correctly
Part c: some numerical errors

**Question 4**:

Part a: essentially a bookwork problem but some students failed to follow correct steps in derivation.
Part b: main problem was failure to realise that the problem could be solved by superposition of a square loop and an infinite wire.