

BCS THE CHARTERED INSTITUTE FOR IT

BCS HIGHER EDUCATION QUALIFICATIONS
BCS Level 5 Diploma in IT

USER EXPERIENCE

Wednesday 12th May 2021 – Afternoon

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 new application (app) has been developed with two different interfaces. The developers of the app have asked you to analyse data they have collected to determine which interface to select before the app is launched onto an App Store. The data collected is from 12 users. Each user was asked to complete a task with both interfaces, and the number of errors they made were recorded. The number of errors is given below:

Interface A: 3, 0, 7, 5, 8, 2, 11, 1, 6, 14, 2, 0

Interface B: 12, 9, 1, 18, 19, 17, 15, 11, 4, 10, 13, 21

- a) Using the Mann-Whitney method of data analysis, establish whether there is a significant difference between the two interfaces based on the above data. Use a critical value of 37 to determine the result of your hypothesis testing. **(15 marks)**
- b) The app developers have told you that they will make their decision over which interface to install with the app based only on this analysis. What would your response be, given your knowledge of user interface evaluation? **(10 marks)**

A2.

- a) Briefly describe the PACT UX framework. **(8 marks)**
- b) You have been asked to design the information system for an online taxi service, operating within a large city. Taxis can be booked and paid for using an app any time (day or night), and users can track their booked taxi on a map. Taxi drivers will automatically receive bookings depending on their location and availability. Undertake a PACT analysis for this system. **(17 marks)**

A3.

A technology convention plans to debate the advantages and disadvantages of the impact of Artificial Intelligence (AI) on the user experience. You have been tasked to develop an agenda for the host of the debate, who is a well-known technology journalist. The agenda contains four questions that will be put to an expert panel, comprising scientists and social commentators. The questions are as follows:

1. What is AI and why are we interested in it in the context of the user experience?
2. Can you give some examples of how AI may improve the user experience?
3. Are there any dangers that we should be aware of if AI becomes more prevalent in the user experience?
4. What interaction technologies will depend on AI in the future?

To support the debate's host, the agenda should contain **short, possible answers to each question**, and any **other current issues** you think might arise in the general debate.

- a) For each of the **FOUR** questions, write a possible answer.

(20 marks)

- b) Briefly discuss any current issues you think might arise in the debate.

(5 marks)

[Turn Over]

Section B
Answer Section B questions in Answer Book B

B4.

- a) Why is it important to consider cultural differences when designing a user interface (e.g. a website or an app) for an international organisation such as a large bank or a well-known retail brand for example, Ikea or McDonalds?
(8 marks)
- b) Older people have age related impairments that may affect how they use the Web. What are the main design implications that should be considered when designing websites for older users?
(9 marks)
- c) You are a UX Designer presenting your ideas for a diary tool on a smartphone to a small team of developers from the smartphone manufacturer. What type of prototype(s) would you use (i.e. low or high fidelity) and why?
(8 marks)

B5.

- a) UX Teams often use Personas and Scenarios throughout the process of designing interactive systems. Explain briefly why Personas and Scenarios are important.
(6 marks)
- b) Explain briefly the difference between a Persona and a Scenario. You can provide an example in order to illustrate your answer.
(5 marks)
- c) Prototyping may be low or high fidelity. You are a UX consultant involved in a project with a focus on designing a mobile application (app) to improve the wellbeing of young people online by supporting their digital wellbeing and helping them make better informed choices.

Explain at which stage of the design of this mobile app your team may create low fidelity prototypes and at which stage the team may create high fidelity prototypes and why.
(10 marks)
- d) Explain briefly the **main** issues, related to the data/information gathered via the above mobile app, that your team will need to consider while designing and implementing this app.
(4 marks)

B6.

- a) According to W3C Web Accessibility Initiative (WAI), "Personalisation involves tailoring the user experience to meet the needs and preferences of the individual user."

Explain why Personalisation is important and provide an example to illustrate this.
(8 marks)
- b) Discuss the main cognitive aspects that we need to consider when designing interactive products explaining why they are important. You may provide examples to illustrate your answers.
(9 marks)
- c) Sound is an increasingly important part of interface design in both mixed reality and multimodal systems. Discuss **FOUR** advantages of using sound at the user interface.
(8 marks)

End of Examination