

BCS THE CHARTERED INSTITUTE FOR IT

BCS HIGHER EDUCATION QUALIFICATIONS
BCS Level 5 Diploma in IT

WEB APPLICATION DEVELOPMENT

Tuesday 21st April 2026 – 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 high street retailer, with multiple outlets throughout the UK, sells books and related products of all genres. It has an online presence through a website which has evolved over the years.

- a) Using examples from the book retailer, for **each** evolution of web technologies (web 1.0, 2.0 and 3.0), demonstrate how these would have influenced the website functionality and usability for the end user.

(15 marks)

- b) Examine the different technologies available to the development team for **each** evolution of web technologies and how they would have been used to implement the website functionality (web 1.0, 2.0 and 3.0).

For each of these **three** evolutions of web technologies, give a minimum of **three** examples of how a technology would be applied to the book retailer.

(10 marks)

A2.

- a) Compare and contrast manual testing versus automated testing in a web development environment when creating, running and documenting functional tests. Highlight the advantages and disadvantages of **each** method.

(15 marks)

- b) Using a testing framework of your choice, describe how it is used and some of the facilities the framework can give to developers.

(10 marks)

A3.

You are in charge of a team who had several change requests and bugs throughout the last development they had worked on. Many of the errors and changes were due to them not fully understanding the user requirements. You are giving the team some training to ensure they have a better understanding of requirements analysis.

- a) The first phase within requirements analysis is to gather and elicit the requirements.

State **three** different methods to do this and advise how your team should apply **each** method.

(9 marks)

- b) Discuss how the following areas of requirements analysis should be conducted:

- i. Further refine the requirements.

(3 marks)

- ii. Model the requirements.

(3 marks)

- iii. Document and review the requirements.

(3 marks)

- c) Discuss the following:

- i. Reasons why you have undertaken requirements analysis training with your team.

(3 marks)

- ii. Advantages requirements analysis training will give to the team and for future project developments.

(4 marks)

[Turn Over]

Section B
Answer Section B questions in Answer Book B

B4.

- a) Give **three** reasons why error checking is essential in web back-ends.
(9 marks)
- b) Assess **four** methods that can be used to error check in back-end applications.
(16 marks)

B5.

- a) Discuss when you might use jQuery and how it relates to the Document Object Model (DOM). Assess whether there are more modern alternatives now available.
(9 marks)
- b) Explain **four** uses of jQuery including the issue addressed, how jQuery helps and example JavaScript code.
(16 marks)

B6.

- a) Discuss **three** reasons that web developers need to consider the use of screen readers when their webpages are accessed.
(9 marks)
- b) Evaluate **four** ways in which web developers can ensure that their webpages are compatible with screen readers. Illustrate **each** with suitable example code.
(16 marks)

END OF EXAMINATION