2910108 Information systems: the foundations of e-business

Examination paper: Zone A

Time allowed: three hours

There are six questions on this paper. Answer four questions. Full marks will be awarded for complete answers to four questions. Candidates must not attempt more than the required number of questions. Calculators are not allowed.

QUESTION 1

(a) Explain why the continuing trends toward connectivity and interoperability provide opportunities for businesses to compete more effectively when using information systems.

[5 Marks]

(b) Using laptop computers as an example, describe five main trends in the way computers have evolved in the last 5 years.

[5 Marks]

(c) Discuss why open systems can be viewed both as an opportunity and as a threat.

[5 Marks]

(d) Use the four phases in building and maintaining systems to describe the project of writing a software program and identify challenges or problems that could take place at each phase.

[5 Marks]

(e) Compare the roles of systems analyst and a project manager and describe a framework or chart each would use.

[5 Marks]

QUESTION 2

(a) Explain why a business professional would seek to transform customers of self-service systems into participants. Provide an example of such a transformation.

[5 Marks]

(b) Define the term customer satisfaction and identify its key elements.

[5 Marks]

(c) Compare the internal customers of work systems with its external customers. Provide an example of each.

[5 Marks]

(d) Explain the relationship between data, hard data, soft data, information and knowledge.

[5 Marks]

(e) A key outcome of a human-centred design is user friendliness. Describe how user-friendliness manifests itself and outline three key characteristics of user-friendly software systems.

[5 Marks]

QUESTION 3

(a) Identify five roles information systems professionals can play in building and maintaining information systems.

[5 Marks]

(b) Explain why business process re-engineering can lead to Organisational inertia and is often seen as controversial by workers.

[5 Marks]

(c) Describe the difference between strategic-level and project-level plans for information systems. Provide an example of the use of a strategic-level plan.

[5 Marks]

(d) In relation to centralisation versus decentralisation, what are the major issues involving standards and ownership.

[5 Marks]

(e) Describe what is meant by a legacy system and explain its significance in information systems architectures.

[5 Marks]

QUESTION 4

(a) Explain the difference between "de facto" and "de jure" standards and provide an example of each.

[5 Marks]

(b) Discuss the key differences between circuit switching and packet switching as data transfer strategies.

[5 Marks]

(c) Identify and define the five telecommunications functions included in the basic telecommunications model.

[5 Marks]

(d) Compare and contrast a cable modem and a DSL modem. Explain which modem degrades in performance rapidly as the distance over which it is used increases.

[5 Marks]

(e) Discuss why Internet telephony is an important challenge to established telephone companies.

[5 Marks]

QUESTION 5

(a) Define centralised computing, personal computing, distributed computing, network computing and mobile computing and give an example of each.

[5 Marks]

(b) Describe the operation of a client/server architecture and explain why it is used in information systems infrastructures.

[5 Marks]

(c) Compare and contrast data compression and data encryption technologies.

[5 Marks]

(d) Explain the differences in the way RISC and CISC microprocessors process data.

[5 Marks]

(e) Explain the application of parallel processing to the study of artificial intelligence.

[5 Marks]

QUESTION 6

(a) Compare the terms "customisation" and "adaptability" and provide an example of the differences between them.

[5 Marks]

(b) Compare the stages of customer experience for products with the different stages of customer experience for services.

[5 Marks]

(c) Compare a mission-critical information system and a strategic information system.

[5 Marks]

(d) Define five guidelines for the good design of an e-commerce website.

[5 Marks]

(e) Explain why understanding the distinction between personal, impersonal, and automated services is important to businesses providing flexible customer services.

[5 Marks]