

## QCE Psychology Units 3&4

### Paper 1

#### SECTION 1 – MULTIPLE-CHOICE QUESTIONS

	A	B	C	D
1.	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
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29.	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
30.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

**QUESTION 1 C**

The autonomic nervous system autonomously regulates the activity of visceral (smooth) muscles such as the heart and lungs, so **C** is correct. The somatic nervous system regulates skeletal muscle activity, so **A** is incorrect. The brain and the spinal cord are part of the central nervous system and thus do not regulate muscle activity, which is the function of the peripheral nervous system; **B** and **D** are incorrect.

**QUESTION 2 B**

The parietal lobe utilises visual information to provide the body with a sense of spatial awareness in terms of its positioning in relation to the world around it. **B** is correct. The frontal lobe plays a key role in movement and higher order cognitive processes; **A** is incorrect. The occipital lobe processes visual information; **C** is incorrect. The temporal lobe processes auditory stimuli and plays a key role in memory formation and retrieval. **D** is incorrect.

**QUESTION 3 C**

The cerebellum is responsible for Amalia's ability to learn the sequence of movements required to successfully throw a javelin, so **C** is correct. The basal ganglia is largely responsible for the motor control of the necessary arm and leg movements, and the primary motor complex is largely responsible for initiating the necessary arm and leg movements. **A** and **D** are incorrect. The hippocampus is responsible for the consolidation of explicit memories that need to be consciously recalled, not implicit memories such as the procedural memory of the mechanics of throwing a javelin. **B** is incorrect.

**QUESTION 4 A**

Acetylcholine plays a key role in memory and learning as well as the regulation of muscular contractions. **A** is correct. Epinephrine and noradrenaline play key roles in the stress response; **B** and **D** are incorrect. Dopamine plays a key role in movement and motivation, so **C** is incorrect.

**QUESTION 5 D**

Harry's doctor suspects that Harry is suffering from the early stages of Alzheimer's disease as reflected by a decline in his short-term memory. This is due to the initial degeneration of neurons in the hippocampus and a decline in the acetylcholine neurotransmitters. **D** is correct. The symptoms identified in options **A**, **B** and **C** will occur later on when the condition has advanced.

**QUESTION 6 B**

The transduction of visual information occurs in the photoreceptors of the retina, in which light is converted into neural impulses that enable the transmission of the light to occur via the optic nerve to the visual cortex for interpretation.

**QUESTION 7 C**

The letters from each of the individual words that appear on a page of text are grouped based on their positioning relative to each other to create a meaningful whole. **C** is correct. Figure-ground and closure do not involve the grouping of items, so **A** and **B** are incorrect. Similarity involves the grouping of items based on shared features; in this case the items are the letters of the words, which do not have any shared features. **D** is incorrect.

**QUESTION 8 A**

The Ames room illusion occurs because of the viewer's misapplication of shape constancy; the viewer incorrectly maintains the shape constancy of a rectangular room when the room is trapezoidal. This contributes to the illusion that both the left and right corners of the room are equally distant from the viewer, which results in the viewer failing to maintain size constancy. Thus, a person will be perceived by the viewer as being significantly smaller in one corner when compared to the opposite corner due to the smaller retinal image created by the differences in distances from the viewer.

**QUESTION 9 C**

The short-term memory has a capacity for 5–9 bits of information. **C** is correct. Iconic, echoic and long-term memory have an unlimited capacity, so **A**, **B** and **D** are incorrect.

**QUESTION 10 B**

The episodic buffer is responsible for selecting the key parts of Vern's instructions for encoding in long-term memory and thus acts as a bridge between the central executive and the two working memory stores (visuospatial sketchpad and phonological loop).

**QUESTION 11 D**

The use of mnemonics is a deeper form of processing as, in this case, it stores the elements of the periodic table according to their meaning by linking the items to existing material in long-term memory. For example, landmarks of a familiar journey could be used to improve the organisation of the elements of the periodic table in long-term memory. **D** is correct. Structural processing attends to visual features of elements, which results in a shallow form of encoding; **A** is incorrect. Phonemic processing attends to the sounds of the elements, which results in an intermediate form of encoding; **B** is incorrect. Visuospatial is not a level of processing, so **D** is incorrect.

**QUESTION 12 B**

Recall is the least sensitive method of retrieval as the absence of cues makes it difficult to register material that is stored in long-term memory, so **B** is correct. Relearning uses a savings score formula to register previously learned material and is the most sensitive method of retrieval, so **C** is incorrect. Recognition provides cues and is the next most sensitive method of retrieval. **A** is incorrect. Reconstruction has not been evaluated in terms of sensitivity of retrieval. **D** is incorrect.

**QUESTION 13 A**

Maintenance rehearsal is usually used to extend the duration of short-term memory, which is normally around twenty seconds, by simply repeating the material in the conscious short-term memory without any attempt to link the items to material in long-term memory. **A** is correct. The capacity of short-term memory can only be increased via chunking, so **B** is incorrect. Nothing can increase the duration of sensory memory or the capacity of long-term memory; **C** and **D** are incorrect.

**QUESTION 14 D**

Zahara's flinching is a conditioned response that has been triggered by the presentation of the command 'On your marks' (the conditioned stimulus), as a result of being repeatedly paired with the sound of the gun (the unconditioned stimulus).

**QUESTION 15 D**

Drew's behaviour has been negatively reinforced; his flu shot behaviour has been strengthened (he is more likely to repeat it in ensuing years) as it removes the aversive stimulus of suffering from the flu during the winter months. **D** is correct. Classical conditioning involves reflexive responses; deciding to have a flu shot is a conscious process, so **A** is incorrect. Positive reinforcement requires a desirable stimulus (having an injection is generally undesirable). **B** is incorrect. Punishment would have decreased the likelihood of having a flu shot, so **C** is incorrect.

**QUESTION 16 A**

The students prompt arrival to morning roll call had been extinguished via operant conditioning, as there was an absence of a consequence (the lunchtime detention). Thus, the students were active in learning the association between the antecedent (the start of morning roll call) and the lack of a consequence (no detention), which reduced their incentive to arrive promptly to morning roll call.

**QUESTION 17 C**

Cherie is demonstrating compliance by acting against her beliefs and wearing the netball skirt. **C** is correct. Identification, internalisation and vicarious conditioning would be indicated by a change in Cherie's attitude, whereas her attitude remains contradictory to the school rules. **A**, **B** and **D** are incorrect.

**QUESTION 18 D**

In the Asch conformity experiment, 74% of the participants conformed in at least one of the twelve trials in which the confederates unanimously gave the wrong answer. When there was no pressure to conform, participants gave the wrong answer less than 1% of the time, thus indicating a significant increase in the conformity rate of the participants.

**QUESTION 19 C**

The classmates are more likely to offer Josie comfort, without any expectation of reward, because they would recognise that she is in need of support. The classmates would also recognise that Grace has behaved irresponsibly and is responsible for her own suspension. **C** is correct. The reciprocity principle would apply if a classmate offered Josie comfort due to having previously been the victim of bullying and was offered comfort by classmates. This information is not given in the scenario, so **A** is incorrect. Informational influence relates to conformity, which is not relevant to this scenario, so **B** is incorrect. Diffusion of responsibility would have occurred if the classmates failed to offer Josie comfort. **D** is incorrect.

**QUESTION 20 C**

If there are several other people who are in a position to help the tourist, then this is more likely to contribute to a diffusion of responsibility. Seth is likely to demonstrate a bystander effect by not offering assistance if there are others already in the water who can help the tourist.

**QUESTION 21 B**

An increase in arousal would be indicated by physiological symptoms such as an increase in heart rate or blood pressure. **B** is correct. An affective response refers to emotions and feelings, such as anger, so **A** is incorrect. A social response refers to behaviour in a social context, so **C** is incorrect. A cognitive response refers to thinking processes. **D** is incorrect.

**QUESTION 22 B**

April is experiencing the intrapsychic stage as her cognitive interpretation is internal. **B** is correct. She is yet to enter the dyadic stage, which would be reflected by discussing her issues with her partner. **A** is incorrect. The social stage would involve April and her partner seeking support, and the grave dressing stage would involve April seeking to move forward with her new life without her partner; **C** and **D** are incorrect.

**QUESTION 23 D**

A dispositional attribution refers to the internal factors that contribute to behaviour, in this case the laziness of the student during an endurance activity. **D** is correct. **A**, **B** and **C** are examples of situational attributions in which the behaviour is due to external factors.

**QUESTION 24 A**

Scapegoating occurs when a person or group are blamed for a negative action – in this scenario, young people are blamed for the violent assaults based on their exposure to video games. **A** is correct. Discrimination would be evidenced by the actions of the community, so **B** is incorrect. An implicit attitude would occur without conscious awareness. In this scenario, the older residents are explicitly aware of their attitude towards the younger generation, so **C** is incorrect. A self-serving bias applies to individuals who view themselves as more favourable than other people in the same position. **D** is incorrect.

**QUESTION 25 D**

Zach's attitude is an example of stereotyping as he has grouped all Sri Lankan students into a belief of their academic ability based on their race. This expectation is stereotyping due to cognition, as it is a result of Zach's thought process, so **D** is correct. Prejudice is not applicable in this scenario because Zach has a positive attitude about the academic ability of his Sri Lankan students. **A** is incorrect. Stereotypical behaviour relates to actions and stereotyping due to affect relates to emotions, both of which are not relevant to this scenario; **B** and **C** are incorrect.

**QUESTION 26 A**

Pluralism occurs when two or more cultures coexist in the same area, with each culture maintaining their own set of values and rituals, as is the case with the migrant plantation workers in this scenario. **A** is correct. Assimilation would have occurred if the migrants had fully acquired the values of the local culture; **B** is incorrect. An acculturation gap would have been evident with generational differences, so **C** is incorrect. Xenophobia would have occurred if there had been animosity between the migrants and the local plantation workers. **D** is incorrect.

**QUESTION 27 C**

Implicit racism refers to a negative attitude directed towards an individual/group based on their race that exists on an unconscious level, so **C** is correct. **A** and **D** examples of positive attitudes and **B** is an example of explicit racism.

**QUESTION 28 B**

The independent variable of the study is the number of students in the room. **B** is correct. Whether the participants raised the alarm or not is an effect of the use of the gas and thus is not a variable manipulated by the experimenters. **A** is incorrect. The amount of time taken to raise the alarm is the dependent variable. **C** is incorrect. All participants were exposed to the gas, thus use of the gas cannot be an independent variable as there is no control condition. **D** is incorrect.

**QUESTION 29 B**

An independent groups experimental research design was used in the study as there were five experimental conditions and each group was tested on only one occasion. **B** is correct. There are no random research designs; **A** is incorrect. A repeated measures design would be impractical given that an experiment of this nature can only be completed once. **C** is incorrect. There was no evidence of pre-testing in this experiment, which eliminates matched participants as a possible experimental research design. **D** is incorrect.

**QUESTION 30 D**

An inferential statistical test is a test of the statistical significance of the results of the experiment. **D** is correct. **A**, **B** and **C** are all descriptive statistical measures that are used to summarise the data but do not determine statistical significance.

**SECTION 2****QUESTION 31 (4 marks)**

This is an example of a spinal reflex.

The sensory receptors in Sharona's foot register the sharpness of the thistle; [1 mark]

sensory neurons then carry afferent signals to the interneurons in her spinal cord. [1 mark]

The interneurons integrate sensory and motor information and initiate the reflexive withdrawal of Sharona's leg independently of her brain. [1 mark]

A motor neuron carries an efferent signal to Sharona's leg muscles, which results in the reflexive withdrawal of her foot from the thistle. [1 mark]

**QUESTION 32 (3 marks)**

Wernicke's area would be involved in Flynn's comprehension of the earlier speakers' speeches. [1 mark]

Broca's area would be involved in the speech production of Flynn's speech. [1 mark]

Geschwind's territory connects Flynn's Broca's area and Wernicke's area. [1 mark]

**QUESTION 33 (3 marks)**

The axon terminals of the presynaptic neuron release the neurotransmitter into the synapse. [1 mark]

The neurotransmitters are the electrochemical messages released from the axon terminal into the synaptic cleft. [1 mark]

The neurotransmitter binds with its matching receptor on the postsynaptic cell to either excite or inhibit the postsynaptic cell. [1 mark]

**QUESTION 34 (2 marks)**

Any two of:

- Physiological make-up: Damage to structures in the eye, such as the retina and cones, can impair the viewer's ability to accurately perceive an image in a meaningful way.
- Ageing: Ageing can result in disorders that are mostly age-related and can impair visual perception, such as presbyopia (a loss of elasticity of the lens), cataracts (a cloudy build-up on the cornea), glaucoma (damage to the optic nerve, which impairs the transmission of visual information to the brain), floaters (clumps forming in the vitreous fluid) and age-related macular degeneration (damage to the photoreceptors central in the retina).
- Genetics: Some visual disorders can be inherited, such as colour vision deficiency that results in colour blindness.

[2 marks]

*Note: While high-scoring responses may include examples, the range of examples provided here is more comprehensive than a student is expected to provide.*

**QUESTION 35 (3 marks)**

Vicarious conditioning could have influenced Rhonda's aggressive behaviour if she observed a model, such as an older sibling, demonstrate aggressive behaviour at school and be rewarded with encouragement from their friends, which would have increased the likelihood of Rhonda demonstrating the aggressive behaviour. [1 mark]

Rhonda's aggressive behaviour could have been a result of primary socialisation if, as a young child, Rhonda had learned that aggression is a way to manage conflicts with other people, as her parents/caregivers acted this way when there was conflict. [1 mark]

Rhonda's aggressive behaviour could be a result of secondary socialisation if she learned to behave aggressively via the media. For example, she may have been exposed to aggression through watching contact sports such as football on TV. [1 mark]

**QUESTION 36 (2 marks)**

Compliance: Theo behaves in a manner suggesting that he agrees with his friends. If Theo was demonstrating compliance, he might attend a rally or a protest to maintain the social acceptance of his friends, despite not fully agreeing with their attitudes in private. [1 mark]

Identification: Theo's beliefs may have been shaped by his friends. If Theo's beliefs are shaped by identification, he might feel strongly that the government should take more affirmative action in addressing climate change. [1 mark]

**QUESTION 37 (3 marks)**

The bystanders may have not noticed that the drunk man had remained on the ground. [1 mark]

The bystanders may have decided that the situation was not an emergency, believing that the fallen man lacked coordination due to being drunk rather than being unconscious. [1 mark]

The bystanders may have decided that they did not want to take responsibility for the situation, as it posed a personal risk due to the presence of violence. [1 mark]

*Note: Other appropriate examples are acceptable.*

**QUESTION 38 (4 marks)**

Sexism occurs when there is prejudice or discrimination, in this case in the workplace, on the basis of gender. [1 mark]

For example, women may not be considered for certain positions, such as in a trade like carpentry or plumbing, because these positions have been traditionally considered a domain for men, despite women possessing all of the necessary qualifications and experience for the position. [1 mark]

Ageism occurs when there is prejudice or discrimination, in this case in the workplace, on the basis of age. [1 mark]

For example, older people may not be considered for a position in a workplace, such as in IT, because of the perception that older people have difficulty keeping up with changes in the field. [1 mark]

*Note: Other appropriate examples are acceptable.*

**QUESTION 39 (1 mark)**

The term *culture* refers to the set of ideas, behaviours, attitudes and traditions that exist in large groups of people. [1 mark]



## REFERENCES

Asch, S. E. (1951), 'Effects of group pressure upon the modification and distortion of judgement' in Guetzkow, H. (ed.), *Groups, Leadership and Men: Research in human relations*, Carnegie Press, England, pp. 177–190.