



HOW WELL DO YOU KNOW YOUR COURSE MATERIALS?

These questions (and many others) will be addressed in detail in the TSFX "Unit 3 Exam Revision Lectures" in September 2020.

UNIT 3 PSYCHOLOGY

When someone pricks their finger and immediately withdraws it, their response demonstrates how the spinal cord makes decisions about movement.

Why is this statement incorrect?

Memory of the word 'happiness' will be consolidated by the hippocampus and stored in the cerebral cortex.

Is this statement correct?

For Little Albert to develop a classically conditioned emotional response, the response to the unconditioned stimulus must be learnt.

Why is this statement incorrect?

Alex was waiting at the hairdresser's for his appointment. As time passed, Alex considered the traffic conditions outside and whether he would get home in time to watch his favourite TV show, noticed the peculiar smell in the salon, and wondered whether he would have time for a run later on. Alex's state of consciousness could best be described as

- A. focused awareness.
- B. normal waking consciousness.
- C. an induced altered state of consciousness.
- D. a naturally occurring altered state of consciousness.

Why is option D incorrect?

Arlo is a keen basketballer who plays on indoor and outdoor courts. During an indoor grand final, she fell over and twisted her knee. Her team also lost the game. Now, whenever Arlo plays on an indoor court, she becomes emotional.

The brain area that is responsible for the storage of Arlo's implicit memory of how to play basketball is the

- A. cerebral cortex.
- B. hippocampus.
- C. cerebellum.
- D. amygdala.

The correct answer is C. Would you get this answer in the exam?

Could you answer the following questions in the exam?

1. What are the roles of different neurons in the spinal reflex?
2. How does neural transmission function as a “lock-and-key process”?
3. Using examples, distinguish between excitatory and inhibitory neurotransmitters.
4. What are the functions of eustress and distress in relation to the human nervous system?
5. With reference to the General Adaptation Syndrome, what are the positive and negative effects of the stress hormone cortisol?
6. With reference to a relevant neurohormone and different brain regions, describe the process of the consolidation and storage of emotional memories.
7. How can the language of classical conditioning processes be used to explain what happened during and after the conditioning of Little Albert?
8. How might the three-phase model of Operant Conditioning be used to describe reinforcement in toilet-training a young child?
9. With reference to particular types of memory, how can the reduced recall of items in the middle of a word list in the Serial Position Effect be explained?
10. According to Loftus, why is it that leading questions are regarded as likely to increase the fallibility of eye-witness testimonies?

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Dates: Saturday 19 September – Sunday 4 October 2020

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ANSWERS

1. Sensory neurons transmit neural information regarding sharp and sudden pain from sensory receptors to the spinal cord. Interneurons in the spinal cord intercept this information before it travels to the brain, and transmit it to motor neurons. Motor neurons then transmit neural information to the part of the body experiencing sudden pain to ensure a protective response.
2. Neurotransmitters released by the axon terminals on the presynaptic neuron have a particular molecular shape, described in this metaphor as a key. It is seeking a chemical match with the receptor point in the post-synaptic neuron being similar to a lock. If a chemical match is found, similar to a key fitting into a lock neural transmission takes place. If a match is not found, a reuptake process occurs in the presynaptic neuron.
3. Excitatory neurotransmitters such as glutamate make it more likely that the post-synaptic neurons will fire, stimulating neural transmission whereas inhibitory neurotransmitters such as GABA make it less likely that the post-synaptic neurons will fire, regulating neural transmission.
4. Eustress is a positive psychological response to a perceived stressor, whereas distress is a negative psychological response to a perceived stressor. Both are involved in the activation of the sympathetic nervous system promoting physiological arousal in response to a stressor.
5. Cortisol is released as part of the body's stress response during the Alarm Reaction (Countershock) stage and enables the release of additional glucose, controls blood pressure and reduces inflammation. This initially increases the body's resistance to a stressor in the Resistance stage. However increased levels of glucose over long periods of time undermines the effectiveness of the immune system, reducing the body's resistance to a stressor, known as the Exhaustion stage in which psychosomatic illnesses may occur.
6. Highly emotional experiences activate the release of the neurohormone adrenaline. This stress hormone activates the amygdala, a brain region in the mid-temporal lobe that is involved in the consolidation of emotional memories. This then activates the hippocampus, a region that consolidates explicit memories. These memories are then stored in the cerebral cortex.
7. During the conditioning of Little Albert, a neutral stimulus (white rat) was presented to the child followed immediately by the unconditioned stimulus of a loud noise (a metal bar being struck by a hammer). The repeated pairing of these two stimuli produced the unconditioned stimulus of fear of the noise until eventually Little Albert produced a conditioned response of fear towards the conditioned stimulus of the white rat alone.
8. The antecedent would be the child needing to use the toilet. The behaviour would be actually using a toilet or potty. The consequence involving reinforcement may be praise from a parent or another reward for using the toilet/potty.
9. Items in the middle of the list occur too late to be rehearsed and therefore stored in Long Term Memory, but too early to remain in Short Term Memory. Therefore, they are the least likely to be recalled.
10. Loftus suggested that memory is a reconstructive process and that when memories are being recalled they are open to change. The introduction of false information through a leading question increases the possibility that this false information may be incorporated into a memory leading to a reconstructed or false memory of an event.

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