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SUBJECT: HUMAN COMPUTER INTERACTION

QUESTION NO 1

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

Ans:-

The main focus of this book is o the best usability of the daily life things. It can be more elaborated through the following points:

1. This book focuses on the principles of cognitive psychology, which most of the developers or designer ignore.
2. It also aims on function and controls of the things we design.

3. It also says that good designs can also be developed by very simple rules to keep in mind that always make things visible to see and control.
4. In short it says that guide the user to take the right action. The right control on the right time effortlessly.

b) Explain Deductive and Abductive reasoning with examples

ANS:-

DEDUCTIVE REASONING:

It is a type of reasoning in which we take premises or statements, considering them as true to form a conclusion. It is just the like A is equal to B and B is equal to C and hence we make a proper concluded single statement like A is equal to C.

EXAMPPLE:

1. All cows are mammals.
2. All mammals have kidneys.

Through this we can conclude that all cows have kidneys.

NOTE: for doing such a conclusion the two statement for comparison must be true or considered to be true.

ABDUCTIVE REASONING:

Abductive reasoning is a logical assumption, inference, hypothesis, explanation, conclusion or guessing the best of you form your observations.

The conclusion guessed by you may be or may be not be true.

EXAMPLE:

Considering that my friend is having a non-productive cough, flu, a runny nose, sore throat and a fever of 104 F from the last 4 days, giving this best information by him you guess my friend may be infected with COVID-19, but you are not completely sure or certain about it. This is a proper example of abductive reasoning.

QUESTION NO 2

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

Scenario is:

Suppose I want to go to the university, but the tyer 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:

Starting with the **execution part:**

1. Specifying my goal: what to do?

    My ultimate goal is going to university but my car tyre is flat, so first I have to find a tyre repair shop.

2. Forming intension for an act: forming the intension to cross road and to reach the tyre repair shop.
3. Sequence operation of the action or taking an action to lead me to my goal: I will use the action to press the key to start the car, in cross walk signal to cross the road.

4. Executing the action: by physical action that I crossed the road.

EVALUATION PART:

5. Perception of the system or the world: perceiving that I am on the other side of the road to reach the shop.
6. Interpretation of perception based on your expectation: I interpret this perception and help of others to find it.
7. Evaluation of outcome: is the problem solved with successful evaluation reach to Goad now going towards the university.

QUESTION NO 3

a) Differentiate slip and mistake.

ANS:-

SLIP:

Slips occurs when a user intends to perform an action but he/she ends up with doing another action or similar action. Causes are poor physical skills and in attention.

EXAMPLE:

Accidently putting a liquid hand wash on a tooth brush.

MISTAKE:

Mistakes occurs when users have goals but they are in appropriate for the current task or problem. Causes are incorrect understanding of something

EXAMPLE:

If someone misunderstood the petrol gauge of the car if the engine oil warning sign of the car no matter how carefully he added the certain volume but still the problem will remain the same.

b) Explain Self Perception and object perception.

ANS

SELF PERCEPTION:

Self-Perception is the process in which people develop a view about themselves. It is developed through socialization by having interaction with different types and groups of people.

SELF PERCEPTION HAVE THREE MORE TYPES:

1. Self-concept.
2. Self-esteem.
3. Self-presentation.

OBJECT PERCEPTION:

Object perception is a process in which a groups of individual develop a view of objects they see around.

It is actually an optic allusions of objects.

QUESTION NO 4

a) Write the steps involved In the perceptual process.

ANS:

1. Environmental stimulus.
2. Attended stimulus.
3. Image operating.
4. Transduction.
5. Neural process.
6. Perception.
7. Recognition.
8. Action.

b) Differentiate between perception and recognition.

ANS:

PERCEPTION:

Everything that we sense, we have, we smell, we see etc... are perceived.

OR

The organization, identification and interpretation of the information which we sense (sensory information).

EXAMPLE:

Let's consider an example: I am going to university by the street from my town and I perceive that there will be something on the gate when I leave town.

RECOGNITION:

Perception does not involve becoming consciously aware of the stimuli. It is necessary for the brain to interpret and recognize what is thing I am sensing.

EXAMPLE:

Keeping the above example in mind at the recognition stage of the perceptual process that I realize that I am going to face the security guard of town at the gate.

QUESTION NO 5

a) A graphic designer wants to design a 3D shape using adobe illustrator, he selected 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:

Designing a 3D shape.

Problem Domain:

Deos the designer have got the expertise in 3D designing. Because we are talking about 3D designs and we have a graphic designer without knowing if he has the expertise in certain field of our requirement(s).

TASK:

Task is dependent on steps to be taken

1. Go to shapes select the shape.
2. Apply some gradient.
3. Applying some shadow effects.

b) Explain Gulf of execution and Gulf of evaluation.

ANS:-

GULF OF EXECUTION:

How do I know what I can do? This lead to the concept of discoverability.

In simple words when you buy something new from the market and it's the first time that you are using that item, you just go using it and you are finding its features that is called discoverability which at certain times occurs due to poor designing of something.

GULF OF EVALUATION:

How do I know what happened? This lead to the concept of feedback.

In simple words feedback can be understood as you are using a button for some action to perform an action just consider you are in a developed country, trying to cross the road you press the crosswalk button and the machine is not responding by pressing the button continuously that is called as feedback.