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 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.
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 semantic web applications.
      (15 marks)
   b) Discuss the contribution the semantic web could make to the development of chatbot
      systems or intelligent assistants.
      (10 marks)

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