BCS THE CHARTERED INSTITUTE FOR IT

BCS HIGHER EDUCATION QUALIFICATIONS
BCS Level 5 Diploma in IT

WEB APPLICATION DEVELOPMENT

Monday 25th April 2022 - Morning

Answer any FOUR questions out of SIX. All questions carry equal marks.

Time: TWO hours

Answer any <u>Section A</u> questions you attempt in <u>Answer Book A</u>
Answer any <u>Section B</u> questions you attempt in <u>Answer Book B</u>

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

Calculators are **NOT** allowed in this examination.

Section A
Answer Section A questions in Answer Book A

A1.

   a) Use a diagram to illustrate the **FOUR** phases of the double diamond model.

      (10 marks)

   b) For **each** of the phases you have identified in your answer to part a), list the techniques you could use when designing a web page.

      (15 marks)

A2.

   a) State **FOUR** values which underpin agile software development methods.

      (8 marks)

   b) In the context of agile methods, what is a user story?

      (5 marks)

   c) Explain how INVEST criteria can be used to evaluate a user story.

      (12 marks)

A3.

   a) List **FIVE** common features found in sematic web applications.

      (15 marks)

   b) Discuss the contribution the semantic web could make to the development of chatbot systems or intelligent assistants.

      (10 marks)

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Section B
Answer Section B questions in Answer Book B

B4.

   a) Explain what is meant by a 'content delivery network'.

      (9 marks)

   b) Describe **FOUR** examples of the use of content delivery networks to deliver web content more effectively.

      (16 marks)

B5.

   a) Compare and contrast front-end and back-end development of web applications.

      (10 marks)

   b) Describe in detail, with examples, **THREE** technologies which are commonly used in the development of web applications. At least one should be a front-end and one a back-end technology.

      (15 marks)

B6.

   a) Explain the term 'cyber security threat'.

      (5 marks)

   b) Describe **FOUR** examples of such threats and explain how a web designer might mitigate against them.

      (20 marks)

End of Examination