

DUBLIN INSTITUTE OF TECHNOLOGY
KEVIN STREET DUBLIN 8

BSc. (Honours) Degree in Computing

Year 1

Semester 1 Examinations 2013/2014

Information Technology Fundamentals

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Tuesday 7th January

4.00 p.m. – 6.00 p.m.

Answer **Question 1** and **any two** questions from the remaining three available.

Question 1 carries 40 marks while
all further questions each carry 30 marks.

1. Compulsory

- (a) How is the binary number system (Base 2) used in modern digital computers?
(10 marks)
- (b) Describe the computer type classification of 'mainframe' and compare this to a personal computer (PC) 'cluster'.
(10 marks)
- (c) Describe information systems modelling in your own words, and include software systems modelling as an example.
(10 marks)
- (d) Briefly describe the main features and purpose of UML (Unified Modelling Language).
(10 marks)

- 2. (a) Briefly describe 3GL (Third Generation Language) programming languages and their use of the 'compiler' and 'interpreter'.
(10 marks)
- (b) Define the programming term of 'Object Oriented Programming System'.
(10 marks)
- (c) Describe the programming principle of 'coding'.
(10 marks)

- 3. (a) Describe some of the aspects of an information technology project team.
(10 marks)
- (b) Describe some of the aspects of the users associated with an information technology project.
(10 marks)
- (c) Briefly describe the concept of software 'outsourcing' and give five reasons why an organisation might outsource the software of an information system.
(10 marks)

- 4. (a) Give examples of strategic and tactical information systems for organisational management.
(10 marks)
- (b) Show how an organisation's information systems might be needed to deal with 'outside' organisations.
(10 marks)
- (c) How is information technology applied to the domain of education?
(10 marks)