DUBLIN INSTITUTE OF TECHNOLOGY

BSc. (Honours) Degree in Computer Science

Year 1

WINTER EXAMINATIONS 2014/2015

INFORMATION TECHNOLOGY FUNDAMENTALS [CMPU1012]

Mr. Art Sloan
Dr. Deirdre Lillis

THURSDAY 8TH JANUARY   4.00 P.M. – 6.00 P.M.

TIME ALLOWED – 2 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) Describe how information relates to Information Technology (IT).

   (10 marks)

   (b) Describe some of the aspects of system software as part of a computer system.

   (10 marks)

   (c) List the microprocessor innovations that are attributed to the Intel organisation as part of its history.

   (10 marks)

   (d) Define the term 'computer based information system' and list some comparable system types.

   (10 marks)

2. (a) Compare traditional or 'classic' computer system configuration to the cloud computing configuration. In your answer identify some cloud computing features.

   (10 marks)

   (b) Define, in your own words, the principle of IT security, and include examples of IT security controls.

   (10 marks)

   (c) What are the premises, principles and activities associated with human-centred IT design?

   (10 marks)

3. (a) List the features that might be associated with the process of systems analysis.

   (10 marks)

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

   (10 marks)

   (c) Identify the stages and any considerations associated with software acquisition. In your answer give one example of software selection criteria.

   (10 marks)

4. (a) List four features of object-oriented programming/systems (OOPS) and briefly describe two object-oriented programming languages (or environments).

   (10 marks)

   (b) List any five disciplines that are readily related to IT and make a brief statement about each.

   (10 marks)

   (c) What is the relevance or importance of Information Technology to the domain of Mathematics?

   (10 marks)