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**SUBJECT
INTERACTION**

HUMAN COMPUTER

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6th

Q1:

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

Ans: His aim is to raise the awareness of both consumers and designers to the delights of products that are easy to use and understand. Even the smartest among us can feel awkward as we fail to figure out which light switch or oven burner to turn on, or whether to push, pull, or slide a door.

b): Explain Deductive and Abductive reasoning with examples.

Ans: The third type of reasoning is abduction. Abduction reasons from a fact to the action or state that caused it. This is the method we use to derive explanations for the events we observe. For example, suppose we know that Sam always drives that too fast when he has been drinking. If we see Sam driving too fast we may infer that he has been drinking. Of course, this too is unreliable since there may be another reason why he is driving fast: he may have been called to an emergency

Deductive reasoning:

Deductive reasoning derives the logically necessary conclusion from the given premises. For example,

If it is Friday then she will go to work

It is Friday

Therefore she will go to work.

It is important to note that this is the logical conclusion from the premises; it does not necessarily have to correspond to our notion of truth. So, for example

If it is raining then the ground is dry

It is raining

Therefore the ground is dry.

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.

You are required to write the seven stages of Gulf of Execution and Evaluation to solve the scenario.

Ans:

To solve the given scenario first we have to identify and then apply the seven stages of Gulf of Execution and Evaluation which are as follow:

1. In the first stage we have to establish the goal. The goal here is that I have to reach to the university. But the tire of my car has got punctured so I have to repair the tire of my car hence the goal has established.
2. In the this second stage I have to make intention for doing the task to that what would I do to make my goal satisfy. So I would have to repair my car's tyre this will satisfy my goal to reach my university.

3. The third stage is for specifying an action that what I have to do to achieve my goal my intentions. I need to go to tyre shop to repair my car's tyre to complete my requirements in my goal.
4. In this fourth stage. I have to execute the set of actions to achieve my goals. I would repair my car to reach the university.
5. In fifth stage we have to perceive the state of the system I have to use my senses to gather the information so when I repair my car so it will sense that my repaired car would be able to reach to the university.
6. In the six stage we will interrupt the state of system. That what has changed? So the punctured tier of my car has been repaired and now it is able to work properly and reach to the university.
7. The last stage is to evaluate system state with respect to goal. I means did I have achieved my goal? So my car now reach to the university without any worries. So I achieved my goal.

Q3:

- 1) **Differentiate slip and mistake.**

Slip:

If you understand a system well you may know exactly what to do to satisfy your goals – you have formulated the correct action. However, perhaps you mistype or you accidentally press the mouse button at the wrong time. These are called slips; you have formulated the right action, but fail to execute that action correctly.

Mistake:

However, if you don't know the system well you may not even formulate the right goal. For example, you may think that the magnifying glass icon is the 'find' function, but in fact it is to magnify the text. This is called a mistake.

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.

Object perception: Object perception or object recognition is the process in which visual input is assigned a meaningful interpretation that is available to perceptual awareness.

Q4

a): Write the steps involved in perceptual process.

Ans: The perceptual process steps

1. The Environmental Stimulus
2. The Attended Stimulus
3. The image on the retina
4. Transduction
5. Neural processing
6. Perception
7. Recognition

b): Differentiate between perception and recognition.

Ans: Perception is our sensory experience of the world around us. It refers to the interpretation of what we take in through our senses.

1. It involves both the recognition of environmental stimuli and actions in response to these stimuli.
2. We gain information about properties and elements of the environment that are critical to our survival.

Recognition doesn't just involve becoming consciously aware of the stimuli. It is also necessary for our brain to categorize and interpret what it is we are sensing.

Our ability to interpret and give meaning to the object is the next step, known as recognition

Q5

a) 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 designing.

Task = selects shape, apply some gradient, apply drop effect.

b): Explain Gulf of Execution and Gulf of Evaluation.

Ans: gulf of execution is the difference between the user's formulation of the actions to reach the goal and the actions allowed by the system. If the actions allowed by the system correspond to those intended by the user, the interaction will be effective. The interface should therefore aim to reduce this gulf.

The gulf of evaluation is the distance between the physical presentation of the system state and the expectation of the user. If the user can readily evaluate the presentation in terms of his goal, the gulf of evaluation is small. The more effort that is required on the part of the user to interpret the presentation, the less effective the interaction