

BCS THE CHARTERED INSTITUTE FOR IT
BCS HIGHER EDUCATION QUALIFICATIONS
BCS Level 5 Diploma in IT

WEB APPLICATION DEVELOPMENT

SAMPLE PAPER

Answer **any** FOUR questions out of SIX. All questions carry equal marks.
Time: TWO hours

Answer any Section A questions you attempt in Answer Book A
Answer any Section B questions you attempt in Answer Book B

The marks given in brackets are **indicative** of the weight given to each part of the question.

Calculators are NOT allowed in this examination.
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Section A

Answer Section A questions in Answer Book A

Section B

Answer Section B questions in Answer Book B

Section A

Answer Section A questions in Answer Book A

A1.

- a) Compare and contrast XML and JSON. **(10 marks)**
- b) Explain why JSON gained popularity over XML in web application development? **(5 marks)**
- c) Describe the MVC architecture. **(10 marks)**

A2.

- a) Give descriptions of the following two software development methods:
 - i. Kanban;
 - ii. Scrum.**(20 marks)**
- b) List **FIVE** potential advantages of using Scrum and/or Kanban as part of a web application development process. **(5 marks)**

A3.

- a) Discuss the potential uses for JavaScript in front end web application development. **(5 marks)**
- b) Describe the relationship between jQuery and JavaScript **(5 marks)**
- c) Discuss the importance of a front end framework with which you are familiar in developing web applications **(15 marks)**

Section B

Answer Section B questions in Answer Book B

B4.

- a) Describe at least **FOUR** of the main goals and benefits of a service-oriented architecture. **(10 marks)**
- b) How might a service oriented architecture concept be implemented using REST? **(15 marks)**

B5.

- a) Explain the benefits of Test Driven Development (TDD) **(10 marks)**
- b) Discuss the use of web analytics in the evaluation of a web-based application **(15 marks)**

B6.

- a) List **FIVE** of the OWASP top ten security issues. **(5 marks)**
- b) Choose **ONE** of the issues you gave as an answer to part a) and give a detailed description of it. **(5 marks)**
- c) Describe threat modeling and explain why it is one of the most important steps in developing secure web applications. **(15 marks)**

END OF EXAMINATION