University of Kelaniya – Sri Lanka
Centre for Distance & Continuing Education
Bachelor of Science (General) External
Third year First semester examination – 2019
2024 September
Faculty of Science

Computer Science
COST 36612 – Human Computer Interaction

No. of Questions:04   No. of Pages: 02   Time: **Two (2) Hours**.

Answer **All** questions.

1.

(a) Define the term "Human Computer Interaction".

(b) Define the below terms in Norman's model of interaction
   i.   Gulf of execution:

   ii. Gulf of evaluation:

(c) Describe the below terms.

   i.   Usefulness:

   ii. Learnability:

   iii. Memorability:

   iv. Effectiveness:

(d) Briefly explain key phases in the User-Centered Design Process.

(e) Describe the term needfinding in the User-Centered Design process and briefly explain three common methods used in needfinding.

2.

(a) Briefly explain the two main techniques in task analysis.

(b) Use proper examples to differentiate between Goal, Task, and Action.

(c) Differentiate interactive prototypes and static prototypes.

(d) Design a simple storyboard for the fitness tracking app. (it illustrates how the app shows the necessary details to the user's smartphone and how he uses that app to check his BMI value and personalized workout plans).

(e) Compare and contrast Design Theories, Principles, and guidelines with examples.

3.

(a) Visual design is not the same as art and artistic things. Justify this statement with two (02) facts.

(b) Explain the key ingredients of visual design and their main components.

(c) State and briefly explain the five (05) Gestalt principles.

(d) What are the main Phases of Heuristic Evaluation?

(e) How can you apply the heuristic "Visibility of System Status" in a website design?

4.

(a) What are some common challenges designers face when creating culturally diverse user interfaces?

(b) What is the role of "empathy" in designing for diversity?

(c) State and explain the three (03) Inclusive Design principles.

(d) Provide a detailed comparison of usability testing and controlled experiments in the context of Human-Computer Interaction (HCI), including their objectives and methodologies.

(e) List the advantages and disadvantages of evaluating in the laboratory and the field.