# Feedback for EEE6224 Mobile Networks…. Session: 2014-2015

**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:**

Overall exam average about right. Multiple choice mole quiz component generally well answered.

**Question 1**:

Least popular question but reasonable average mark.

(a) Generally well answered using schematic diagrams.
(b) Someone omitted 1/Ts from orthogonality integral so result was not unity, and also defined Fm in the Fourier integral instead of Fn.
(c) Some confused between path length and path length difference in (i), and wrongly used bit period Ts. Also CP reduces capacity (b/s/Hz) not bit rate (b/s).

**Question 2**:

Best answered question.

(a) Most correctly identified emergency services, police, ambulance etc.
(b) Mostly well answered bookwork.
(c) Some confused the bit period with the frame period in (i). Also calculation in (ii) simplified if people realized the $6^{th}$ harmonic is at peak of first sinc(x) sidelobe.

**Question 3**:

Reasonable average but most popular question.

(a) Some confusion between sector, cell and BTS. Main point is that soft handover involves simultaneous MS reception at different locations.
(b) Generally well answered.
(c) Some people added parameters not given in the question, such as fading margin. But the question clearly stated what assumptions to make.
(d) Credit was given here for added parameters in (c).

**Question 4**:

Least well answered question.

(a) Some people thought the BTS altered its timing rather than the MS.
(b) Most correctly calculated the distance but few got the accuracy of +- half a bit period.
(c) Clearly the limited TA is the reason here, which most realized.
(d) I was looking for triangulation here using the TA from 3 BTSs, which most people got. No one explained the implementation in terms of the network making the calculation and informing the position over SMS, and few numerically compared GPS and TA accuracy.
(e) Some interesting ideas. WiFi possible, but range is so limited users must know where they are already.