S211/411

DUBLIN INSTITUTE OF TECHNOLOGY

BSc. (Honours) Degree in Computing

Year 4

SUMMER EXAMINATIONS 2014/2015

ENTERPRISE SYSTEMS INFRASTRUCTURE & ARCHITECTURE [CMPU4025]

MR. DENIS MANLEY
DR. DEIRDRE LILLIS
MR. ALAN FAHEY

TUESDAY 12TH MAY 9.30 A.M. – 11.30 A.M.

TWO HOURS

ATTEMPT QUESTION ONE AND ANY TWO FROM THE REMAINING FOUR QUESTIONS.

QUESTION 1 IS WORTH 40 MARKS.

THE REMAINING QUESTIONS ARE WORTH 30 MARKS EACH.

1 **Answer *part a* or *part b or part c*** **(40 Marks)**

(a) Discuss, using suitable examples how organisations can formulate and implement strategies and how the use of an *on-line analytical processing* 3-D cube and its calculation capabilities can help managers make informed choices in this strategic formulation and implementation process.

or

(b) Discuss, using suitable examples, a framework that organisations can use to develop and implement their strategies and how *data mining* operations can be used to help in the formulation and implementation process.

or

(c) Discuss how to formulate and implement a business strategy and how to design a data warehouse so that it contributes to the formulation and implementation of this process.

2

a. Describe *three* types of strategies organisations can use in order to achieve a competitive advantage **(6 marks)**

b. Explain when organisations should consider adopting any *two* of these strategies. **(8 marks)**

c. The SWOT analysis and the BCG matrix are two models that can be used to propose different strategies organisation can adopt. Explain, using suitable examples, how *either* technique can be used to suggest two different types of genetic strategies. **(8 marks)**

d. Compare and contrast both methods as a means of deriving strategies **(8 marks)**

3

a. Three important characteristics of distributed databases are: *Fragmentation, replication and allocation:*

i. Explain what is meant by each term. **(6 marks)**

ii. Explain how one would decide when to implement a selective fragmented distributed database system or a fragment distributed database system. **(10 marks)**

iii. Explain the relationship between one the principles of database design and the above characteristics of distributed databases. **(6 marks)**

b. An important goal of information system design is to align it with the business process and structure of an organisation. Explain how an organisational structure of your choice can impact upon how a distributed database is fragmented, replicated and allocated. **(8 marks)**

4

a. Describe, using suitable examples, the difference between a structured, semi-structured and unstructured decision. (6 marks)

b. Distinguish between a Transaction Processing System (T.P.S.) and an Management Information System (12 marks)

c. Explain, using suitable examples, the roles played by both a Transaction Processing System (T.P.S.) and an Management Information System (M.I.S.) in the generation of information that could facilitate strategic level decision making. (12 marks)

5

a. What are the three main elements of customer relationship management (CRM)? **(6 marks)**

b. Discuss how technologies such as OLAP or data mining can analyse the customer data stored in data warehouses in order to increase customer retention rate. **(10 marks)**

c. Today numerous devices such as smart phones and search engines can be used to monitor our internet activity and gather personal information, such as what we buy on line, in order to collect data that will be used in C.R.M. software systems. While this information gathering can lead improve convenience it also can be quite intrusive.

   i. Describe three of the steps in the 5 step ethical analysis process **(6 marks)**

   ii. Discuss if, in your opinion, new technologies for gathering customer information can be considered to be ethical. **(8 marks)**