

**2ND SEMESTER 2021/2022 ACADEMIC YEAR**

**MID SEMESTER EXAMINATION ANSWER BOOKLET**

THE FOLLOWING DETAILS MUST BE COMPLETED BY THE STUDENT

400

ADS19A00110Y

STUDENT’S ID NUMBER­­­­­­­­­­: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ LEVEL:\_\_\_\_\_\_\_\_\_\_

IT403

Human computer Interaction

COURSE COD**E: \_\_\_\_\_\_\_\_\_** COURSE TITLE: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

EMMANUEL ADOTEY PAPPOE

LECTURER’S NAME: (Refer to the Question Paper) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**QUESTION NUMBER: (e.g. Q1) \_\_\_2\_\_\_SUB-QUESTION (e.g. 1(a))\_\_\_2A,B,C,D\_\_\_\_**

1. The difference between these three (cognitive, social, and organizational);

Cognitive: it will help designing a system interface by;

* Publishing knowledge on both permitted and prohibited human behavior.
* Determining and clarifying the causes, occurrences, and sources of human problems.
* Supporting the design of a useable interface by utilizing toolkits and the method-modeling technique.

Social: it helps us in designing a system interface by;

* Giving HCI a foundational framework for social interaction.
* Determining and describing the methods by which people cooperate and the kind of computer system needed to facilitate cooperation at work.

Organizational: helps in designing an interface by;

* Outlining organizational procedures and structural models.
* Finding issues that can prevent a computer system from being used to its full potential.
* Establishing organizational procedures for developing and accessing innovative technologies in workplaces

1. The three forms of knowledge are;

* **Analogical representation**: represents in the form of an image
* **Statement**: represent in the form of a statement
* **Distributed**: represents in a form of nodes that are connected to a network.

1. Applications that are suited to use sounds as a form of reactive response are as stated below;

* Applications, such industrial machinery, that require monitoring and observation outside of their display.
* Applications that use sound as an additional element to the common graphic interface.
* Applications involving process controls that demand ongoing observation
* Applications for those with visual impairments.
* You need sound as data.

1. The factors:

* the consumers' physical and mental features.
* User skills and training.
* Execution of duties.
* The environment of work.

**QUESTION NUMBER: (e.g. Q2) \_\_3\_\_SUB-QUESTION (e.g. 2(a))\_\_3A,B,C,D\_\_**

1. For productivity:

You could have previously used a word processor by the name of Word Perfect. These days, it's more likely that you're using Microsoft Word, the newest word processor on the market. This program differs significantly from Word Perfect, particularly in how icons and instructions are used, among other things. You would probably have needed more time to learn this new software. We can see the value of a good interface design in this situation. If the user interface is simple to comprehend, Microsoft Word will be simple to learn, use, and manage. Indirectly, this would improve output and standard of work.

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1. Differentiating between the primacy, recency and closure effects of how information is memorized;

Primacy

* This is the result of the information being at the start of the list.
* Humans often begin the process of remembering from the beginning of a list, thus information that is put near the beginning of the list is simpler to recall.

Recency:

* This is the result of having information near the bottom of a list.
* Due to its presence in the short-term memory, the information near the end of the list is much simpler to remember.

Closure:

* the process of letting go of our focus after finishing a task.
* Reducing the strain on human memory is crucial.
* One may stop remembering all the knowledge required to finish the previous task and begin concentrating and remembering the new work, which is the secondary task.

1. Two types of mental models;

Structured type:

* It explains the structural operation of a system or device.
* It is employed to forecast system responses brought on by user behavior.
* It is challenging to use, yet simple to expand.
* When employing toolkits that are often used, it is typically not necessary.
* For instance, a user is unaware of the code's structure, whereas a coder must.

Functional type:

* It explains how to utilize a system or toolset.
* based on similar systems domain expertise when developing.
* It depends on context, is simple to use, but difficult to expand.
* A simple calculator, is an illustration.
* It does not address unforeseen questions and solely concentrates on a single task.

1. They are;

**Handwriting Recognition**: Writing is a common hobby among users. Therefore, employing handwriting as a kind of computer interaction is an intriguing concept. However, there are a few drawbacks to employing this strategy, such as the difficulties computers have in recognizing handwriting due to the various forms and writing styles of each person. Not the shape of the alphabet itself, but the strokes of the alphabet contain the crucial information that can be utilized to identify the alphabets that have been written. For instance, to write the letter "O," we would begin in the upper Centre and work our way downward along a curve in a counterclockwise direction.

**Voice Recognition**: If it were a reality, voice recognition technology would be immensely useful.

But up until now, its implementation has proven to be quite challenging. However, in unique circumstances where the keyboard cannot be used as an input device, this technology may still be employed as a substitute. Examples include the application and information system for telephone and the system used by visually impaired users.

**QUESTION NUMBER: (e.g. Q2) \_\_4\_\_SUB-QUESTION (e.g. 2(a))\_\_4A,B,C,D\_\_**

1. Learning is a difficult process; hence a good system should aid users in their learning. Typically, it is considered that consumers can learn everything via manuals and instruction booklets. However, in the actual world, few consumers consult these manuals or documents.

Problems faced;

* Users take a long time to learn, are frequently dissatisfied, and always blame themselves for their poor learning abilities since learning is a difficult process.
* Users make use of their prior learning.
* Users lack the necessary fundamental knowledge and do not comprehend the jargon being utilized.
* Users form their own subjective interpretations and assumptions. Typically, they are mistaken in their assumptions.

1. Three (3) major factors from human perspective that needs to be understood;

**Choice and color combination**:

A typical person can only distinguish between 8–10 colors. The eyes are much more attentive to the color blue when they are farther from the visual field. Blue is a good background color to utilize, particularly for large screens. Compared to variations in the color red, the eyes are less sensitive to changes in the color blue. Red is more suited for alerts, drawing attention to something, or emphasizing a certain circumstance, such the presence of an error.

**Brightness**:

Users who see a computer display that is too bright experience reflection glares. When it is out of focus, the reflection is likewise more distinct. The scanning is clearer the larger the computer monitor.

**Response type**:

Users must respond in order for an activity to be judged successful or unsuccessful. Data entry into the students' information system serves as one illustration. Since dates must always be numbers, users who unintentionally enter the erroneous character in the date box will receive a warning. A suitable response is required to achieve this, such as sounding the bell to draw users' attention or informing them to enter the right date of birth into the box. Responses are crucial since incomplete ones could lead users to repeat their errors and cause misunderstanding. However, not many people prefer the use of sound as error indications, particularly when the likelihood of committing errors is higher.

1. The computing display's interface serves as the conduit for communication between a computer and a person. The characteristics of effective interface design;

* The interface is in the user's hands.
* Every action needs a reaction or feedback.
* The user interface has the capacity to correct itself.
* Different levels of maintenance are performed on the same things.

1. The differences are;

For **usability**:

The ease of use of an interface

e.g. how easy it is to build a software

for **functionality**:

the set of operations that an interface support.

e.g. the operational and safety features of a software.

**QUESTION NUMBER: (e.g. Q2) \_\_5\_\_SUB-QUESTION (e.g. 2(a))\_5A,B,C,D\_\_**

1. Four essentials of social psychology;

* the impact of one person's conduct and traits on those of another: This implies that a one must take into account a variety of elements, including their own response and role, in order to comprehend behavior.
* the influences of a group of people on the traits and actions of its members: Groups can affect our behavior by using the technique of "social influence," which is being influenced by the presence of other individuals in our minds. In various circumstances during the day, people may try to sway us and shape our thoughts in their favor. Our lives are influenced by social factors. In some circumstances, social influence has a strong hold on us, causing us to act in ways that we otherwise wouldn't have. Sometimes we can resist the influence of others and even persuade them to embrace our viewpoint.
* the impact of the group's members on group dynamics and activities: Team members who trust one another typically belong to a team with a positive group dynamic. They can collaborate on decisions and are responsible for the results. Good group dynamics can lead to a team being constructive and successful, as well as showing mutual respect and self-corrective behavior.
* link between distinct people's actions and the structure: The more general social structure patterns influence human behavior. - Social structures are significantly impacted by human behavior.

1. Forms of human memory;

**Sensory memory**: It is well known that the balance is what stimulates (visual, auditory, touch). Information is chosen using an observational technique. To process additional information, some is transmitted to the working memory. fade off.

**Work memory**: commonly used as scrap paper. It only serves as a repository for data needed to complete a task or store data. It is employed to process data obtained from the sensory memory. It is constrained and fleeting (2-3mins).

**Long-term**: long-term information storage with no storage load restrictions. Long-term retention of information is possible.

1. Conversational context is the ability to determine the topic of a discussion by interpreting indications from prior lines of dialogue or from external circumstances, and humans have this capacity beginning in infancy. A child's response to the question "Candy?" is almost always "Yes!".
2. The three components of color;

* **HUE**: It speaks of the traceability of the color waves' separation. The Hue is made up of both primary colors like red, green, and blue as well as secondary colors, which are additional colors. The primary color yields secondary colors.
* **Intensity**: The measure of intensity is the brightness of a color, which is defined by the color's ability to reflect light. Because it cannot be precisely quantified, it can be described as weak, powerful, or mediocre.
* **Density**: The amount of white in a certain hue determines how dense it is. Its brightness ranges from light to dark to dim.