BCS THE CHARTERED INSTITUTE FOR IT

BCS HIGHER EDUCATION QUALIFICATIONS
BCS Level 6 Professional Graduate Diploma in IT

WEB ENGINEERING

Monday 22nd April 2024 - Afternoon

Answer **any** THREE questions out of FIVE. All questions carry equal marks.

Time: THREE 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) Evaluate how the use of backups and archives assists in providing resilience for web applications giving **THREE** examples of their use. Include an advantage and disadvantage of each.

(13 marks)

    b) Describe **FOUR** principal RAID architectures and assess how each can be used to improve resilience in web applications.

(12 marks)

A2.
    a) Evaluate **THREE** methods that can be used to input data to a web application and assess when it is appropriate to use **each**.

(9 marks)

    b) Assess why it is important to validate all input to a web application. Give **THREE** examples of why this is necessary.

(16 marks)

A3.
    a) Explain what is meant by media convergence and evaluate **THREE** ways it has affected our everyday lives.

(13 marks)

    b) Assess **FOUR** consequences, either technical or social, of media convergence.

(12 marks)

Section B
Answer Section B questions in Answer Book B

B4.
    a) Explain the purpose of the following when developing web applications:

        i.   XML
        ii.   XHTML
        iii. XSLT
        iv. DOM

(16 marks)

    b) Assess the roles played by **each** in a typical web application, and how they interact to improve the user experience.

(9 marks)

B5.
    a) Discuss what is meant by generative Artificial Intelligence and give an example of such a system that is available for general use.

(10 marks)

    b) Evaluate **THREE** potential uses of generative Artificial Intelligence and assess at least **ONE** advantage and potential disadvantage of **each**.

(15 marks)

END OF EXAMINATION