

## PART A: TRUE & FALSE ANSWER QUESTIONS

[20 Marks]

Answer the following **10 statements** by first stating whether it is **correct or incorrect** and then followed by a **ONE-sentence motivation (justification)** of the answer.

1. Human-computer interaction uses productivity, safety and entertainment to support and fulfill human- computer activities.
2. The interaction design process consists of FOUR (4) main basic activities.
3. The education game interfaces provide a simple instruction to children and the children can remember at least 70% of how to use the interface after 3 – 6 days of playing. This statement is referring to efficiency in usability design.
4. Selecting an option from the ATM machine menu to perform the operation for checking the account balance is example of the conversing interaction type.
5. Haptic, brain-computer interface, and virtual reality are examples of interaction types.
6. User Centered Design (UCD) is an approach to user interface development and system development that puts users and consideration of user needs and their capabilities at the center of the design process.
7. Low fidelity prototypes are quick and easy to produce and modify and are used in the early stages of design.
8. Questions for an interview or questionnaire can be open or closed question.
9. A storyboard describes the attributes of a person and aspects of their personality.
10. The "thinking aloud" is one example of evaluation techniques.

## PART B: SHORT ANSWER QUESTIONS

[20 Marks]

*This part consists of **FIVE (5) short answer questions**. Answer all questions in the answer booklet provided. The marks for each part of the question is as indicated.*

1. Describe the differences between Interaction type and Interface type and state **ONE (1)** example for each. [4 Marks]
2. State **FOUR (4)** examples of interactive systems to support collaborative and community-based activities. [4 Marks]
3. Briefly discuss **THREE (3)** aspects of interfaces that can contribute to user frustration. [3 Marks]
4. Explain why the involvement of user in the development of interaction design project is important? [3 Marks]
5. Based on human cognition process, state and describe the **THREE (3)** important cognition processes which will affect user experience [6 marks].

## PART C: LONG ANSWER QUESTIONS

[60 Marks]

*This part consists of **THREE (3) Long questions**. Answer all questions in the answer booklet provided. The marks for each part of the question is as indicated.*

### Question 1

[30 marks]

Ali would like to book a ticket back to his hometown in Arau in the upcoming semester break through an online system. This is the first time Ali uses the online bus ticketing system. He will be travelling from Johor Bahru to Arau. Ali would like to choose the cheapest option by changing the settings such as date and seat type. There are usually more than 20 choices of bus companies, seats, and travel time. Ali only wishes to see and filter selection of buses which depart after 8.00pm from Johor Bahru. Once Ali selects his preferred route, Ali wish to share his travel information with his friends so that they can travel together.

- a. By using the above scenario, propose a **Hierarchical Task Analysis (HTA)** to buy an online ticket from a bus ticketing system. The HTA should at least involve elements of Goal, Task, and Actions. [15 marks]
- b. Sketch a simple mobile application interface to support **ALL tasks** as described in the scenario (emphasise the use of consistent **metaphor** in the mobile application interfaces). [10 marks]
- c. Justify your answer in (b). Why do you think they are appropriate design metaphor representation? [5 marks]

## Question 2

[15 marks]

You are hired as a consultant to design an interactive product in a self-service cafeteria that allows users to pay for their food using a debit / credit system.

- a. Based on the scenario above, suggest some key requirements needed to design the interactive self-service product at the cafeteria in each the following category. [10 marks]
  - i. Functional requirements
  - ii. Data requirements
  - iii. User Characteristics
  - iv. Usability goal
  - v. User experience goals
- b. Suggest and elaborate the **TWO (2)** suitable usability heuristic design guideline that you think appropriate to implement in the interactive product at the cafeteria in order to achieve the goals. [5 marks]

## Question 3

[15 Marks]

This year, Grand Hotels' celebrated its fifth year in the accommodation business. In their second year, the management ordered the launching of the hotel's website to advertise their rooms and services. Last year, in the effort to ease bookings made via their phone service, the website was incorporated with a new online room booking facility. However, since the launch of this new service, annual reports have shown that customers continued to make bookings via phone. The management investigated why the customers have not taken up in using the online booking service and discovered that the website was too confusing and difficult for them to use. Consequently, your team was hired by the management as a usability consultant to redesign their Online Room Booking screen to make it more 'user-friendly' and evaluate the prototype design.

Based on the scenario above, answer all the following question:

- a. What is the goal of an evaluation? [1 marks]
- b. Describe **THREE (3)** types of evaluation setting environment by giving each an example. [6 marks]
- c. Create a usability test plan (step-by-step) that describes how you would conduct a *usability testing* of the prototype design for the new Online Room Booking? [6 marks]
- d. Describe **ONE (1)** example of parameter in measuring efficiency for the task of Online Room Booking facility. [2 marks]

**[[ End]]**