University of Colombo, Sri Lanka

University of Colombo School of Computing

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2023— 2nd Year Examination — Semester 4

IT4106 — User Experience Design

Part 1 - Multiple Choice Question Paper
(2 Hours for both Part 1 and Part 2)

Important Instructions

- This paper has **two (2) parts, Part 1 and Part 2**.

- The total duration of **both Part 1 and Part 2 is 2 hours**.

- The final mark for the paper will be determined by averaging the scores of Part 1 and Part 2, each of which is graded out of **100**.

- The medium of instructions and questions is English.

- This paper (Part 1) has **25 MCQ questions** on **6 pages**. Answer **all** questions.

- Each question will have **5 (five)** choices with **ONE OR MORE** correct answers.

- There will be a penalty for incorrect responses to discourage guessing.

- The mark given for a question will vary from -1 (All the incorrect choices are marked & no correct choices are marked) to +1 (All the correct choices are marked & no incorrect choices are marked). However, **the minimum mark per question would be zero**.

- Answers should be marked on the **special answer sheet** provided.

- Note that questions appear on both sides of the paper. If a page or part of a page is not printed, please inform the supervisor/invigilator immediately.

- Mark the correct choices on the question paper first and then transfer them to the given answer sheet which will be machine marked. **Please completely read and follow the instructions given on the other side of the answer sheet before you shade your correct choices.**

- Any electronic device capable of storing and retrieving text, including electronic dictionaries, smartwatches, mobile phones, and Calculators are **not** allowed.

- *All Rights Reserved.* This question paper can NOT be used without proper permission from the University of Colombo School of Computing.

1) Which of the following is an example of a user-centered design principle?

(a) Adding as many features as possible

(b) Designing based on developer preferences

(c) Prioritizing user needs and feedback

(d) Focusing seriously on visual appearance

(e) Ignoring user context

2) What is/are the primary goal(s) of conducting user research in UX design?

(a) To validate the design choices made by the development team

(b) To understand the users' behaviors, needs, and motivations through observation and feedback

(c) To ensure the product looks aesthetically pleasing

(d) To identify key points and areas for improvement in the user experience

(e) To reduce the cost of development

3) Affordances in UX design are important because they:

(a) Communicate the function of a design element to the user

(b) Make the design process financially affordable

(c) Enhance the aesthetic appeal of a design

(d) Represent the perceived and actual properties of an object that determine how it can be used

(e) Ensure the usability of a design system for diverse user groups

4) Which of the following interaction types involves users issuing instructions to a system?

(a) Instructing   (b) Conversing   (c) Exploring
(d) Responding   (e) Manipulating

5) Which of the following is/are the benefit(s) of involving users throughout the development process?

(a) Ensures the end product is more usable

(b) No effect on the overall cost of development

(c) Helps manage users' expectations about the new product

(d) Increases the likelihood of user adoption and satisfaction

(e) Eliminates the need for product testing

6) Which of the following interfaces allows users to write, draw, select, and move objects on an interface using light pens or styluses?

(a) Voice-based interfaces   (b) Pen-based interfaces   (c) Form-based interfaces
(d) Gesture-based interfaces (e) Command Driven Interface

7) Which of the following **best** describes the role of perception in interaction design?

(a) Focusing on a specific stimulus in the environment

(b) Acquiring information from the environment through the senses

(c) Storing and retrieving information

(d) Making decisions based on available options

(e) Solving problems and planning actions

8) Which of the following statements is/are **true** with respect to experiential and reflective cognition?

(a) Experiential cognition involves mental effort and decision-making

(b) Reflective cognition can lead to new ideas

(c) Experiential cognition includes activities like driving a car and having a conversation

(d) Reflective cognition involves perceiving and reacting to events intuitively

(e) Experiential cognition is more related to tasks like designing and writing a report

9) Which of the following statements is/are **valid** regarding cognitive frameworks and their application in the Human-Computer Interaction (HCI)?

(a) Mental models are static and do not change once formed

(b) Distributed cognition focuses on interactions among people, artifacts, and the environment

(c) External cognition aims to reduce memory load by externalizing information

(d) Gulfs of execution describes the gaps between the system's responses

(e) In HCI, conceptualizing how the mind works can be done by using metaphors

10) Which of the following **best** describes the **main purpose** of triangulation in data gathering?

(a) To increase the sample size

(b) To verify data from multiple sources

(c) To simplify the data collection process

(d) To focus on a single data collection method

(e) To reduce the cost of data collection

11) Which of the following statements is/are **true** with respect to contextual inquiry?

(a) It involves participants writing diaries of their activities

(b) It shifts the perceived power relationship between the interviewer and the interviewee

(c) It focuses on understanding users' behavior in their natural environment

(d) It uses statistical methods to analyze large datasets

(e) It is similar to traditional structured interviews

12) Which of the following is/are (a) key issue(s) to consider for a successful data-gathering session in interaction design?

(a) Goal setting

(b) Identifying participants

(c) Ensuring a large sample size

(d) The relationship between the data collector and the data provider

(e) Using only one data collection method

13) Which of the following **best** describes qualitative data?

(a) Data that can be measured

(b) Data in the form of words and images

(c) Data that is always numerical

(d) Data collected through automated tools

(e) Data that requires statistical software for analysis

14) Which type of data analysis involves identifying patterns or calculating values such as ratios, averages, or percentages?

(a) Qualitative analysis

(b) Thematic analysis

(c) Quantitative analysis

(d) Content analysis

(e) Discourse analysis

15) Which of the following statements is/are **true** about content analysis?

(a) It involves classifying data into themes or categories

(b) It focuses on the context and meaning of dialogue

(c) It is used to study the frequency of category occurrences

(d) It is typically used for analyzing numerical data

(e) It examines interactions in a range of settings

16) Which of the following statements is/are **valid** about thematic analysis?

(a) It identifies and analyzes patterns in qualitative data

(b) It uses statistical methods to quantify data

(c) It can be used to create affinity diagrams

(d) It relies solely on numerical data

(e) It helps in understanding the narrative in the data

17) Which of the following statements is/are **correct** regarding analytic frameworks and their applications?

(a) Conversation analysis examines the structure and semantics of a conversation in fine detail `
(b) Discourse analysis focuses on the structure of numerical data
(c) Content analysis classifies data into themes and studies their frequency
(d) Grounded theory develops theory from systematic analysis of empirical data
(e) Interaction analysis relies on quantitative data from controlled environments

18) Which of the following is an example of a low-fidelity prototype?

(a) A fully interactive software application
(b) A 3D-printed model of a product
(c) A paper-based storyboard
(d) A high-resolution digital mockup
(e) A complete functioning mode

19) Which of the following statements is/are **true** regarding high-fidelity prototypes?

(a) They fully represent the final product's look and functionality
(b) They are quick and inexpensive to produce
(c) They can be used for detailed usability testing
(d) They typically use materials very different from the final product
(e) They are useful for exploring general design concepts without detailed functionality

20) What is/are the main advantage(s) of using low-fidelity prototypes in the design process?

(a) They allow for quick revisions
(b) They provide a detailed specification for development
(c) They are useful communication devices
(d) They can simulate the final product's full functionality
(e) They help to evaluate multiple design concepts

21) Which of the following is/are **<u>true</u>** about conceptual and concrete design in prototyping?

(a) Conceptual design outlines what people can do with a product

(b) Concrete design specifies the details, such as layout and navigation

(c) Conceptual design is concerned with the exact appearance of the product

(d) Concrete design exclusively focuses on specifying interface metaphors and interaction types.

(e) Conceptual design is not iterative

22) Which of the following **<u>best</u>** describes the purpose of a formative evaluation?

(a) To assess the success of a finished product

(b) To check that a product continues to meet users' needs during design

(c) To compare the product with competitors

(d) To evaluate the product in natural settings

(e) To conduct A/B testing

23) What is/are the key consideration(s) when conducting a heuristic evaluation?

(a) Involves a large number of end-users

(b) Guided by a set of usability principles

(c) Reviews user-interface elements like dialog boxes and navigation

(d) Requires a fully functional prototype

(e) Can be conducted without involving users

24) Which of the following method(s) is/are used to evaluate designs in controlled settings involving users?

(a) Heuristic Evaluation   (b) Field Studies   (c) Usability Testing
(d) Cognitive Walkthroughs   (e) Experiments

25) Which of the following statements is/are **true** about cognitive walkthroughs and pluralistic walkthroughs?

(a) Cognitive walkthroughs involve simulating user problem-solving steps

(b) Pluralistic walkthroughs involve only usability experts

(c) Cognitive walkthroughs focus on ease of learning for new users

(d) Pluralistic walkthroughs require fully functional prototypes

(e) Pluralistic walkthroughs involve users, developers, and usability researchers

******