

**Name**                    **Mehran Ali Shah**  
**Id No**                    **13943**  
**Subject**                **HCI**  
**Dept.**                    **CS**

**Q1:**

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

**Answer:**

About how to design serves as communication between object and user  
And how to optimize that conduit of communication to make the experience of using the object pleasurable.

- b) Explain Deductive and Abductive reasoning with examples.

**Answer:**

**Deductive Reasoning:**

The deduction is generally defined as the deriving of a conclusion by reasoning. Its specific meaning in logic is the inference in which the conclusion about particulars follows necessarily from general or universal premises.

**Example:** Deductive reasoning always follows necessarily from general or universal premises.

If it is Monday then he will go to work

It is Monday

Therefore he will go to work.

**Abductive reasoning:**

Abductive reasoning typically begins with an incomplete set of observations and proceeds to the likeliest possible explanation for the set and does its best with the information at hand, which often is incomplete. Reasoning from event to cause.

Example: the ground is wet if it is raining.

Ground is wet

So, it is raining

## **Q2:**

Analyze the following scenario and write down seven stages of action for the given particular scenario for a solution.

The 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.

Answer:

In the first stage, we have to establish 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 the tire of my car hence the goal has established.

2. In 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 the goal of my intentions. I need to go tyre shop to repair my car's tyre to complete my requirements in my goal.

4. In this fourth stage, I have to execute a set of actions to achieve my goals. I would repair my car to reach the university.

5. In the fifth stage, we have to perceive the state of the system I have to use my senses to gather 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 second last stage, we will interrupt the state of the system. That what has changed? So the punctured tyre of my car has been repaired and now it can work properly and reach to the university.

7. The last stage is to evaluate the system state concerning goal. I mean did I have achieved my goal? So my car reach to the university without any worries. So I achieved my goal.

### **Question#3**

#### **Part(a)**

Differentiate slip and mistake.

**Answer:**

#### **Slip:**

Slip is doing the right thing with good intention but failed to do it right.

#### **Mistake:**

when you're doing the project with the wrong intention from the very start.

#### **Part(b):**

Explain self-perception and object perception.

**Answer:**

#### **Self Preception:**

Self-perception theory posits that people determine their attitudes and preferences by interpreting the meaning of their behaviour.

#### **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:**

Write the steps involved in the perceptual process.

**Answer:**

Six steps include in the perceptual process that is

The presence of objects

Observation

Selection

Organization

Interpretation

Response.

Perceptual selection is driven by internal (personality, motivation ) and external (contrast, repetition) factors.

**Part(b):**

Differentiate between perception and recognition.

**Answer: Perception:**

It means how something is regarded, understood, or interpreted. Since images are perceived by humans, therefore it varies from human to human.

**Recognition:**

In image processing, object 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:**

**Part(a)**

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

**Answer:**

Goal = wants to design a 3d shape using adobe illustrator.

Domain = Graphic designing.

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

**Part(b):**

Explain Gulf of Execution and Gulf of Evaluation.

**Answer:**

**Gulf of Execution:**

The gulf of execution is the degree to which the interaction possibilities of an artefact, a computer system or likewise correspond to the intentions of the person and what that person perceives is possible to do with the artefact/application/etc.

In other words, the gulf of execution is the difference between the intentions of the users that what the system allows them to do or how well the system supports those actions.

Gulf of Evaluation.

The gulf of evaluation is the degree to which the system/artefact provide representations that can be directly perceived and interpreted in terms of the expectations and intentions of the user.

It is the difficulty of assessing the state of the system and how well the artefact supports the discovery and interpretation of that state.