DUBLIN INSTITUTE OF TECHNOLOGY

DT211C BSc. (Honours) Degree in Computer Science (Infrastructure)

Year 1

WINTER EXAMINATIONS 2016/2017

INFORMATION TECHNOLOGY FUNDAMENTALS [CMPU1012]

DR. ART SLOAN
DR. DEIRDRE LILLIS

MONDAY 16TH JANUARY   9.30 A.M. – 11.30 A.M.

TWO HOURS

ANSWER **QUESTION 1** AND **ANY TWO** QUESTIONS OF THE REMAINING THREE AVAILABLE.

QUESTION 1 CARRIES 40 MARKS WHILE ALL FURTHER QUESTIONS EACH CARRY 30 MARKS.

1. **Compulsory**

(a) Compare the technical features of analog (or analogue) information devices to the technical features of digital information devices.

(10 marks)

(b) List the classification of computer types, from the smallest up to mainframe, and briefly describe the mainframe as an example of a computer classification.

(10 marks)

(c) What are the main aspect of hardware and software in an information technology system? Your answer should include distinctions between systems software, middleware and applications software.

(10 marks)

(d) How might database software systems be developed? Your answer should include a brief example of database program code.

(10 marks)

2. (a) What is 'systems modelling'? Give an example of software modelling.

(10 marks)

(b) Briefly discuss the development of the new intel microprocessors known as Haswell, Broadwell, Skylake and Kaby Lake.

(10 marks)

(c) Compare traditional or 'classic' computer system configuration to the cloud computing configuration and include some cloud computing features.

(10 marks)

3. (a) Outline the main principles of user-centered information systems design.

(10 marks)

(b) Describe, in your own words, the important aspects of project management as part of systems development.

(10 marks)

(c) List the tasks that might be associated with the job of a systems analyst.

(10 marks)

4. (a) What are the issues and considerations of information systems complexity that often require management of them?

(10 marks)

(b) List some of the disciplines associated with information technology and expand on the discipline of Computer Science as one example of the list.

(10 marks)

(c) Compare the information technology domains of Mathematics, Chemistry and Education.

(10 marks)