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Answer Summary for Multiple-Choice Questions
2014 Kilbaha VCE Psychology Trial Examination

<table>
<thead>
<tr>
<th>Q1</th>
<th>A</th>
<th>Q23</th>
<th>B</th>
<th>Q45</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q2</td>
<td>C</td>
<td>Q24</td>
<td>A</td>
<td>Q46</td>
<td>A</td>
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<tr>
<td>Q3</td>
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<td>Q4</td>
<td>B</td>
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<td>A</td>
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<td>Q27</td>
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<td>D</td>
<td>Q29</td>
<td>B</td>
<td>Q51</td>
<td>C</td>
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<td>A</td>
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<td>A</td>
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<td>C</td>
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<td>B</td>
<td>Q33</td>
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<td>Q55</td>
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<tr>
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<td>Q34</td>
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<td>Q56</td>
<td>A</td>
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<td>B</td>
<td>Q35</td>
<td>D</td>
<td>Q57</td>
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<td>D</td>
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<td>B</td>
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<td>D</td>
<td>Q37</td>
<td>C</td>
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<td>Q44</td>
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</tbody>
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Answer distribution: A 17 B 17 C 15 D 16
SECTION A – Multiple-choice questions

Question 1 Answer = A
The ability to limit content refers to the ability to control what is in your conscious awareness. REM sleep involves dreaming. It is very difficult to limit what we are dreaming about compared to the other states of consciousness listed.

Study Design Reference:
Concepts of normal waking consciousness and altered states of consciousness including …content limitations

Question 2 Answer = C
Often an altered state of consciousness means we have reduced ability to limit content, but it is incorrect to say that all altered states are like this. Meditation, for example, has a high ability to limit content in that often the content of our consciousness awareness is restricted to a single mantra or stimulus of our choice. This means that option C is more correct than option A.

Study Design Reference:
Concepts of normal waking consciousness and altered states of consciousness…content limitations

Question 3 Answer = C
Physiological measurements have a real strength in that they provide quantitative (numerical) objective (unbiased) data. The main limitation of these measurements in indicating consciousness is that it may be a factor other than consciousness influencing physiological factors. For example the elevated heart rate and blood pressure of REM sleep may also be caused by illness or exercise. The measurements alone can thus be interpreted incorrectly without self report or observational data to back the data up.

Study Design Reference:
Methods used to study the level of alertness in normal waking consciousness and the stages of sleep

Question 4 Answer = B
The primary cortex in each lobe is either purely sensory or motor in function, with every other function of that lobe being carried out by association cortex. Out of the options available, two (both B and C) are frontal lobe functions, but only B is an association function. This option indicates damage to Broca’s area, which is an association area in the frontal lobe.

Study Design Reference:
Roles of the four lobes of the cerebral cortex in the control of motor, somatosensory, visual and auditory processing in humans; primary cortex and association areas
Question 5 Answer = D
Ebbinghaus’ forgetting curve is a graph which shows the rate of forgetting over time. Generally the rate is initially rapid, slows and then stabilizes. One of the key figures which should be remembered for this curve is that over half the information will be forgotten in the first hour (not twenty minutes).

Study Design Reference:
Strengths and limitations of theories of forgetting: forgetting curve as informed by the work of Herman Ebbinghaus.

Question 6 Answer = B
Developmental plasticity involves modification of the brain structure and function when developmental processes interact with environmental experiences. Adaptive plasticity is a change of structure and function of the brain with individual environmental experiences or from damage to the brain. Children’s brains are highly plastic as they show both adaptive and developmental plasticity.

Study Design Reference:
Neural basis of learning: developmental plasticity and adaptive plasticity of the brain.

Question 7 Answer = D
Both A and B are correct. Developmental plasticity has a number of processes including the creation of new synapses (circuit formation) and the loss of unused neurons (circuit pruning). The brain is very plastic during development and neurons will be continually modifying their structure, as they are continually branching, sprouting, rerouting and forming new connections.

Study Design Reference:
Neural basis of learning: developmental plasticity and adaptive plasticity of the brain.

Question 8 Answer = A
When Elliot first learned the formula synapses between neurons that previously did not exist would have formed. Every time he revisited this, this synapse would strengthen. Because a synapse is a gap, there can be no myelination (fatty covering) of a synapse. Synapse pruning is not relevant to this scenario as this is present when a learned fact is not revisited over time.

Study Design Reference:
Neural basis of learning: the development of neural pathways

Question 9 Answer = D
The biopsychosocial model of health suggests biological factors such as genetics can influence whether someone develops a mental illness. If there is a family history of mental illness, this would suggest that there is a genetic and thus biological aspect to the illness. Options A and C are social factors, whilst option B is a psychological factor.

Study Design Reference:
Use of a biopsychosocial framework (the interaction and integration of biological, psychological and social factors) as an approach to considering physical and mental health
Question 10 Answer = A
Soraya is the subject of a case study, which is an in-depth study of an individual using a variety of methods. Because it gives us detailed data, but only about one individual, such a study can indicate where possible further research can be undertaken and what a possible hypothesis for future research could be. This further research would then be carried out on a larger, representative sample to allow generalization. The types of data being collected indicate that both qualitative and quantitative data would be gathered by the case study. A case study is rarely an experiment as there is not an iv being manipulated to check its effect on a dv.

Study Design Reference:
Techniques of qualitative and quantitative data collection: case studies

Question 11 Answer = B
Because Soraya is unable to carry out activities which she previously had no trouble with, she is having trouble functioning. This means she is displaying functional abnormality. The biomedical approach would be a consideration of any disease like symptoms Soraya is showing (usually measurable quantifiable symptoms) Although the music class is a “situation” this is not really situational abnormality as that is more a consideration of how Soraya appears compared to others in the same situation, rather than how she is compared to her normal functioning. The historical approach is not relevant to this scenario as it is not considering Soraya’s behaviour in terms of the period of time in which it is being carried out.

Study Design Reference:
Concepts of normality and differentiation of mental health from mental illness

Question 12 Answer = C
By employing someone who knows nothing about Soraya this should limit the effect of the observer’s expectations on how they interpret what they see and thus reduce observer bias. The placebo effect would not be reduced by hiring an unbiased researcher, as this is the effect of the participant’s expectations and is not really relevant here. The data should become less subjective with an unbiased observer and the observer effect would not increase with an unbiased observer.

Study Design Reference:
Ways of minimizing confounding and extraneous variables

Question 13 Answer = B
A split brain operation involves severing the main connection between the two hemispheres (the corpus callosum) which may affect activities requiring coordination of both hemispheres. The primary cortices mentioned in the other options are not affected in a split brain operation.

Study Design Reference:
Split brain studies including the work of Roger Sperry and Michael Gazzaniga
**Question 14 Answer = D**
In classical conditioning the UCR is a reflex or unlearned response to the UCS (e.g. salivation in response to food, blinking in response to air puffed in the eye).

**Study Design Reference:**
Classical conditioning as informed by Ivan Pavlov: roles of neutral, unconditioned, conditioned stimuli: unconditioned and conditioned responses

**Question 15 Answer = D**
Although Matilda is frightened at magpies, the scenario does not indicate that this is a phobia. This scenario is an example of classical conditioning, and the swooping was an unconditioned stimulus as it automatically caused the unconditioned response of fear. The conditioned stimulus in this scenario is the call of a magpie

**Study Design Reference:**
Classical conditioning as informed by Ivan Pavlov: roles of neutral, unconditioned, conditioned stimuli: unconditioned and conditioned responses

**Question 16 Answer = A**
Negative reinforcement is the removal of an unpleasant stimulus (the crying of the baby daughter) and will strengthen a behaviour (Gabi’s behaviour of placing her daughter in bed with her) as it provides a pleasant consequence.

**Study Design Reference:**
Three phase model of operant conditioning as informed by B.F. Skinner: positive and negative reinforcement

**Question 17 Answer = C**
An elevated heart rate and blood pressure and even high levels of eye movement can indicate exercise, but because there is no muscle tension (low readings on the EMG) these readings could not be of a person exercising. The elevated internal functioning along with increased eye movement and lack of muscle tension are typical of REM sleep (dreaming sleep)

**Study Design Reference:**
Methods used to study the level of alertness in normal waking consciousness and the stages of sleep: measurement of physiological responses
**Question 18 Answer = A**

Cognitive functions are those functions which require thought and understanding of a concept. The right hemisphere cognitive functions include spatial concepts such as whether a particular shape is the correct shape to solve a problem. Verbal tasks are largely a left hemisphere function and so would not be considered an appropriate test for right hemisphere function. Any task involving movement or sensation on the right side of the body is controlled by the left hemisphere and so would not be appropriate tests for right hemisphere function.

**Study Design Reference:**
Hemispheric specialization: the cognitive and behavioural functions of the right and left hemispheres of the cerebral cortex

**Question 19 Answer = B**

Because of the plasticity of the brain, behaviours can shape the function and structure of the brain. The constant use of the thumbs for texting may actually increase the area dedicated to the thumbs in the primary motor cortex of both hemispheres.

**Study Design Reference:**
Roles of the four lobes of the cerebral cortex in the control of motor, somatosensory, visual and auditory processing in humans

**Question 20 Answer = B**

Retroactive interference is when newer information interferes with the retrieval of previously formed memories. If Jarrod were to study physics this may interfere with the retrieval of the previously formed memory of specialist maths. Subjects which are more similar in nature such as physics and specialist maths will be more likely to interfere with each other than subjects which are quite different such as specialist maths and English

**Study Design Reference:**
Strengths and limitations of theories of forgetting: interference theory

**Question 21 Answer = D**

Short term memory has a capacity of 5-9 items. The number of items stored cannot be increased, but by grouping lots of smaller items into less larger items, more information can be stored in long term memory. This will increase its capacity. This is only relevant to short term memory, as declarative memory is long term memory which has unlimited capacity and sensory memory also has unlimited capacity.

**Study Design Reference:**
Atkinson-Shiffrin’s multi-store model of memory including maintenance and elaborative rehearsal, serial position effect and chunking
Question 22 Answer = C
By taking a random stratified sample such as this, the researcher helps ensure his sample represents the population and thus helps ensure it is feasible to generalize back to the population. This is not particularly easy or cheap to carry out compared to convenience sampling. Options A and D are not referring to the sampling method, but are instead referring to the process of allocation. Sampling and allocation are different but related processes which are often mixed up.

Study Design Reference:
Sampling procedures in selection and allocation of participants

Question 23 Answer = B
The dv in this experiment is stress levels, but the operationalised dv (which is the dv explained in terms of how it was measured) is cortisol levels. Options C and D are the iv and operationalised iv.

Study Design Reference:
Identification and operationalisation of independent and dependent variables

Question 24 Answer = A
The scenario provides states that the difference between the conditions is significant, which means the p value found must be below .05

Study Design Reference:
Statistics: interpretation of p-values and conclusions

Question 25 Answer = A
A research hypothesis should include the population, the iv and the dv. The sample should never be included in a hypothesis. The best way to remember this is the acronym IPOD (Iv, Population, Dv)

Study Design Reference:
Experimental research: construction of research hypotheses

Question 26 Answer = A
Lazarus and Folkman suggested that primary appraisal involves evaluation whether the event is irrelevant, harm/loss, threat or a challenge. Perceiving something as a challenge may mean there is the experience of eustress (a positive psychological response to a stressor), but this is not the actual primary appraisal. Options C and D are more relevant to the secondary appraisal stage or how to cope with the stressor

Study Design Reference:
Psychological determinants of the stress response: strengths and limitations of Richard Lazarus and Susan Folkman’s transaction Model of Stress and Coping
Question 27 Answer = B
Sensitivity of retrieval refers to the likelihood this method will allow retrieval, with more sensitive methods showing increased retrieval. Recall, which has little or no cues is the least sensitive method, with relearning being the most sensitive.

Study Design Reference:
Measures of retention including the relative sensitivity of recall, recognition and relearning

Question 28 Answer = C
To exacerbate means to make worse. Environmental factors are those factors which come from the setting around the person such as access to water, food, medical services, power services etc. Options A and C are more correctly classified as social or cultural factors, whereas option D would alleviate rather than exacerbate the stress response.

Study Design Reference:
Social, cultural and environmental factors that exacerbate and alleviate the stress response

Question 29 Answer = B
Classical conditioning shows spontaneous recovery which is the re-emergence of the CR after it has become extinct. Operant conditioning also shows spontaneous recovery which is the re-emergence of an extinct behaviour when exposed to the discriminative stimulus. Classical conditioning does not have the elements of punishment, response cost of a discriminative stimulus.

Study Design Reference:
Comparisons of classical and operant conditioning

Question 30 Answer = B
Observational learning is based around the idea that someone must pay attention to a model, remember what they are doing, have the ability to reproduce the behaviour and have a reason or motivation to perform a behaviour. If the behaviour is reinforced it will then strengthen. In this scenario Jana has paid attention, clearly remembered and has the motivation to play. The factor which is influencing her decision to not adopt the behaviour is reproduction, as she releases she does not have the ability due to her lack of height.

Study Design Reference:
Observational learning processes in terms of the role of attention, retention, reproduction, motivation, reinforcement.

Question 31 Answer = A
Baddeley and Hitch suggested that the central executive carries out the more directed or complex tasks such as directing attention or decisions/calculations. Storage of sounds is suggested to be carried out by another of the components working memory – the phonological loop.

Study Design Reference:
Alan Baddeley and Graham Hitch’s model of working memory: central executive, phonological loop, visuo-spatial sketchpad, episodic buffer.
**Question 32 Answer = D**  
Short term memory has a duration of up to 30 seconds. To keep information in this store for longer than this some form of rehearsal must be used. Molly is repeating information over and over which is maintenance rehearsal which will not necessarily lead to the information being encoded into long term memory.

**Study Design Reference:**  
Sleep as an altered state of consciousness: purpose of sleep, characteristics and patterns of the stages of sleep.

**Question 33 Answer = C**  
The distinction between mental health and mental illness is not always clear. Similarly it is difficult to distinguish between a mental health problem and a mental illness as both feature similar symptoms, dysfunction and distress. In this scenario though, the fact that the symptoms stopped when the stressor stopped suggests this is not a mental illness, which carries the implication that it is an ongoing condition.

**Study Design Reference:**  
Concepts of normality and differentiation of mental health from mental illness.

**Question 34 Answer = C**  
When first trying to establish a behaviour through operant conditioning, it is best to reinforce every time the behaviour is shown (continuous reinforcement). Once the behaviour is established a partial reinforcement schedule will then help ensure the behaviour is resistant to extinction.

**Study Design Reference:**  
Three phase model of operant conditioning as informed by B. F. Skinner.

**Question 35 Answer = D**  
When first trying to establish a behaviour through operant conditioning, it is best to reinforce every time the behaviour is shown (continuous reinforcement). Once the behaviour is established a partial reinforcement schedule will then help ensure the behaviour is resistant to extinction. Variable ratio is a form of partial reinforcement, so both answers are equally correct.

**Study Design Reference:**  
Three phase model of operant conditioning - schedules of reinforcement.
Question 36 Answer = B
A fixed ratio schedule of reinforcement means that after a set number of boxes, reinforcement will be given. If fruit pickers know that the more boxes they pick, the more they will be paid this should give them incentive to pick more boxes of fruit. Fixed interval would involve paying fruit pickers after a certain period of time, which may not necessarily cause them to pick more fruit. Interval ratio is not a valid term in this scenario, and response cost is a form of punishment and so would not increase a behaviour.

Study Design Reference:
Three phase model of operant conditioning - schedules of reinforcement.

Question 37 Answer = C
Information from the left visual field is transmitted via the optic nerve to the right hemisphere, but then quickly crosses over via the corpus callosum so that the left hemisphere also is aware of the information. Information from the right visual field is transmitted to the left hemisphere, but then crosses over so that the right hemisphere also is aware of the information. Because of this, the only correct statement is that which acknowledges that information from either visual field can be responded to by either hemisphere, which is C.

Study Design Reference:
Hemispheric specialization: the cognitive and behavioural functions of the right and left hemispheres of the cerebral cortex.

Question 38 Answer = D
Healthy elderly people tend to have little difference in their memory function compared to younger people, and will usually perform equally as well in tasks requiring recognition. Facets of memory which may be affected by aging include working memory tasks (and also include loss of episodic memories). Significant shrinkage of the hippocampus would be found in sufferers of Alzheimer’s, but not necessarily in healthy elderly people.

Study Design Reference:
Memory decline over the lifespan.

Question 39 Answer = B
A dimensional or graded approach to mental illness allows the severity of symptoms to be determined and used as part of a profile on that person, rather than placing them into a discrete category based simply on presence or absence of symptoms.

Study Design Reference:
Strengths and limitations of discrete categorical and dimensional approaches to classification of mental disorders.
Question 40 Answer = A
Biofeedback involves receiving information about a bodily function, usually a function which is controlled by the autonomic nervous system such as heart rate, blood pressure or perspiration levels. The person needs to receive this feedback and act on it in real time, which means blood tests sent away for analysis cannot be used.

Study Design Reference:
Physiological and psychological characteristics of responses to stress including fight-flight response.

Question 41 Answer = B
The ICD is a categorical approach to mental illness classification, which means rather than assessing severity of symptoms it considers the presence or absence of symptoms and uses this to categorise the type of illness experienced. It is compiled by the World Health Organisation, unlike the DSM which is compiled by the American Psychiatric Association, and covers illnesses other than mental illnesses.

Study Design Reference:
Symptoms of classification of mental conditions and disorders: underlying principles of classification; strengths and limitations of discrete categorical (DSM-IV and ICD-10) and dimensional (graded and transitional) approaches to classification of mental disorders

Question 42 Answer = D
Trial and error learning is a type of learning in which a series of random attempts are made to find a solution.

Study Design Reference:
Trial and error learning.

Question 43 Answer = B
Phobias are often gained through classical conditioning such as in this scenario where the UCS of being stuck in an elevator is paired with the CS of elevators, so that the elevators now cause the CR of fear. Fear is a reflex or non voluntary response.

Study Design Reference:
Classical conditioning as informed by Ivan Pavlov.

Question 44 Answer = D
The subsequent behaviour of avoiding elevators is no longer a classically conditioned behaviour, but is an operantly conditioned behaviour. By avoiding elevators the negative stimulus of the fear is removed, so the elevator avoiding behaviour is strengthened.

Study Design Reference:
Three phase model of operant conditioning as informed by B.F. Skinner.
**Question 45 Answer = A**
Flooding and graduated exposure both involve a form of classical conditioning being used to treat a phobia, where the aim is to make the CR of fear extinct. Although aversion therapy is a form of classical conditioning, its aim is to reduce an unwanted behaviour by pairing it with an aversive stimulus, which is not a suitable therapy to treat a phobia. Token economies are a form of operant conditioning, and are not necessarily appropriate to treat phobias.

**Study Design Reference:**
Applications of classical conditioning: graduated exposure, aversion therapy, flooding.

**Question 46 Answer = A**
A mnemonic device is a form of elaborative rehearsal, in that it is an effortful form of encoding which links the new information to information already in long term memory. Acrostics do this by using the first letter of each item to be remembered to form a sentence, acronyms do this by using the first letter of each item to form a word or pronounceable syllable. Narrative chaining does this by using each item to be remembered to form a story. Maintenance rehearsal is not a mnemonic device, it is purely repeating the item over and over. (usually subvocally)

**Study Design Reference:**
Mnemonic devices including acronyms, acrostics and narrative chaining.

**Question 47 Answer = A**
Long term memories can be classified as semantic (general knowledge), episodic (personal memories linked to time and place) or procedural (memories of skills). Semantic and episodic memories are both forms of declarative or explicit memories, and these are consolidated by the hippocampus. The amygdala helps in consolidation of procedural memories.

**Study Design Reference:**
Organization of long term memory including declarative (episodic and semantic) and procedural memory. Role of the temporal lobe including the hippocampus and amygdala.

**Question 48 Answer = D**
When psychologists carry out research on a sample, they wish to apply their findings back to a population. This process is called generalization. It is important that a sample represents a population to allow generalization, which in this case may not hold true as the sample is university students only.

**Study Design Reference:**
- evaluation of research in terms of generalizing the findings to the population.
Question 49 Answer = D
Matched pairs involves the process of matching individuals before placement into experimental or control group. Repeated measures has the same individuals undergoing experimental and control conditions. Independent groups is the only experimental design which has the simple process of random allocation as its basis. Single blind is not an appropriate answer to this question as this is a feature of any of the experimental designs which ensures participants do not know if they are in experimental or control conditions.

Study Design Reference:
- evaluation of different types of experimental research designs including independent groups, matched participants, repeated measures.

Question 50 Answer = C
Lazarus and Folkman’s Model of Stress and Coping is based around research with human participants, with one of its primary aims to help explain individual differences in response to stress. A limitation of this model is that there are no references to the physiological responses the body makes to a stressor

Study Design Reference:
Strengths and limitations of Richard Lazarus and Susan Folkman’s Transactional Model of Stress and Coping.

Question 51 Answer = C
Lazarus and Folkman do not refer to physiological factors such as hormones within their model. Their model states that individuals can have different responses to the same stressor, because of different cognitive appraisals.

Study Design Reference:
Strengths and limitations of Richard Lazarus and Susan Folkman’s Transactional Model of Stress and Coping.

Question 52 Answer = B
The serial position effect is shown when trying to recall a list of items with increased recall at the beginning of the list (primacy effect) and end of the list (recency effect). The primacy effect tends to provide longer lasting memories as it involves transfer to long term memory. The recency effect is based around retention in short term memory, so presumably would be lost when Bridie is recalling the list 15 minutes later as this exceeds the duration of short term memory.

Study Design Reference:
Models for explaining human memory: serial position effect.
**Question 53** Answer = **A**
During meditation there may be increased alpha wave production, along with possible theta waves. Out of the possible options, this brain wave pattern is most similar to stage one sleep.

**Study Design Reference:**
Strategies for coping with stress including biofeedback, meditation/relaxation, physical exercise, social support.

**Question 54** Answer = **C**
Informed consent involves explaining the nature and purpose of the study and should as much as possible identify the role the individual will play, the rights they have and any potential risks.

**Study Design Reference:**
The extent to which ethical principles were applied to classic research investigations into learning including John Watson’s ‘Little Albert” experiment.

**Question 55** Answer = **D**
Adolescence is a time of rapid development, and so the need for sleep is as great as, and perhaps more than that of later childhood. Adolescents definitely require more sleep than adults, as do children, with typical childhood requirements being 9-10 hours and adult requirements being 7-9 hours.

**Study Design Reference:**
Sleep-wake cycle shifts during adolescence compared with child and adult sleep including delayed onset of sleep and need for sleep.

**Question 56** Answer = **A**
A number of factors influence adolescent sleep. Beside social and work demands, one primary reason for sleep debt is that melatonin which causes drowsiness is secreted later in the night during adolescence. This means that the onset of sleep is delayed until later in the night, meaning adolescents fall asleep naturally later than children and adults. This will cause tiredness if adolescents continue to awaken early in the morning.

**Study Design Reference:**
Sleep-wake cycle shifts during adolescence compared with child and adult sleep including delayed onset of sleep and need for sleep.
Question 57 Answer = D
The allostatic model suggests that stressors are personal as they are perceived differently according to psychological and social factors, and that the different perceptions will have different effects on physiological responses to stress. Repeated or extreme stressors will cause allostatic overload, which may be harmful to the body with wear and tear on organs, or suppression of the immune system because of elevated cortisol levels. A key difference between homeostasis and allostasis is that the allostatic model suggests physiological baseline values are constantly fluctuating as we adapt according to the stressor.

Study Design Reference:
Allostasis (stability though change brought about by the brain’s regulation of the body’s response to stress) as a model that integrates biological, psychological and social factors that explain an individual’s response to stress.

Question 58 Answer = B
Repeated exposure to stressors will increase cortisol secretion which may suppress the immune system. Adrenalin is also released during times of stress, with a subsequent increase in heart rate and blood pressure.

Study Design Reference:
Allostasis (stability though change brought about by the brain’s regulation of the body’s response to stress) as a model that integrates biological, psychological and social factors that explain an individual’s response to stress.

Question 59 Answer = C
Retrieval failure and decay theory are quite different explanations for forgetting. A memory lost through decay would no longer be able to be retrieved as decay theory suggests the physiological trace no longer exists. Retrieval failure suggests that memories are all available somehow, as long as the cue is appropriate to access them. The tip of the tongue phenomena illustrates retrieval failure, as the memory is not accessible until an appropriate cue is given, but there is a strong feeling that the memory still exists.

Study Design Reference:
Strengths and limitations of theories of forgetting.

Question 60 Answer = A
Decay theory suggests that the physiological trace which forms a memory is lost through disuse. Although the change in neuron structure coming from disuse may occur with some memories, decay theory is not compatible with the idea that long dormant memories may be retrieved with the right cue. Decay theory is compatible with consolidation theory which explains why memories may not be formed in a blow to the head is received, but is not the same as consolidation theory as it is not concerned with memory formation.

Study Design Reference:
Strengths and limitations of theories of forgetting: decay theory.
Question 61 Answer = B
A firing neuron transmits information from the dendrites (1) down to the axon terminals (4), from which neurotransmitters will then be released. The structure labeled (3) is the axon along which the nerve impulse travels.

Study Design Reference:
The neuron in memory formation including the role of axons, dendrites, synapses and neurotransmitters.

Question 62 Answer = A
The dendrites of a neuron receive information from neighbouring neurons releasing neurotransmitters into the synapse between the two neurons. The dendrites receive the information after (post) the synapse and the axons release the neurotransmitter before (pre) the synapse.

Study Design Reference:
The neuron in memory formation including the role of axons, dendrites, synapses and neurotransmitters.

Question 63 Answer = D
Megan has used semantic encoding, as she has had to consider the meaning of each word. This is a deeper level of processing than that used by Kirsten (who has used phonemic encoding). Because of the deeper processing, Megan should remember more.

Study Design Reference:
Levels of processing as informed by Fergus Craik and Robert Lockhart

Question 64 Answer = D
As children pay attention to, remember and consider their capability to perform a behaviour, the learning is latent. Only when there is reason to show the behaviour will it be performed. Placing the children into a frustrating situation gave them a reason to display the aggressive behaviour, which is a form of motivation

Study Design Reference:
Observational learning (modeling) processes in terms of the role of attention, retention, reproduction, motivation, reinforcement as informed by Albert Bandura’s social learning theory
Question 65 Answer = C

The independent variable in most of Bandura’s study was the type of model they were exposed to (e.g. aggressive or passive, live or cartoon), with each study having a passive model or no model to act as a control to compare the aggressive model results to. The dependent variable was usually degree of aggression shown by the children. Although there were control groups, care must be taken if the researchers knew which group the children were in, control or experimental. Knowing what type of model they had been exposed to may have caused them to interpret behaviour in a way which was influenced by their beliefs as to what they should see (observer bias).

Study Design Reference:
Observational learning (modeling) processes in terms of the role of attention, retention, reproduction, motivation, reinforcement as informed by Albert Bandura’s social learning theory Experimental research.
Section B
Short Answer Questions - Answers

Question 1 (2 marks)
a. Information from the left visual field first registers in the right side of each eye. (1 mark)
b. Information from the left visual field is initially sent to the right hemisphere. This means that to be transmitted to the left hemisphere, it travels via the corpus callosum. (1 mark)

Study Design Reference:
Role of the four lobes of the cerebral cortex in the control of motor, somatosensory, visual and auditory processing.

Question 2 (11 marks)
a. One mark for each of the following points (to a maximum of 4)
   • Lauren perceives the race as a stressor (1 mark)
   • this activates the HPA axis. The hypothalamus/pituitary activate the adrenal glands to release adrenaline (refer to at least one structure within the HPA) (1 mark)
   • the sympathetic nervous system is activated (1 mark)
   • this arouses the body/causes elevated heart rate, perspiration and reduced salivation (1 mark)
b. Psychological effects include depression, anxiety, irritability, inability to concentrate, low self esteem, reduced problem solving capacity (or other relevant) (1 mark)
   Physiological effects include heart disease, ulcers, migraines, rashes, high blood pressure, tension headaches, increased infectious illnesses (or other relevant) (1 mark)
c. Increased arousal from prolonged stress may cause wear and tear or organs over time (1 mark)
   Increased cortisol secretion may suppress the immune system (1 mark)
d. Individual (Lauren) concentrates on a simple stimulus such as a mantra, a candle flame, breath etc. (1 mark)
   This reduces the stress coming from ongoing thoughts and/or this reduces physiological arousal (1 mark)
e. One mark for any of the following (to a maximum of 1)
   • reduce heart rate (1 mark)
   • reduce overall arousal (1 mark)
   • reduce stress from ongoing thoughts (1 mark)
   • reduce blood pressure (1 mark)
   • increase alpha waves (1 mark)
   • create a relaxed state in the body (1 mark)
   • reduce muscle tension (1 mark)
   • other relevant (1 mark)

Study Design Reference:
Physiological and psychological characteristics of responses to stress. Strategies for coping with stress including biofeedback/meditation/relaxation.
Question 3 (4 marks)

a. Anna’s dog has learned sitting behaviour through operant conditioning and
   Any one of the below (1 mark)
   • This is because the dog has shown voluntary behaviour
   • This is because the dog has been active rather than passive
   • This is because the stimulus of the reward has occurred after the response of the sitting behaviour

b. Anna’s dog has learned to blink at a bell through classical conditioning and
   Any one of the below (1 mark)
   • This is a reflexive behaviour which has been learned
   • The stimulus of the bell comes before the response of blinking
   • The dog is a passive learner

Study Design Reference:
Comparisons of classical and operant conditioning in terms of…role of learner, timing of stimulus and response, and nature of response (reflexive/voluntary)

Question 4 (6 marks)

a. retrograde amnesia (1 mark)

b. loss of memories prior to the accident (1 mark)
   older memories usually return before newer memories (1 mark)

c. consolidation theory suggests a physiological trace is formed when a new memory forms (1 mark)
   if this is interrupted during the consolidation time the trace may not form (1 mark)
   Ben interrupted this by the blow to the head during the fall (1 mark)

Note: no marks give for part c. if the scenario is not referred to.

Study Design Reference:
Consolidation theory. Amnesia resulting from brain trauma.
Question 5 (3 marks)

- The reconstructive nature of memory means that our memories incorporate concepts subsequent to the event as part of the memory. (1 mark)
- In eyewitness testimony, a question which suggests something has happened, which actually did not happen, may be incorporated as part of the memory (so that the individual believes something happened which did not). (1 mark)
- For example, if a question suggests there was broken glass even when there was none, the individual may report broken glass - any example showing that the question suggests something false but becomes part of a memory. (1 mark)

Study Design Reference:
Effect of misleading questions on eye-witness testimonies including the reconstructive nature of memory informed by the work of Elizabeth Loftus.

Question 6 (2 marks)
Jay may experience – any of the below at one mark each, with a maximum of two.
- Polysomnograph recordings
- EEG recordings
- EMG recordings
- EOG recordings
- GSR recordings
- Body temperature measurements
- Video monitoring
- Being observed through a one way mirror
- Being asked what she is experiencing
- Being woken throughout the night
- Sleeping in a room which resembles a bedroom

Study Design Reference:
The use of sleep laboratories, video monitoring and self reports.

Question 7 (1 mark)
Context dependent cues are cues from the external environment (which may act as retrieval cues) whereas state dependent cues are cues from internal physiological or psychological states (which may act as retrieval cues) (1 mark)

Note: As this question asks for a comparison, both factors must be mentioned. It is not enough to state, for example, that “context cues are from the external environment” and assume that this implies that state cues are from an internal state. Both sides must be explicitly stated when asked for a comparison. Also note that the bracketed parts are not necessary for a mark as these are common across the two points of comparison so do not need to be stated when showing a difference.

Study Design Reference:
Manipulation and improvement of memory: use of context dependent cues and state dependent cues.
**Question 8** (2 marks)
The adaptive (survival) theory of sleep suggests that sleep is a protective mechanism that removes an animal from the dangerous conditions of night time. Yet, the loss of awareness which comes from sleep, actually makes an animal vulnerable to attack from predators and, therefore, may not aid survival.

**Study Design Reference:**
Sleep as an altered state of consciousness: purpose of sleep

**Question 9** (2 marks)
Maddy may have trouble
- using joining words in sentences such as “the” “and”.
- physically producing speech, so that her speech is slow, slurred, labored.
- adding grammatical endings to words (such as using the word “run” instead of “running”).
- producing long sentences.

Anscar may have trouble
- dressing the left side of his body.
- shaving the left side of his body.
- eating from the left side of his plate.
- navigating around obstacles in his left visual field.
- copying the left side of a drawing.
- reading compound words.
- any other relevant symptom.

**Study Design Reference:**
Contribution of studies to the investigation of cognitive processes of the brain and implications for the understanding of consciousness including: studies of aphasia including Broca’s aphasia, spatial neglect caused by stroke or brain injury.

**Question 10** (2 marks)
Every time Alex does some behaviour which helps keep her room tidy, Emily rewards her with a token (star, tick on a chart etc.). When Alex reaches a certain number of tokens she receives a prize (of her choice). The scenario must be referenced in order to receive any marks.

**Study Design Reference:**
Applications of operant conditioning: shaping, token economies
Question 11 (2 marks)
Both Kaitlin and Jessie are showing motivated forgetting. Kaitlin will be consciously blocking the memory from conscious awareness, whilst Jessie will be unconsciously blocking the memory from conscious awareness. (1 mark)

The scenario must be referenced in order to receive any marks.

Study Design Reference:
Strengths and limitations of theories of forgetting: motivated forgetting as informed by the work of Sigmund Freud including repression and suppression

Question 12 (1 mark)
Order effects occur when participating in one condition (of an experiment) affects participation in the other condition. (1 mark)

Study Design Reference:
Experimental research: order effects

Question 13 (2 marks)
REM rebound is an increase in length and intensity of REM periods after being deprived of REM sleep. (1 mark)

Note: the second mark referring to the reason for the change in length and intensity is important as REM may increase in length and intensity for other reasons. For example, periods of stress may increase REM sleep, but this is not REM rebound.

Study Design Reference:
Sleep recovery patterns including amount of sleep required, REM rebound

Question 14 (4 marks)
The serial position effect is the finding that when trying to recall a list of items, recall is superior for items at the start of the list and the end of the list. Items at the start of the list have superior recall as they are suggested to be in long term memory. (1 mark)

Items at the end of the list have superior recall as they are suggested to still be in short term memory. (1 mark)

These two separate effects show that separate storage systems must be functioning. (1 mark)

Study design reference
Models for explaining human memory: serial position effect
**Question 15 (4 marks)**
Memories of how to carry out actions and skills are classified as *procedural and/or implicit* memories, and these are consolidated by the *amygdala*. Memories of general knowledge and events linked to a time and place are classified as *declarative and/or explicit* memories and these are consolidated by the *hippocampus*.

**Study design reference**
Organisation of long-term memory including declarative (episodic and semantic) and procedural memory

**Question 16 (1 mark)**
The right primary somatosensory cortex (note “right” must be stated to gain mark) (1 mark)

**Study design reference**
Roles of the four lobes if the cerebral cortex in the control of motor, somatosensory, visual and auditory processing in humans; primary cortex and association areas

**Question 17 (2 marks)**
Circuit formation occurs in the developing brain as neurons develop new synapses. (1 mark)
Circuit pruning occurs when, during development, synapses or neurons which are not stimulated or unused die away. (1 mark)

**Study design reference**
Neural basis of learning: the development of neural pathways including the role of axons, dendrites, synapses and neurotransmitters.
Question 18 (9 marks)

a. Dr. Hiatt would have listened to Alex’s self report about her symptoms and grouped these together to classify her with a labelled (named) mental illness. (2 marks)

b. Either DSM-v or ICD-10 (1 mark)

c. Advantages
   - Allows clear communication between health professionals
   - Consistency of diagnosis due to clear cut boundaries for illnesses within the diagnostic tool
   - Understanding of the illness Alex is experiencing may be easy for Alex and relatives due to the name given to the illness

Disadvantages
   - Severity of Alex’s symptoms are not taken into account
   - The stigma of a labelled mental illness
   - Labelling Alex with a named mental illness may simplify people’s perception of Alex and her behaviour
   - Alex may act in accordance with what is expected with a named mental illness, and this may exacerbate symptoms. (2 marks)

d. Dr. Membrey would have listened to Alex’s self report and then rated Alex on a number of dimensions according to the severity of each symptom. (2 marks)

e. Advantages
   - Reduces the stigma associated with a named mental illness
   - The severity of Alex’s symptoms is acknowledged

Disadvantages
   - Consistency of diagnosis by health professionals is reduced
   - Communication between health professionals is not as clear cut
   - The lack of a named illness may not be informative enough for Alex and her relatives. (2 marks)

Study design reference
Systems of classification of mental conditions and disorders: underlying principles of classification; strengths and limitations of discrete categorical.. and dimensional.. approaches

End of 2014 Kilbaha VCE Psychology Trial Examination
Detailed answers to Section B – Short answer questions
Section C  
Research scenario - Answers

Question 1 (1 mark)  
Voluntary participation is ensuring there is no pressure placed on participants to enter the study, whereas withdrawal rights is ensuring participants are not placed under pressure to stay in the study if they wish to leave.  

Question 2 (2 marks)  
Matched pairs  
And one of the following  
- Complex and costly due to pre-testing.  
- If one member of the pair leaves, the other must leave.  
- Does not completely control participant related extraneous variables.  

Question 3 (2 marks)  
Either mean, mode or median.  
And one of the following:  
- Mean - add up all values of time spent in NREM sleep and divide by the number of participants.  
- Mode - work out the most commonly occurring time spent in NREM for the participants.  
- Median – arrange the times spent in NREM sleep in order and work out the middle value.  

Note: Only one mark can be given if the answer does not refer to the research in the description of how to calculate the value. No marks should be given if name of statistic and method are incongruent. (e.g. if median is named but mode is described)

Question 4 (1 mark)  
Delta waves (as they would be spending more time in stage 3 or stage 4 sleep).
Question 5 (9 marks)

- The restorative theory suggests that the purpose of sleep is to replenish and restore the mind and body. (1 mark)
- The theory suggests that NREM sleep (deep sleep) is useful for restoring and replenishing bodily or physiological processes. (1 mark)
- The purpose of REM sleep is to restore and replenish mental processes. (1 mark)

Should show overall purpose, different roles of REM and nREM (3 marks maximum)

Evidence to support this theory is that (maximum of 2 marks for any two of the following pieces of support)

- people tend to sleep longer when they are unwell. (1 mark)
- on days of lengthened or extreme physical activity people will sleep longer, and will spend more time in deep sleep. (1 mark)
- certain neurochemicals which cause fatigue are reduced as we sleep. (1 mark)
- neurotransmitters which promote alertness are more effective after adequate sleep. (1 mark)
- animals with high metabolic rates sleep longer. (1 mark)
- growth hormone secretion is activated by sleep. (1 mark)
- our immune system is strengthened by sleep. (1 mark)
- sleep is shown to consolidate memory. (1 mark)

The aim of the study is to investigate whether adolescents will increase their sleep after being physically active, so as to investigate the restorative theory in adolescents.

It is hypothesized that adolescents who exercise will spend longer time in deep sleep compared to those who do not exercise. (1 mark)

(2 marks – maximum of 1 mark if all three of population, independent variable and dependent variable are not shown.)

Operationalised independent variable – whether adolescents exercise daily each morning for six weeks or do not exercise. (1 mark)

Operationalised dependent variable – time spent in deep sleep as indicated by readings on an EEG. (1 mark)
Useful Web Links for VCE Psychology

http://alcoholrehab.com/alcohol-rehab/allostasis-stability-through-change/
http://cercor.oxfordjournals.org/content/10/10/963.full
http://en.wikipedia.org/wiki/Hemispatial_neglect
http://en.wikipedia.org/wiki/Skin_conductance
http://eprints.qut.edu.au/31655/
http://explorable.com/external-validity.html
http://neuralmodel.net/library/brain/tour/somatosensory_cortex.htm
http://physrev.physiology.org/content/84/1/87.full
http://psych-2010-revision.wikispaces.com/Measures+of+retention
http://psychology.about.com/od/developmentalpsychology/a/sociallearning.html
http://psychology.about.com/od/operantconditioning/f/positive-reinforcement.htm
http://psychology.about.com/od/sindyx/f/somatic-nervous-system.htm
http://psychology.about.com/od/statesofconsciousness/p/TheoriesofSleep.htm
http://psychology.uchicago.edu/people/faculty/levine/LevineBanich1982.pdf
http://science.howstuffworks.com/alcohol5.htm
http://stats.org/in_depth/faq/statistical_significance.htm
http://stroke.about.com/od/unwantedeffectsofstroke/a/Aphasia.htm
http://web.mst.edu/~psyworld/classical_conditioning.htm
http://web.mst.edu/~psyworld/sleep_stages.htm
http://webspace.ship.edu/ambart/PSY_325/LTMMODEL.htm
http://www.childwelfare.gov/pubs/issue_briefs/brain_development/how.cfm
http://www.criminology.fsu.edu/crimtheory/bandura.htm
http://www.edmondschools.net/Portals/3/docs/Terri_McGill/HO-ClassOper.pdf
Useful Web Links for VCE Psychology (continued)

http://www.garysturt.free-online.co.uk/theostre.htm
http://www.holah.co.uk/page-investigation.php?slug=experiment
http://www.holah.karoo.net/experimentaldesigns.htm
http://www.indiana.edu/~p1013447/dictionary/assn_cor.htm
http://www.macalester.edu/psychology/whathap/ubnrp/split_brain/Hemispheric_Specialization.html
http://www.mentalhelp.net/poc/view_doc.php?type=doc&id=15644
http://www.mind-body-health.net/index.html?hpa.html&1
http://www.minddisorders.com/A-Br/Aversion-therapy.html#b
http://www.muskingum.edu/~psych/psycweb/history/thorndike.htm
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2652894/
http://www.neuroanatomy.wisc.edu/selflearn/Conditioning.htm
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2652894/
http://www.neuroanatomy.wisc.edu/selflearn/Conditioning.htm
http://www.prep4usmle.com/forum/thread/5540/
http://www.psychologytoday.com/blog/sleepless-in-america/201104/sleep-spindles
http://www.scholarpedia.org/article/Episodic_memory
http://www.scholarpedia.org/article/Episodic_memory
http://www.scholarpedia.org/article/Episodic_memory
http://www.scholarpedia.org/article/Episodic_memory
http://www.socialresearchmethods.net/kr/ethics.php
http://www.unm.edu/alterm/articles/biofeedback-000349.htm
http://www.wisegeek.com/what-is-operant-behavior.htm
http://www.youtube.com/watch?v=SP8kJ5A5xU8
http://www2.fiu.edu/~schwartb/mellearnTOT.pdf

End of Web Links 2014 VCE Psychology Trial Examination