HUMAN COMPUTER INTERACTION

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Q1: What is the main aim of the Don Norman's Book (The Design of Everyday things?

Ans: The Design of Everyday Things shows that good, usable design is possible. The rules are simple: make things visible, exploit natural relationships that couple function and control, and make intelligent use of constraints.

The goal: guide the user effortlessly to the right action on the right control at the right time.

B: Explain Deductive and Abductive reasoning with examples.
Deductive reasoning :

Deductive reasoning is the process of drawing a conclusion based on premises that are generally assumed to be true. Also called deductive logic, this act uses a logical premise to reach a logical conclusion. Deductive reasoning is often referred to as top-down reasoning. If something is assumed to be true and another thing relates to the first assumption, then the original truth must also hold true for the second thing.
For example,

If a car's trunk is large and a bike does not fit into the trunk, then you may assume the bike must also be large. We know this because we were already provided with the information we assume to be true.the trunk is large. Based on our deductive reasoning skills, we know if a bike does not fit in an already large trunk, then it must also be large. So long as the two premises are based on accurate information, the outcome of this type of conclusion is often true.
Inductive reasoning:

Inductive reasoning is the opposite of deductive reasoning. In this process, you would gather generalized information from specific scenarios to come to a conclusion, rather than taking specific assumptions from generalized scenarios.

Inductive reasoning is often used to create a hypothesis rather than apply them to different scenarios. With inductive reasoning, the accuracy of the outcome is probable, but not always true, even if each of the first two statements is accurate.

Example:

I normally leave work after 6 p.m. and I am usually able to avoid traffic. As long as I leave work after six, I will always miss traffic.

Q3:Differentiate slip and mistake?

Ans:Mistakes: Mistakes are errors in choosing objectives or specifying a method of achieving it.For example If the intention is not oppropriate, this is mistake.

Slip: Slip are errors in carrying out an intended method for reaching an objective. For example If the action is not what was intended, this is a slip

b: Explain self perception and object perception.

Ans:

Self Perception:

Self-perception theory posits that people determine their attitudes and preferences by interpreting the meaning of their own behavior. whether people also rely on the unobservable behavior that is their mindwandering when making inferences about their attitudes and preferences.

Object Perception:

Object perception is the process in which visual input is assigned a meaningful interpretation that is available to perceptual awareness. Object perception is thought to occur though computations across a hierarchy of processing stages in visual cortex, named the ventral visual pathway.

Q4: Write the steps involved in perceptual process. ?

Ans: Perceptual process : The perceptual process is the sequence of psychological steps that a person uses to organize and interpret information from the outside world. The steps are given below:

1 :Objects are present in the world.

2: A person observes.

3: The person uses perception to select objects.

4: The person organizes the perception of objects.

5: The person interprets the perceptions.

6: The person responds.

The selection, organization, and interpretation of perceptions can differ among different people. Therefore, when people react differently in a situation, part of their behavior can be explained by examining their perceptual process, and how their perceptions are leading to their responses.

b: Differentiate between perception and recognition.?

Ans: <u>Perception:</u>

It basically means the way in which something is regarded, understood, or interpreted. Since, images are perceived by humans, therefore it varies from human to human.

<u>Recognition:</u>

Recognition is a method which helps to identify objects which are present in an image. It categorizes the objects, e.g. a dog present in an image can be recognized as a dog only.

Q5: A graphic designer, wants to design a 3d shape using Adobe Illustrator, he select a shape, apply some gradient on it and then apply drop shadow effect. In the given scenario in the light of interaction identify the Goal, Problem domain and the task?

Ans:

> **Goal**   **:** Wants to design a 3d shape using adobe illustartor.
> **Domain**   : Graphic desgining.
> **Task :**   Selects shape,applys some gradient, applys drop effect.

b: Explain Gulf of Execution and Gulf of Evaluation.

Ans: <u>Gulf of execution begins: having:</u>
- Formulates intention
- Specifies actions at interface
- Executes action
  <u>While gulf of evaluation begins at:</u>
- Perceives system state
- Interprets system state
- Evaluates system state with repect to goal.

Q2:Analyze the following scenario and write down seven stages of action for given particular
scenario for solution.
Scenario is:

Suppose I want to go to University, but the tyre of my car got punctured. Now I have to repair it.
We are required to write the seven stages of Gulf of Execution and Evaluation to solve the scenario.

Ans: We are required to solve this problem by seven stages of action.

Step 1 : Deciding the goal : This is what you want . As an example, I want to go to market , but the tyre of my car got punchered . Now I have to repeat it.

Step 2 : Is intention to act : This is what would satisfy the goal. A repaired car would satisfy my goal of reaching the market.

Step 3 : Is sequence of action: What do I have to do achieve the intention. I would need to repair car to meet the requirement set in my goal.

Step 4 : Is executing of Action: Here   I Would do the steps of the action. I   would repair the car .

Step 5 : Is perceiving the the state of the world: Using the senses to gather information. My repair car would be able to move the market.

Step 6 :   Is interpreting the state of the world : What has changed   punchered tyre of my car has been cahnged   and it can move now.

Step7 : Is evaluating the outcome: Did I achieve my goal ? I can move toward maket now   without worrying . I achieved my goal.