



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year **2017** – 2nd Year Examination – Semester 3

IT3405 – User Interface Design
Part 1 - Multiple Choice Question Paper

04th June, 2017
(ONE HOUR)

Important Instructions :

- The duration of the paper is **1 (one) hour**.
- The medium of instruction and questions is English.
- The paper has **25 questions** and **06 pages**.
- All questions are of the MCQ (Multiple Choice Questions) type.
- All questions should be answered.
- Each question will have 5 (five) choices with **one or more** correct answers.
- All questions will carry equal marks.
- There will be a penalty for incorrect responses to discourage guessing.
- The mark given for a question will vary from 0 (*All the incorrect choices are marked & no correct choices are marked*) to +1 (*All the correct choices are marked & no incorrect choices are marked*).
- Answers should be marked on the special answer sheet provided.
- Note that questions appear on both sides of the paper.
If a page is not printed, please inform the supervisor 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.**
- Calculators are **not** allowed.

1) Complete the following sentence.

Rich Interaction

- (a) is supported in the perceptual computing.
- (b) is important only in the direct communication with devices.
- (c) happens only in the augmented reality.
- (d) is a technology that uses voice commands, facial recognition, and gesture controls to interact with a computer.
- (e) is enhanced using the multi-touch and multi-user interaction.

2) Which of the following **is/are** true with respect to benefits of ergonomics?

- (a) Prevents injuries in the workplace
- (b) Improves employee moral, productivity, and job satisfaction
- (c) Increases operational costs of running a business
- (d) Increases workers' compensation premiums
- (e) Improves workplace processes and procedures

3) Which of the following **is/are** true with respect to the Human Computer Interaction?

- (a) A discipline that organizes interaction between man and computing devices
- (b) A discipline that relates only to Computer Science
- (c) A multidisciplinary subject
- (d) Fills the gap between user and computing devices
- (e) One of the main components of HCI model is interaction

4) The following two groups A and B are about user interaction. Select the **correct matching** between items in group A with appropriate ones in group B.

Group A	Group B
A1. Direct Interaction	B1. Handling a single device for many tasks
A2. Indirect Interaction	B2. A component which connects the interaction
A3. Interaction	B3. A dialog with feedback and control throughout the performance of the task
A4. Multitasking	B4. Occurs when intelligent sensors control the environment
A5. User	B5. The communication between the user and the machine

- (a) A1→B1, A2→B2, A3→B3, A4→B4, A5→B5
- (b) A1→B5, A2→B4, A3→B3, A4→B2, A5→B1
- (c) A1→B3, A2→B4, A3→B5, A4→B1, A5→B2
- (d) A1→B4, A2→B1, A3→B5, A4→B3, A5→B2
- (e) A1→B2, A2→B3, A3→B1, A4→B4, A5→B5

- 5) Which of the following **is/are true** with respect to widgets?
- (a) Appearance, interaction, and semantics are important when designing widgets
 - (b) Widgets include WIMP components
 - (c) Buttons are kind of widgets, but not toolbars
 - (d) Color palette is a widget component
 - (e) Dialog box is not a widget component
- 6) Which of the following is/are **false** with respect to novel interface design?
- (a) In a multitasking environment, a single device can be handled in different ways to do the same thing.
 - (b) Productivity can be increased by simplifying the interface.
 - (c) Personalization will decrease the user satisfaction.
 - (d) Customization provides facilities to change the interface according to individual requirements.
 - (e) A single device can be used to do multiple tasks.
- 7) Proximity sensor in a smart phone is used to,
- (a) turn off the screen during a call.
 - (b) control the brightness of the display.
 - (c) auto rotate the screen when the device is rotated.
 - (d) detect all types of physical objects.
 - (e) sense angular momentum in mobile gaming.
- 8) Which of the following **is/are true** with regard to input devices?
- (a) A chord keyboard has only 4 or 5 keys.
 - (b) DVORAK keyboard gives 10-15% improvement in speed and reduction in fatigue.
 - (c) The stylus is used for non-sensitive screens.
 - (d) T9 keypad uses non-repetitive key presses to enter data.
 - (e) A digitizing tablet is very accurate and used on a special surface.
- 9) What **is/are** the role(s) of mental model in the Human Computer Interaction?
- (a) Mental model allows the user to explore a particular interaction.
 - (b) Mental model hardly affect the usability.
 - (c) Interaction develops the mental model.
 - (d) A metaphor may help the user to set up the mental model at the beginning.
 - (e) Mental model does depend on the user's belief.
- 10) Which individual proposed the Memex device?
- | | | |
|-----------------------|--------------------|---------------------|
| (a) Douglas Engelbart | (b) Alan Kay | (c) Tim Berners Lee |
| (d) Vannevar Bush | (e) J.R. Licklider | |

- 11) User interaction is different in batch processing compared to real time processing. Which of the following **is/are correct** in a batch processing environment compared to real time environment?
- | | | | | |
|---------------------------------|------------------------|--------------------------|----------------------------|-------------------------------|
| (a) Integrated input and output | (b) Immediate feedback | (c) Large amount of data | (d) Longer processing time | (e) Higher cost of processing |
|---------------------------------|------------------------|--------------------------|----------------------------|-------------------------------|
- 12) Which of the following **is/are** an element(s) of a form based interface?
- | | | |
|-------------|-------------------|-------------------|
| (a) Regions | (b) Activities | (c) Radio buttons |
| (d) Blocks | (e) Message boxes | |
- 13) What **is/are true** with regard to user scenarios in User Centered Design
- | | | | | |
|--|------------------------------------|--|---|-----------------------------------|
| (a) They can be used to communicate with others. | (b) They are non-linear in nature. | (c) They can be used to understand dynamics. | (d) They can be used to validate the models for design. | (e) They model alternatives well. |
|--|------------------------------------|--|---|-----------------------------------|
- 14) Assume that you are logged into a computer system. 10 seconds later, nothing appears on the screen and you are not sure whether the system is working. Which of following usability principle/s can be used to describe this situation?
- | | | |
|----------------------|--------------------|----------------|
| (a) Feedback | (b) Observability | (c) Visibility |
| (d) Synthesizability | (e) Predictability | |
- 15) Which of the following **is/are** included in 5Es of usability?
- | | | |
|---------------|---------------|-------------------|
| (a) Effective | (b) Engaging | (c) Easy to learn |
| (d) Enriching | (e) Efficient | |
- 16) A highly usable system will...
- | | | | | |
|----------------------------|-------------------------------|--|---------------------------------|-------------------------------------|
| (a) increase productivity. | (b) decrease user enrollment. | (c) reduce development time and costs. | (d) increase maintenance costs. | (e) decrease customer satisfaction. |
|----------------------------|-------------------------------|--|---------------------------------|-------------------------------------|
- 17) Which of the following **is/are** the interface element(s) used to indicate the user “where they are” in a web page?
- | | | |
|-------------|---------------------|-----------------|
| (a) Buttons | (b) Drop-down Menus | (c) Breadcrumbs |
| (d) Icons | (e) Check boxes | |

18) Indirect interaction connects a user and a computer implicitly in several ways. Which of the following **is/are** such an indirect interaction(s)?

- (a) Clicking on a menu item.
- (b) A word processor highlighting grammatical errors.
- (c) A spreadsheet application saving files to recover in an abnormal shutdown.
- (d) Opening a new window.
- (e) Changing a font of letters in a word processor.

19) What kind of a stimuli is retained in Haptic Memory?

- | | | |
|--------------|--------------|-------------|
| (a) Visual | (b) Aural | (c) Tactile |
| (d) Episodic | (e) Semantic | |

20) What **is/are** a method(s) humans use to reason?

- | | | |
|---------------|---------------|-----------------|
| (a) Abduction | (b) Deduction | (c) Abstraction |
| (d) Induction | (e) Adoption | |

21) Which of the following **is/are correct** about personas in the user centered design?

- (a) They are always descriptions of real users of the system.
- (b) They help the designers to understand the users deeply.
- (c) They help the users of the system to understand it more.
- (d) It is important to develop several personas for a new system.
- (e) They are some representative users.

22) What **is/are** the purpose(s) of developing a prototype?

- (a) Get feedback about the development process
- (b) Identify new users
- (c) Fix uncertain issues in advance
- (d) Improve the interface design
- (e) Demonstrate the capacity of development team

23) What are the major types of prototyping?

- (a) Evolutionary
- (b) Parallel
- (c) Throw-away
- (d) Iterative
- (e) Incremental

24) What is/are true with regard to low-fidelity prototypes?

- (a) Fully interactive
- (b) Created to educate, communicate and inform
- (c) Can be used to train, test or serve as a basis for which to code
- (d) Used early in the design cycle
- (e) Have a realistic appearance

25) Susith wants to check how his new furniture will look inside his house before buying them. He uses his tablet computer or mobile phone to look around the house and the new furniture will be drawn in 3D on the camera view. This technology is called...

- | | | |
|--------------------------|------------------------|-----------------------|
| (a) Virtual reality | (b) Hologram | (c) Augmented reality |
| (d) Ubiquitous computing | (e) Parallel computing | |
