

Comments Attendance very sparse. About 7 reasonable attenders. 5 at almost everything from the 15. Most people only seen at the first lecture and then never again!

Q1. 5 reasonable attempts, 9 weak. Clear a few students did not know anything much about wireless propagation. Many unable to convert from dB to ordinary ratio values i.e. raise 10 to a given power using a calculator. This was taught and practised. Examples of antenna gain were given in the course. Arithmetic using Watts and dBW values was pushed repetitively. However, this was a question computer science students were expected to find hard as they do not practice much arithmetic elsewhere.

Q2. 2 good attempts from the 8 who tried it. 6 failed to reach the pass grade. This was basic core material taught in the 2nd and repeated in the 3rd year with some more detail. Part C was worth a lot of the marks so students' not knowing this should have avoided the question. However, part C was covered in quite a bit of detail in the lectures and notes, it is all about the version of WiFi most students will have in laptops, tablets and phones currently. So expected them to have been interested enough to have studied this even without attendance.

Q3. 5 reasonable attempts, 3 pass level, 5 failures. Again this was all core lectured material reworked into problem solving. But, many of the answers showed that the students could not distinguish between 2G GSM and 3G UMTS using CDMA. All the material in parts A and B was core lectured stuff with little difference to the lectures. Part C required a little knowledge about the need to avoid interference at all costs and how this maps on to the cell structure. Part D had a simple calculation that most managed OK but then failed to use the results in the second part. It should have been obvious (it's in my slides, the notes, the book) how GSM deals with mobiles which are more than the guard distance from a Base Station. However, most answers simply waffled some irrelevant stuff, a few noticed that the 8km mobile was OK but then did not mention the 35km issue let alone try and deal with it. The distant mobile, in fact almost all mobiles, must start their sending early so the data arrives at the Base Station exactly when expected. The Base Station sends data to the mobile at its own time, the mobile must and does run its expected receive time delayed by the propagation time. GSM leaves 3 slots between sending and receiving so this is never a problem for voice traffic - calls. You might like to think how data is dealt with. With a little thought it is quite easy to see what probably happens when using slow or high speed data (not very fast at 35km!).

Q4. This was a design a system question based on the research readings given at the end of the course. There were 8 quite good answers and two appalling ones! Several of the lower quite good answers made silly assumptions such as using TCP and UDP. This demonstrated that they are inventive students but had probably not read any of the research readings even the one explicitly labelled as essential material! This question had the highest average mark of the 4, unusual for an essay invention style question.
