Quiz 4 Learning – How do we Learn?

Question 1

Ken’s new dog would always bark at strangers when they come close to his door. Over time, it has learned to stop barking at the neighbours. This is an example of _____.

- ☐ Extinction
- ☐ Negative Punishment
- ☐ Generalisation
- ☐ Higher Order Conditioning
- ☑ Discrimination

Discrimination occurs when an organism learns to respond differently to distinct stimuli. In this case, Ken's dog has learned to differentiate between strangers and neighbours, stopping its barking behaviour towards neighbours but continuing to bark at strangers.

Question 2

What example correctly illustrates a variable ratio schedule of reinforcement?

- ☐ A health inspector who comes to inspect a store randomly twice a year.
- ☐ Students who have to take a quiz at the end of every month will begin studying closer to the end of the month.
- ☑ A person continually scrolling social media to find a post they like, though they may not know when it will appear.
- ☐ A customer who receives a reward after eating a fixed number of plates of sushi in a Japanese restaurant.

In a variable ratio schedule, reinforcement (in this case, finding a post they like) is delivered after an unpredictable number of responses (scrolling). The person doesn't know exactly when they will encounter something rewarding, but they keep engaging in the behaviour (scrolling) because the reinforcement occurs unpredictably.

Question 3

Every time Bob's cat scratches his furniture, he sprays it with water to get it to stop. What is this an example of?

- ☐ Positive Reinforcement
- ☐ Negative Reinforcement
- ☑ Positive Punishment
- ☐ Negative Punishment
- ☐ Classical Conditioning

Positive punishment involves introducing an unpleasant stimulus (in this case, spraying water) in response to an undesirable behaviour (the cat scratching the furniture) to decrease the likelihood of that behaviour occurring again.

Question 4

Keller and Marion Breland believed that animals' strong instinctive behaviours predominated over conditioned behaviours, which they described as ____

- ☑ Instinctive drift
- ☐ Behavioural reversal
- ☐ Extinction
- ☐ Incomplete conditioning

Instinctive drift refers to the tendency of animals to revert to instinctive behaviours after being conditioned, even when those behaviours interfere with the conditioned response. The Brelands observed that over time, animals' innate behaviours often took over, overriding the learned behaviours.

Question 5

Gacha games/Loot Boxes/Slot Machines that contain the possibility of obtaining a rare character/reward/payout per pull, with a guaranteed win after 60 pulls can be best described as:

- ☐ Positive reinforcement operating on a Variable Interval Schedule
- ☐ Positive reinforcement operating on a mix of Variable interval and Fixed Ratio Schedule
- ☐ Negative reinforcement operating on a mix of Fixed interval and Variable Ratio Schedule
- ☐ Positive reinforcement operating on a Variable Ratio Schedule
- ☑ Positive reinforcement operating on a combination of a Fixed Ratio and a Variable Ratio Schedule

Variable Ratio Schedule: The rare reward can appear at any random pull, similar to how slot machines work, where reinforcement (the reward) happens after an unpredictable number of attempts.

Fixed Ratio Schedule: There is a guaranteed win after 60 pulls, which means that after a fixed number of attempts, the player is assured a reward.
Both schedules are present because players are reinforced unpredictably while knowing that after a certain number of attempts, they'll receive a guaranteed payout.

Question 6

Which of the following is the odd one out?

- ☑ Tom started to study less because he realised that he kept scored badly in his exams
- ☐ Joseph slept better in the new house he just moved into after spending a night there
- ☐ Maisarah noticed that the loud sounds of the construction site next to her house did not bother her so much after a while
- ☐ Cindy noticed that her sprained foot didn’t hurt as much at the end of the day
- ☐ None of the options is an odd one out

This describes negative reinforcement or a form of learned helplessness, where Tom reduces his studying due to poor outcomes.

The other examples (Joseph, Maisarah, and Cindy) all describe habituation—the process where individuals become less sensitive to a stimulus over time (e.g., sleeping better in a new house, adapting to loud sounds, or feeling less pain).

Since Tom’s scenario involves a behaviour change based on a negative outcome, while the others describe habituation, Tom's case stands out.

Question 7

The textbook tells us that classical conditioning's effectiveness depends on contingency, or how reliably a conditioned stimulus is paired with an unconditioned stimulus. You decide to try this out with operant conditioning by setting up a dispenser which only rewards food sometimes to your pet rat. You set it up such that a random number of presses occurs before food is dispensed. You will observe that...

- ☐ Just like classical conditioning, having food only dispenses sometimes will increase your pet rat's persistence in pressing the lever versus a lever that always dispenses food upon pressing.
- ☐ Just like classical conditioning, having food only dispenses sometimes will not change your pet rat's persistence in pressing the lever versus a lever that always dispenses food upon pressing.
- ☑ Unlike classical conditioning, having food only dispenses sometimes will increase your pet rat's persistence in pressing the lever versus a lever that always dispenses food upon pressing.
- ☐ Unlike classical conditioning, having food only dispenses sometimes will not change your pet rat's persistence in pressing the lever versus a lever that always dispenses food upon pressing.

Question 8

Hannah, a passionate materials scientist, finds the process of exploring new knowledge to be highly rewarding. She explains that sometimes hundreds of experiments are necessary to create a new material, while at other times she achieves success after just a few attempts. She never knows which experiment will yield a breakthrough. After hearing about her experiences, what is the secret behind her unwavering passion for experimentation?

- ☐ She is reinforced by the excitement that a new material can be created after a certain number of experiments.
- ☐ She is reinforced by the excitement that a new material can be created after a varied period of time.
- ☐ She is reinforced by the excitement that a new material can be created after a certain period of time.
- ☑ She is reinforced by the excitement that a new material can be created after a varied number of experiments.

Hannah's passion is sustained by a variable ratio schedule of reinforcement, where the reward (creating a new material) comes after an unpredictable number of experiments. This unpredictability makes each experiment exciting and motivates her to keep going.