

BSc EXAMINATION**COMPUTER SCIENCE****Interaction Design**

Release date: Wednesday 13 March 2024 at 12:00 midday Greenwich Mean Time

Close date: Thursday 14 March 2024 by 12:00 midday Greenwich Mean Time

Time allowed: 4 hours to submit

INSTRUCTIONS TO CANDIDATES:

Part A of this assessment consists of a set of **TEN** Multiple Choice Questions (MCQs). You should attempt to answer **ALL** the questions in **Part A**. The maximum mark for Part A is **40**.

Candidates must answer **TWO** out of the **THREE** questions in **Part B**. The maximum mark for Part B is **60**.

Part A and Part B will be completed online together on the Inspira exam platform. You may choose to access either part first upon entering the test area but must complete both parts within **4 hours** of doing so.

A handheld non-programmable calculator may be used when answering questions on this paper but it must not be able to display graphics, text or algebraic equations. Please hold your calculator to the camera at the start of the examination to clearly show the make and type.

You may use **ONE** A4 page of previously prepared notes in this examination. Please hold up your notes to the camera at the start of the examination.

File upload is **NOT** permitted.

Do not write your name anywhere in your answers.

PART A

Candidates should answer the **TEN** Multiple Choice Questions (MCQs) in Part A.

PART B

Candidates should answer any **TWO** questions from Part B.

Question 2

- (a) What is meant by usability, user experience, and interaction design? How do they differ?
[6 marks]
- (b) What is an interface metaphor and why are they useful? Give **THREE** examples of an interface metaphor being used in real-life, including how it improves user interaction.
[8 marks]
- (c) Describe the think-aloud protocol and provide **TWO** advantages and **TWO** disadvantages of using a think-aloud protocol over other usability evaluation techniques.
[10 marks]
- (d) Describe the process of hypothesis testing.
[6 marks]

Question 3

- a) You are designing a game-based language learning application for refugee children aged 6 to 10 years old to help them learn their native language.
- i. What methods would you undertake when gathering user requirements and why?
[4 marks]
 - ii. Define **THREE** evaluation criteria that you would use for evaluating the developed educational game with children and justify why each evaluation criterion is relevant.
[6 marks]
- b) Describe the general considerations you would take into account when running a usability study.
[12 marks]
- c) Define goal, scenario, and story, and provide an example of each in the context of flying in a plane.
[6 marks]
- d) Describe **TWO** differences between a high structured interview and a low structured interview.
[2 marks]

Question 4

- a) What is KLM-GOMS? List and briefly describe the 11 steps used in the model.
[12 marks]
- b) Describe the similarities and differences between A/B testing and controlled experiments.
[4 marks]
- c) Define slip and error mistakes and differentiate between them.
[4 marks]
- d) Describe the ethnographic approach in the context of user interface design and provide **THREE** advantages and **THREE** disadvantages of using an ethnographic approach.
[8 marks]
- e) Why is it important to test your design early in the software development cycle?
[2 marks]

END OF PAPER