

UNIVERSITY OF BOLTON – RAK CAMPUS

**SCHOOL OF BUSINESS AND CREATIVE
TECHNOLOGIES**

COMPUTING PATHWAY

SEMESTER 2 EXAMINATION 2009/2010

CLIENT SERVER SOLUTIONS

MODULE NO: CST3005

Date: Tuesday 1 June 2010

Time: 10.00 am – 12.00 pm

INSTRUCTIONS TO CANDIDATES: There are **FIVE** questions.

Answer Questions 1 and 2 in Section
A.

Answer 2 questions from 3 in Section
B.

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Section A

Question 1

- a) Draw a diagram that illustrates what software might be operational in the two hardware tiers of a web-based solution. Briefly describe the data transferred over the network and indicate a possible protocol for this solution. **8 marks**
- b) Draw a diagram that illustrates what software is operational in the two hardware tiers of the solution used in the programming assignment for this module. Briefly describe the data transferred over the network and indicate a possible protocol for this solution. **8 marks**
- c) Compare the manner in which operating systems support the use of Visual Display Units on mainframe computers with the operating system support of Visual Display Units attached to mini computers. **8 marks**
- d) Explain why a compiler does not translate each high-level statement into machine code implied by the statement. Assess the impact of libraries on memory utilisation. **6 marks**

Question 2

All questions refer to Microsoft Visual Basic

- a) What is meant by the event-driven paradigm and assess its significance to the development of the software in the assignment. Your answer should include references to events other than keyboard and mouse clicks. **10 marks**
- b) Present a list of the sections used to document the event-driven design of a client-server program, and provide a single sentence explanation of each section. **10 marks**
- c) Distinguish between TCP and UDP transmission between two Visual Basic programs, and indicate the role of the Bind method in connectionless data transmission. **6 marks**
- d) Explain how a programmer can make use of Excel spreadsheet objects within a Visual Basic program. **4 marks**

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Section B

Answer any TWO questions

Question 3

a) Explain in detail what facilities exist within a transaction processing monitor (TPM) such as Tuxedo that support the process of software development.

12 marks

b) Draw a diagram to illustrate what software is operational in each of the three tiers in a three tier client-server solution and describe briefly the content of data flow between each of the hardware tiers.

8 marks

Question 4

a) What is meant by the abbreviation DTD and explain its purpose when developing systems that will process XML documents.

6 marks

b) Compare two approaches to processing an XML document within a language such as Visual Basic

7 marks

c) Describe the basic features of a system developed with workflow, and contrast this style of solution with that found in traditional programs.

7 marks

Question 5

a) Draw a diagram of the Orchestrator interface that can be used within the Biztalk package, and explain how the interface is used.

8 marks

b) Explain the significance of XML to Biztalk development and the Mapper interface, illustrating your answer with a diagram.

6 marks

c) Explain the significance of BPEL4WS as a development environment and assess the significance of the companies who have accepted this new standard.

6 marks

END OF QUESTIONS