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**Psychology**

**UNIT 3**

**EXAMINATION**

**2020**

ANSWER KEY



**Name:**

**Teacher:**

Time allowed for this paper

Reading/planning time before commencing work: ten minutes

Working time for paper: three hours

Material required/recommended for this paper

To be provided by the supervisor

This Question/Answer Booklet

To be provided by the candidate

Standard materials:pens (blue/black preferred), pencils (including coloured), sharpener, eraser, correction fluid/tape, ruler, and highlighters

Special items: non-programmable calculators approved for use in the WACE examinations

Important note to candidates

No other materials may be taken into the examination room. It is your responsibility to ensure that you do not have any unauthorised notes or other items of a non-personal nature in the examination room. If you have any unauthorised material with you, hand it to the supervisor before reading any further.

Structure of this paper

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Section | Number of questions available | Number of questions to be answered | Suggested working time  (minutes) | Marks  available | Percentage of examination |
| Section One  Research Methods | 2 | 2 | 30 | 34 | 20 |
| Section Two  Short Answer | 8 | 8 | 90 | 108 | 55 |
| Section Three  Extended Answer | 2 | 2 | 60 | 60 | 25 |
|  |  |  | Total | 197 | 100 |

# Instructions to candidates

1. The rules for the conduct of Western Australian external examinations are detailed in the *Year 12 Information Handbook 2020.* Sitting this examination implies that you agree to abide by these rules.
2. Write your answers in this Question/Answer Booklet.
3. Answer the questions according to the following instructions.

Sections One and Two: Write your answers in this Question/Answer booklet. Wherever possible, confine your answer to the line spaces provided.

Section Three: Consists of two questions. You must answer both questions.

1. You must be careful to confine your responses to the specific questions asked and to follow any instructions that are specific to a particular question.

1. Supplementary pages for the use of planning/continuing your answer to a question have been provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number.

Section One: Research Methods 20% (34 marks)

This section has two questions. Answer all questions. Write your answers in the spaces provided.

Supplementary pages for planning/continuing your answers to questions are provided at the end of this Question/Answer booklet. If you use these pages, indicate at the original answer where the answer is continued, i.e. give the page number.

Suggested working time: 30 minutes

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Question 1 (15 marks)

Merlin loved to bake and would take cake orders from family, friends and referrals from friends. She was thinking of turning her hobby into a small business and starting a Facebook page to advertise her products. Before doing that, she wanted to find out what her customers’ responses were to her cakes so that she can plan for what materials and equipment she needed. She wanted to streamline her products and focus on cakes that were popular with customers. First she made a tally of the cakes she sold in the past year. Her data is presented in the following table.

Table 1. Number of cakes sold per month

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Month** | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| **Number of cakes sold** | 60 | 22 | 14 | 25 | 12 | 16 | 49 | 15 | 20 | 38 | 26 | 75 |

a) i. Would you consider Merlin’s approach as scientific on non-scientific ?

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Scientific | 1 |
| **Total** | **1** |

ii. Explain your answer. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Answers to include any TWO of the following: |  |
| * She has identified specific variables to be measured and related * She has a specific problem that she wants to find an answer to and/or test * A clear hypothesis can be made of possible patterns in sales * She has systematically recorded her data * She can describe the pattern of cake sales over a year * She can use her findings to predict future behaviour * Her findings have added to her knowledge of customer behaviour that will influence how she future plans about her business | 1-2 |
| Accept other relevant responses related to scientific psychological research |  |
| **Total** | **2** |

b) What type of data did Merlin collect? (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Quantitative circled | 1 |
| **Total** | **1** |

c) State **one** limitation of the data she has collected. (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Her data does not provide any explanation/detail about why the number of cakes sold are up or down | 1 |
| Accept only responses that are relevant to the given scenario |  |
| **Total** | **1** |

d) Merlin wanted to have a visual representation of the data she collected. Present her results as a graph in the gridline below. (5 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Graph to include: |  |
| * descriptive title | 1 |
| * correct format (uses a line-graph as data is continuous) | 1 |
| * correct Y- axis label and scale | 1 |
| * correct X-axis labels | 1 |
| * data graphed correctly | 1 |
| **Total** | **5** |

Example of a five mark response:

Number of cakes sold

Month of the year

**Question 1** continued

e) Briefly describe **two** main findings or trends from her data that she can use to make informed decisions about her business plan. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Any TWO of the following: |  |
| * Peak sales are in the months of December and January * Sales drop after January and pick up again in July and towards December * Low sales (less than 20/month) in March, May (lowest), Jun and August * Sales pick up in July with slight increases in April and October | 1-2 |
| **Total** | **2** |
| Note: Answers should emphasize patterns or trends | |

f) Give **one** example of qualitative data that Merlin can collect to help her with her business plan. (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Answers could include any ONE of the following:   * structured/semi-structured/unstructured interviews * self-report questionnaires * focus groups | 1 |
| **Total** | **1** |

g) State **two** pieces of additional information that the qualitative data will give which her previous results do not provide. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Any TWO of the following |  |
| * provide information about why they were ordering cakes at that time * explain what they like/ not like about her cakes * describe how she can improve on her products | 1-2 |
| **Total** | **2** |
| Accept other reasonable responses that are relevant to the scenario | |

Question 2 (19 marks)



Leaves and fruits of *Ginkgo biloba* tree.

*Ginkgo biloba* (pictured above) is popularly marketed as a powerful medicinal herb that is believed to improve cognitive functions like attention and memory, and promote a healthy brain. It is often sold on its own as a health supplement or mixed with energy drinks. Dr Siva wanted to include this drug in his medical practice but found that scientific evidence about its benefits were conflicting. He decided to carry out his own investigation using patients residing in his area of practice.

Dr Siva recruited 500 patients between 60 to 80 years old who were in the early stages of dementia and 500 healthy volunteers of the same age group. All participants had volunteered to take part in the study after being informed about what the study was about.

Half of the participants were asked to take one capsule of *Ginkgo biloba* while the other half was given a placebo, taken daily. Both the participants and Dr Siva did not know who were taking the *Ginkgo biloba* capsules or the placebo. The Clinical Dementia Rating (CDR) Scale was used to measure cognitive impairment before treatment started and 1 year after.

a) Identify the research design used by Dr Siva. (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Matched Pairs circled | 1 |
| **Total** | **1** |

b) What is a placebo? (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| A substance that looks, smells and tastes like the actual drug *(Ginkgo biloba)* but does not contain the drug itself | 1 |
| **Total** | **1** |

c) Briefly explain what the placebo effect is and identify the specific technique used in Dr Siva’s research to address the placebo effect. (2 marks)

i. Placebo effect explanation:

|  |  |
| --- | --- |
| **Description** | **Marks** |
| It is when the expectation alone of getting the treatment is enough to cause desired physiological changes | 1 |
| **Total** | **1** |

ii. Technique used:

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Double-blind method/technique | 1 |
| **Total** | **1** |

d) Why was it necessary for both participants and Dr Siva to be unaware of who was getting the placebo or *Ginkgo biloba* capsules? (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Participants: To eliminate the effect of participant expectations/bias on their cognitive abilities / the dependent variable | 1 |
| Dr Siva: To eliminate the effect of experimenter expectations/bias that may influence the participant’s behaviour or lead to inaccurate interpretation of data | 1 |
| Do not accept: Participant bias/effects or Experimenter bias/effects without explanation |  |
| **Total** | **2** |

e) Provide an operational hypothesis for Dr Siva’s research. (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Hypothesis to include: |  |
| * population | 1 |
| * independent and dependent variables (must have both) | 1 |
| * predicted direction | 1 |
| * measurement tool (Clinical Dementia Rating Scale). | 1 |
| **Total** | **4** |
| Example of a four mark response:  It is hypothesised that 60 to 80 year old participants who take *Ginkgo biloba* capsules once daily for one year will be less cognitive impaired / will have improved cognitive functions, measured by the Clinical Dementia Rating Scale, as compared with those who take the placebo. | |

f) Identify and describe **two** ways that Dr Siva used to protect participants’ rights. (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| **Informed Consent** (1) – details of the study were given to participants before asking them to join/volunteer (1) | 1-2 |
| **Voluntary Participation** (1) – participants joined the study freely/without any coercion/pressure (1) | 1-2 |
| **Total** | **4** |

The results of Dr Siva’s clinical trial are summarized in the table below.

Table 1. Average clinical dementia ratings of 60-80 year old participants taking *Ginkgo biloba* capsules or placebo once daily for 1 year. A rating of 0 represents no cognitive impairment while a score of 3 means severe cognitive impairment.

|  |  |  |  |
| --- | --- | --- | --- |
| **Sample description** | Average Rating in the Clinical Dementia Scale | | Statistical Significance |
| Prior to treatment | 1 year after treatment |
| Participants with early stage dementia:   * Taking *Ginkgo biloba* capsules | 1.8 | 1.0 | p < 0.05 |
| * Taking the placebo | 2.0 | 1.7 | p > 0.05 |
| Healthy participants:   * taking *Ginkgo biloba* capsules | 0.5 | 0.3 | p > 0.05 |
| * taking the placebo | 0.2 | 0.4 | p > 0.05 |

g) State the purpose of measuring the Clinical Dementia Rating (CDR) of participants prior to treatment. (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| To obtain the baseline value of each participant’s cognitive impairment and quantify whether or not there was in improvement | 1 |
| Do not accept responses “to have a fair test” or “to make the test valid” without some explanation |  |
| **Total** | **1** |

h) Provide a conclusion for Dr Siva’s study based on the statistical results presented in   
Table 1. (4 marks

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Conclusion should include: |  |
| * CDR of participants with early stage dementia significantly improved / had significantly lower ratings 1 year after treatment | 1 |
| * There was no significant improvement in CDR after 1 year of treatment for: participants with early stage dementia taking the placebo, healthy and participants taking Ginkgo biloba capsules   + healthy participants taking the placebo   Stating what the P value correctly for any condition  Stating that the IV (Ginko Biloba) is impacting the DV (Clinical Dementia Rating scores) in Dementia patients | 1  1  1 |
| **Total** | **4** |
| Example of a 4-mark response:  Participants who were in the early stages of dementia were significantly less cognitive impaired 1 year after taking *Ginkgo biloba* capsules (1), the P value is shows that theire is less than 5% probability that the results are due to chance (1). While those taking the placebo had no significant improvement in their clinical dementia ratings. Healthy participants who took *Ginkgo biloba* capsules or a placebo for a year did not have any significant change in clinical dementia ratings (1).  This means that for the Dementia patients who took Ginko Biloba, the difference in results on their Clinical Dementia Rating score was lower after one year due to this manipulation of the IV (1) | |

**End of Section One (Research Methods)**

**Section Two: Short Answer 55% (108 Marks)**

This section has eight (8) questions. Answer all questions. Write your answers in the spaces provided.

Additional working space pages at the end of this Question/Answer booklet are for planning or continuing an answer. If you use these pages, indicate at the original answer, the page number it is planned/continued on and write the question number being panned/continued on the additional working space page.

Suggested working time: 90 minutes

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Question 3 (13 marks)

1. Andy is excited as he gets ready to bungee jump from a platform above a rugged cliff.

i. Identify a hormone flooding his brain. (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Adrenaline or Noradrenaline | 1 |
| **Total** | **1** |

ii. Describe how his somatic nervous system is responding to the sensory information he is getting while in this excited state. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| * sensory information (e.g. eyes seeing the view from the platform, feeling the harness on his arms and body) is being sent/transmitted to the CNS * interpretation/response from the CNS is carried out by motor neurons to his muscles to carry out response (e.g. consciously checking safety features or deciding when to actually jump) | 1  1 |
| Note: response should be relevant to given scenario |  |
| **Total** | **1-2** |

1. He looks down from the bungee platform at the sheer drop below. He could feel the wind blowing against him as he balances himself. He could hear the rustle of the tree branches swaying in the wind.

Outline how each of the following parts of his brain is responding to sensory stimuli from his surroundings by filling in the missing information in the following table. (8 marks)

|  |  |  |  |
| --- | --- | --- | --- |
| **Lobe of the brain** | **Area of cortex** | **Description of response** | **Marks** |
| **Occipital lobe (1)** | Primary visual cortex | **Receives and interprets visual information as he looks down from the bungee platform (1)** | 1-2 |
| **Frontal lobe (1)** | **Primary motor**  **cortex (1)** | Controls the muscles of his neck allowing him to bend/turn his head so he could look down | 1-2 |
| Parietal lobe | **Primary sensory cortex (1)** | **Receives and interprets information from his skin e.g. feel of the wind and spatial location of his body in space (1)** | 1-2 |
| **Temporal lobe (1)** | **Primary auditory cortex (1)** | Receives the sound waves from the rustling of tree branches and interprets the information | 1-2 |
| **Total** | | | **1 – 8** |

1. After an exciting day, Andy goes home. He has a light relaxing meal and spends some time watching his favourite TV show before going to bed. Describe how his autonomic nervous system would be responding. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| * His parasympathetic system calms his body down / returns it to normal functioning * It increases salivation/stomach contractions allowing him to digest his food | 1  1 |
| Note: response should be relevant to given scenario |  |
| **Total** | **1-2** |

Question 4 (12 marks)

a) Fluoxetine is a drug for the treatment of depression. Its trademark name is ‘Prozac” and it is a Selective Serotonin Reuptake inhibitor (SSRI).

i. What type of chemical is serotonin? (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Neurotransmitter | 1 |
| **Total** | **1** |

ii. State one function of serotonin. (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Regulates sleep / mood | 1 |
| **Total** | **1** |

iii. Describe how SSRI’s like Prozac affect neural transmission. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| * SSRIs prevent reuptake/reabsorption of serotonin from the synapse by the presynaptic neuron * serotonin levels in the synapse increase * more serotonin is available to bind to postsynaptic receptors extending stimulation of neural pathways | 1  1  1 |
| **Total** | **1-3** |

iv. Would SSRI’s be classified as a psychoactive drug?

|  |  |
| --- | --- |
| **Description** | **Marks** |
| YES circled | 1 |
| **Total** | **1** |

Explain your answer. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| * It affects the brain/CNS * It alters the mood of a person (makes them feel better), in turn influencing thoughts and behaviour | 1  1 |
| Note: response should be relevant to given scenario |  |
| **Total** | **1-2** |

b) Describe how neurotransmitters work in communicating messages between neurons at a synapse, including what occurs at the post-synaptic neuron if the neurotransmitter is excitatory or inhibitory   
 (5 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| * When an action potential arrives at the **axon terminal** it causes the vesicles to move towards the membrane of the pre-synaptic neuron * The vesicles bind to the membrane, releasing their neurotransmitters into the synaptic gap * The neurotransmitters **diffuse** across the **synapse** towards the **post-synaptic neuron** * Neurotransmitters bind their **specific receptors** like a lock and key * If the neurotransmitter is **excitatory (positively charged) it makes it more likely for the post-synaptic neuron to fire an action potential**. If the neurotransmitter is inhibitory (negatively charged) it makes it less likely for the post-synaptic neuron to fire an action potential | 1  1  1  1  1 |
| **Total** | **1-5** |

Question 5 (18 marks)

a) How do psychologists define ‘learning’? (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| A relatively permanent change in behaviour that occurs as a result of experience | 1 |
| **Total** | **1** |

b) Identify **two** similarities between classical and operant conditioning. (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Both require an association/pairing to be made | 1 |
| Learning can only be demonstrated by a change in behaviour (i.e. takes on a behaviourist approach) | 1 |
| **Total** | **1-2** |

c) Contrast classical and operant conditioning by filling in the missing information: (8 marks)

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Classical conditioning** | **Operant Conditioning** | **Marks** |
| Role of the learner  (passive or active)  2 marks | **Passive (1)** | **Active (1)** | 1-2 |
| Type of behaviour (voluntary or involuntary)  2 marks | **Involuntary (1)** | **Voluntary (1)** | 1-2 |
| Associations formed during conditioning  2 marks | **Unconditioned stimulus (UCS) is paired with the neutral stimulus (NS) turning the NS into a conditioned stimulus (CS) (1)** | **Behaviour is paired with its consequence (1)** | 1-2 |
| How learning is manifested after conditioning  2 marks | **Conditioned stimulus (CS) generates a conditioned response (CR) which is the same as the unconditioned response (UCR) generated by the UCS (1)** | **The behaviour is increased when the consequence is desirable (reinforcement) or decreased when the consequence is undesirable (punishment) (1)** | 1-2 |
| **Total** | | | **1 – 8** |

d) A primary school teacher used classical conditioning in her mindfulness lessons to teach children how to relax and calm down after recess and lunch. She would play some piano music with gentle wave sounds in the background when the children came into the classroom and instructed the children to close their eyes, take deep calming breaths and allow their body to relax. After the term, the teacher went on holiday staying in a resort near the beach. She found that the gentle sound of the waves made her feel very relaxed and calm. Any sound of flowing water seemed to soothe her. A friend told her that ‘stimulus generalisation’ has occurred.

i. Explain what ‘stimulus generalisation’ is and state the behaviour that supports its occurrence.

(2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Defines stimulus generalisation – when a stimulus that is similar to the conditioned stimulus is presented, the conditioned response is generated (e.g. a dog conditioned to salivate to a clicker will also salivate to a buzzer) | 1 |
| The teacher found herself relaxing to the sound of flowing water, not just the sound of waves. | 1 |
| **Total** | **1-2** |

e) Jiun has a 15-year old son and 13-year old daughter who are always arguing. Their constant bickering was getting on her nerves such that she was becoming more stressed when she is at home than at work. She decided to use positive and negative punishment to change their behaviour.

i. How would punishment change the behaviour of Jiun’s children? (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Punishment would decrease their arguing | 1 |
| **Total** | **1** |

ii. Give **one** example each of positive punishment and negative punishment that Jiun can use to change her children’s behaviour.

Example of positive punishment: (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Any relevant example that is adding something undesirable to the children  Example: Jiun gives them an additional chore (extra turn washing dishes) every time she catches them arguing | 1 |
| **Total** | **1** |

Example of negative punishment: (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Any relevant example that is taking away something desirable to her children  Example: Jiun takes away mobile phone privileges every time she catches them arguing | 1 |
| **Total** | **1** |

iii. Jiun read an article about parenting teenagers which promoted the use of reinforcement rather than punishment to improve behaviour. Provide a positive and negative reinforcement strategy that Jiun can use to change her children’s behaviour.

Positive reinforcement: (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Any relevant strategy that involves giving something valuable whenever the desired behaviour is shown  Example: Jiun praises her children when they work together / settle their disagreements amicably. | 1 |
| **Total** | **1** |

Negative reinforcement: (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Any relevant strategy that involves taking away something undesirable/disliked by her children when desired behaviour is shown  Example: When her children work together / settle their disagreements amicably, Jiun decreases the number of chores or the length of detention . | 1 |
| **Total** | **1** |

Question 0 (15 marks)

a) The Banksia Hill Juvenile Detention Centre in Canning Vale, Western Australia is a prison facility for offenders aged between 10 to 18 years old. The Centre uses a token economies program to encourage pro-social behaviour.

i. Define ‘token economies’ and identify the learning theory it is based on. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Token economies is based on operant conditioning. | 1 |
| It involves an artificial system of reinforcers in the form of symbolic markers such as tokens, stars or points. | 1 |
| The symbolic markers can be exchanged for something more tangible such as goods (toys or food) or privileges (free time or excursions) after a set number of tokens have been accumulated | 1 |
| **Total** | **1-3** |

ii. Vandalism of the facilities is a common problem in the detention centre. Describe a token economies program that can be used to decrease vandalism and encourage pro-social behaviour (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| * Identifies the desired behaviour – e.g. the facilities are kept clean and in good working condition | 1 |
| * States what the symbolic markers are – each day that the facilities are maintained in a clean and working condition, 1 token is awarded to each occupant of the facilities | 1 |
| * States the exchange rate – when the occupant accumulates 7 tokens, they can exchange this for 1 additional visiting hour or 1 additional hour outside at the end of the week | 1 |
| **Total** | **1-3** |

iii. State **one** advantage of using token economies instead of simply giving rewards for good behaviour. (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Because of the exchange system, the learner does not become saturated with the same reward/reinforcers (prevents “fullness”) and does not lose interest/motivation to continue with desirable behaviour. | 1 |
| **Total** | **1** |

iv. State **one** disadvantage of a token economies program. (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Difficult to maintain positive behaviour when the tokens or artificial reward system is no longer available. | 1 |
| **Total** | **1** |

b) Mina is highly competitive and an over-achiever. She is taking 6 ATAR courses and has been getting good marks but she feels she can do better. She is becoming extremely anxious about the coming WACE exams and is getting severe panic attacks to the point that she gets terrified of coming to school especially during tests or exams. Her parents took her to a psychologist to help her handle her anxiety. The psychologist used cognitive behaviour therapy (CBT) to help Mina manage her anxiety.

i. Describe the cognitive and behavioural components of CBT.

Cognitive component: (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Recognize maladaptive/negative thoughts | 1 |
| Realize that distressing emotions and behaviours are the result of the negative thoughts | 1 |
| **Total** | **1-2** |

Behavioural component: (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Identify/try out a range of behaviour strategies such as relaxation techniques, mindfulness programs to use when needed | 1 |
| Practice behaviour strategies to attain a change in behaviour – use relaxation techniques to alleviate distress or panic attacks | 1 |
| **Total** | **1-2** |

ii. Provide an outline of a CBT program for Mina. (3 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| CBT program described includes the following points:   * Mina learns to identify negative thoughts and consciously change them into positive ones (e.g. when thoughts of failing the exam occur, she will turn her thoughts to the fact that the topics covered were given and there is time to study / go over her notes.) * she focuses on the positive things that have occurred – she achieved good scores in the past / her teacher’s comments about her work are often positive. * she learns techniques to help her manage her problems – she organizes her schedule so that she has enough time to study / prioritizes her activities / learns breathing techniques to help her control her panic attacks. | 1  1  1 |
| **Total** | **1-3** |

c) Samantha has a five-year-old son Eden, Eden likes to play outside in the front garden where his bother often hangs out with his friends. Eden’s brother Jake is eighteen years old and has recently got his first girlfriend. Jakes girlfriend, Lucy, often takes some time to play with Eden and Eden really likes spending time with her. Jake often hangs out with her and his friends, in the front driveway as he fixes up his moped on the driveway.

Eden has now been pestering his mum about getting him a moped. Explain what learning has occurred for Eden to now want a moped.

i) Identify the learning theory behind Eden now wanting a moped: (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Observational learning | 1 |
| **Total** | **1** |

ii) Explain the mental processes that have to take place for this type of learning to occur, applying each process to the scenario. (5 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| * Attention * Retention * Reproduction * Motivation * Reinforcement   Deduct a mark if not applied to the scenario accurately | 1 each |
| **Total** | **1-5** |

Question 7 (17 marks)

In the 1950’s and 1960’s Harry Harlow conducted an experiment on baby Rhesus monkeys separated from their mother at birth.

1. Describe Harlow’s experiment including its aim, dependent and independent variables, procedure and results. (6 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Provides the aim   * to find out whether nutrition or contact comfort was more important in the formation of mother-child attachment | 1 |
| Identifies the dependent variable   * the time each baby monkey spent with the cloth or wire surrogate mother | 1 |
| Identifies the independent variable   * where food (milk) is supplied – either by the cloth or wire surrogate mother | 1 |
| Outlines the procedure   * Baby rhesus monkeys were separated from their mothers at birth and reared in cages with two surrogate mothers – one wrapped in soft cloth and the other made of wire. (1) * Half of the baby monkeys had food supplied by the cloth surrogate mother while the other half had food supplied by a wire surrogate mother (1) | 1-2 |
| States the key findings   * All of the baby monkeys spent more time with the cloth surrogate mother regardless of whether or not it had the food | 1 |
| **Total** | **1-6** |

b) Using Ainsworth’s attachment types, identify the possible type of attachment an orphaned child from Bucharest would have shown towards each caregiver and briefly describe how the child would behave in the separation and reunion steps of the Strange Situation method.

i. Attachment and behaviour towards the caregiver in the orphanage: (3 marks)

Attachment type:

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Anxious-avoidant OR Anxious-resistant | 1 |
| **Total** | **1** |

Behaviour during separation:

|  |  |
| --- | --- |
| **Description** | **Marks** |
| **Anxious-avoidant**: No sign of distress when primary carer leaves (1) OR  **Anxious-resistant**: Child shows intense distress upon separation (1)  Note: description of behaviour must match the attachment type stated in previous item to get the mark | 1 |
| **Total** | **1** |

Behaviour during reunion:

|  |  |
| --- | --- |
| **Description** | **Marks** |
| **Anxious-avoidant**: Child shows little interest when primary carer returns (1) OR  **Anxious-resistant**: Child shows a combination of positive / negative reactions to primary carer – cling as well as push away and does not settle down quickly after reuniting (1)  Note: description of behaviour must match the attachment type stated in previous item to get the mark | 1 |
| **Total** | **1** |

ii. Attachment and behaviour towards foster parents who have provided high quality care for a year or more: (3 marks)

Attachment type:

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Secure | 1 |
| **Total** | **1** |

Behaviour during separation:

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Child is distressed when the mother leaves. | 1 |
| **Total** | **1** |

Behaviour during reunion:

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Child is quickly comforted and settled upon the mother’s return | 1 |
| **Total** | **1** |

iii. What did Ainsworth attribute the differences in attachment types to? (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| * Individual differences between babies * Signalling behaviours given by babies * Responsiveness of primary care giver to babies signalling and needs | 1  1  1 |
| **Total** | **1 - 3** |

Question 8 (9 marks)

1. **Better attitudes needed on road sharing**

The depth of ill feeling and conflict on both sides is startling. The attitude from some drivers that cyclists have no right to bi in their path is matched by that from some cyclists who ignore the rules, especially when riding in a group.

The health of riding rather than sitting in a car are obvious and every car that is replaced on the road by a bike helps reduce traffic congestion and pollution.

What is needed more urgently in Perth is a better attitude from drivers and cyclists about sharing the road and dropping the combative approach.

Source: The West Australian, 16 October 2014

i. Outline two types of solutions to resolve this conflict (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Distributive – Both parties compromise on their preferred outcome to meet in the middle  Imposed - One party is stronger and imposes a solution or a third party intervenes and imposes a solution  Integrative - motives of each party are addressed rather than focusing on explicit demands, so both parties benefit | 2  2  2 |
| **Total** | **1 - 4** |

ii. Describe three possible techniques to resolve this conflict between car drivers and cyclists (6 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Counselling - One or both parties in the conflict may work with a counsellor to acquire skills to help them deal with/solve the conflict  Mediation - A third party is brought in to help resolve the conflict. The mediator helps the parties to the dispute focus on the issues and reach a voluntary solution  Negotiation - Parties who have some shared and some opposing interests coming together to try and reach mutual agreement. Can be interest based or positional. | 2  2  2 |
| **Total** | **1-6** |

Question 9 (10 marks)

a) Kayli is almost two years old and starting to talk. Her parents disagree about which approach to take to support her language development. Her father is more inclined towards Chomsky’s theory of language development while her mother is a strong believer of Bruner’s view.

i. Explain Chomsky’s theory of language development and describe what Kayli’s father would do to ensure that she acquires the necessary language skills.

Explanation of Chomsky’s theory (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Language is innate / Children are born with a language acquisition device (LAD) | 1 |
| Children receive the input of language by hearing other people around them talk and the LAD will allow children to output/speak the language they heard. | 1 |
| **Total** | **1-2** |

Description of what Kayli’s father would do. (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Her father will make sure that Kayli receives the language input by hearing people talking around her.  Note: Other responses that are relevant/appropriate accepted. | 1 |
| **Total** | **1** |

ii. Explain Bruner’s view about language development and describe what Kayli’s mother would do to help Kayli gain language skills.

Explanation of Bruner’s theory (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Language is acquired/learned by providing a language acquisition support system (LASS) | 1 |
| Children learn to associate words with objects or meaning when participating in listening and speaking activities – e.g. when mother reads a book to child or explains routine tasks like taking a bath or eating food | 1 |
| **Total** | **1-2** |

Description of what Kayli’s mother would do. (1 mark)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Her mother often talks to her - pointing to objects they use for routine tasks and saying their names; OR reads picture books to her and points to pictures and words  Note: Other responses that are relevant/appropriate accepted. | 1 |
| **Total** | **1** |

b) Kayli’s parents also differ in their communication styles, often leading to disagreements. Differentiate how her parents’ gender would impact on their communication style by identifying and describing a characteristic of each. (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Identifies the father’s communication style.   * Her father would tend to use report talk (1)   Describes the communication style by stating ONE of the following:   * His communication style is aimed at maintaining relationships through action (1) * He uses talk as a way of gaining attention/ to negotiate and maintain status | 1-2 |
| Identifies the mother’s communication style.   * Her mother would tend to use rapport talk (1)   Describes the communication style by stating ONE of the following:   * Her communication style is aimed at establishing relationships and intimacy/ develop understanding and negotiate differences (1) * Her communication style is aimed at maintaining relationships through talking (1) | 1-2 |
| Note: Other relevant descriptions accepted |  |
| **Total** | **1-4** |

Question 10 (14 marks)

WA Premier Mark McGowan and Education Minister Sue Ellery have announced from 2020 that the government will ban students from using mobile phones, tablets, smart watches in all public schools in a major push to reduce distraction and focus on learning.

The Psychology students of a metropolitan high school were asked to mount a campaign for their school to persuade students and parents to support the ban.

a) Identify **two** routes of persuasion that their campaign could use and specify one key characteristic of the audience that would be most suitable to each route. (4 marks)

i. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ route of persuasion:

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Central | 1 |
| Cites any ONE of the following   * has high need for cognition * enjoy examining issues/ pros & cons / thoughtful consideration of content * motivation to engage with message is based on the ability to think about it and understand its content * is an active participant in the process of persuasion | 1 |
| **Total** | **1-2** |

ii. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ route of persuasion:

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Peripheral | 1 |
| Cites any ONE of the following   * has low need for cognition * agreeing to the message is based on cues other than content / superficial cues * motivation to engage with message is based on attractiveness or credibility of the source * is a passive participant in the process of persuasion | 1 |
| **Total** | **1-2** |

NOTE: Answers to (i) and (ii) can be interchanged. However, the characteristic of the audience must match the stated route of persuasion to be awarded the mark.

b) The students were debating where to focus their efforts - making short videos or posters for their campaign. Give **one** advantage and **one** disadvantage of using each medium for gaining the attention of the target audience. (4 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| **Posters**  ADVANTAGE: Cites any ONE of the following   * Limited print space means message is kept simple and easy to comprehend * People do not need devices to be exposed to the message – they see it as they walk around the school | 1 |
| DISADVANTAGE: Cites any ONE of the following   * Limited amount of information can be presented * Can use only visual cues | 1 |
| **Short Video**  ADVANTAGE: Cites any ONE of the following   * More information can be presented * More superficial cues (sound and visual) can be included | 1 |
| DISADVANTAGE   * People need devices to access the message – they can choose not to or may not have time to access the video | 1 |
| Note: Other relevant responses accepted |  |
| **Total** | **1-4** |

c) The students selected three speakers to address each cohort at their year group’s assembly. For each speaker, briefly describe what the content of their message should emphasize to be most effective at persuading the audience. Provide an example to support your description.

i. the school psychologist (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Description of content:   * the message emphasizes the expertise of a school psychologist (1) | 1 |
| Example:   * quote psychological evidence of mental health issues arising from inappropriate use of mobile phones (1) * provide personal experiences of cases where students’ performance were jeopardized due to use of mobile phones (1) | 1 |
| Note: Other responses that are relevant/appropriate accepted. |  |
| **Total** | **1-2** |

ii. a parent (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Description of content:  Message emphasizes the personal experiences/opinions of a parent regarding impact of mobile phones on their child’s life / the parent-child relationship (1) | 1 |
| Example:   * describe how their children’s use of mobile phones was blocking communication between them causing more misunderstandings or having negative impact on their relationship with their child (1) * provide personal experiences where their child’s school performance / peer relationships was endangered by inappropriate use of mobile phones such as cyber-bullying or unwanted exposures on social media (1) | 1 |
| Note: Other responses that are relevant/appropriate accepted. |  |
| **Total** | **1-2** |

iii. a student leader (2 marks)

|  |  |
| --- | --- |
| **Description** | **Marks** |
| Description of content:  Message emphasizes personal experiences/opinions of the student leader regarding their own school performance or relationship with peers (1) | 1 |
| Example:   * describe how use of mobile phones was interfering communication with their peers OR destroyed their academic performance (1) * provide personal experiences of how not having their mobile phones when studying improved their school performance OR improved peer relationships (1) * describe how use of mobile phones had compromised their safety and privacy – e.g. exposed them to cyberbullying or social media shaming (1) | 1 |
| Note: Other responses that are relevant/appropriate accepted. |  |
| **Total** | **1-2** |

**End of Section Two**

Section Three: Extended Answer 25% (60 Marks)

Section Three consists of two questions. You must answer both questions.

Supplementary pages for planning/continuing your answers to questions are provided at the end of this Question/Answer booklet. If you used these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number

Suggested working time: 60 minutes.

Write your answer to Question 11 on pages 29-34. When you have answered this question, turn to page 36 for Question 12 and write your answer on pages 37-42.

**Question 11 (31 marks)**

Lowell was listening to Aboriginal elders speaking Nyungar and was intrigued by the harmony of the words and its strong connection to the land and nature. He learned that the word Noongar means ‘a person of the south-west of Western Australia’ and that Noongar history was recorded orally through stories handed down from one generation to the next. Nyungar is the official language of Noongar people and central to the survival of its unique culture. He wanted to learn how to communicate in Nyungar.

* Identify the areas of Lowell’s brain that have a specific role in using language for communication and discuss how these areas function when he reads, hears and speaks Nyungar words.
* Using Atkinson and Shiffrin’s multi-stage model of memory, describe how the different stores of memory are used to help him remember new and previously learned Nyungar words.
* Explain how the principles of observational learning can help Lowell communicate in Nyungar better.

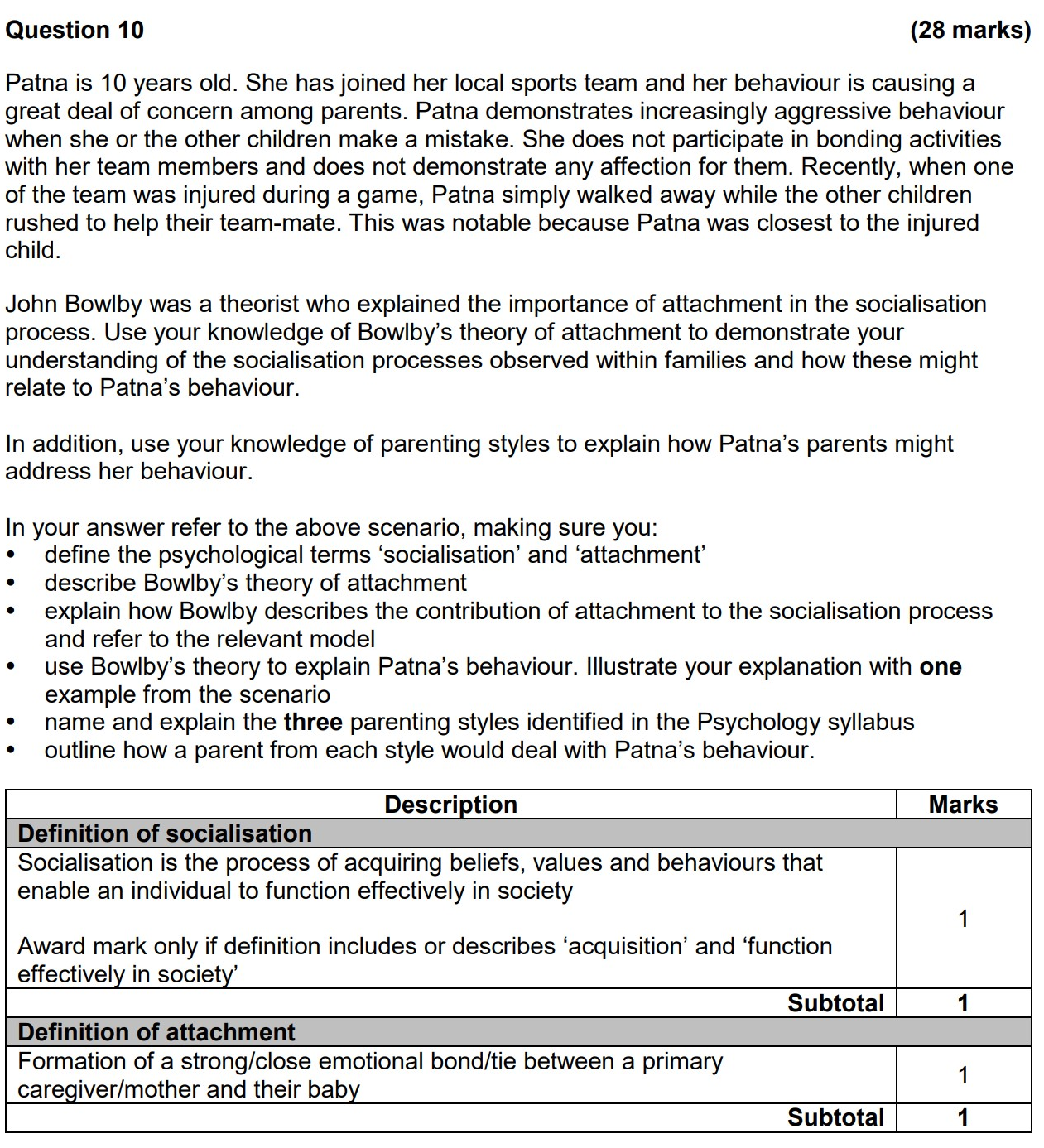
**Marking Key for Question 11**

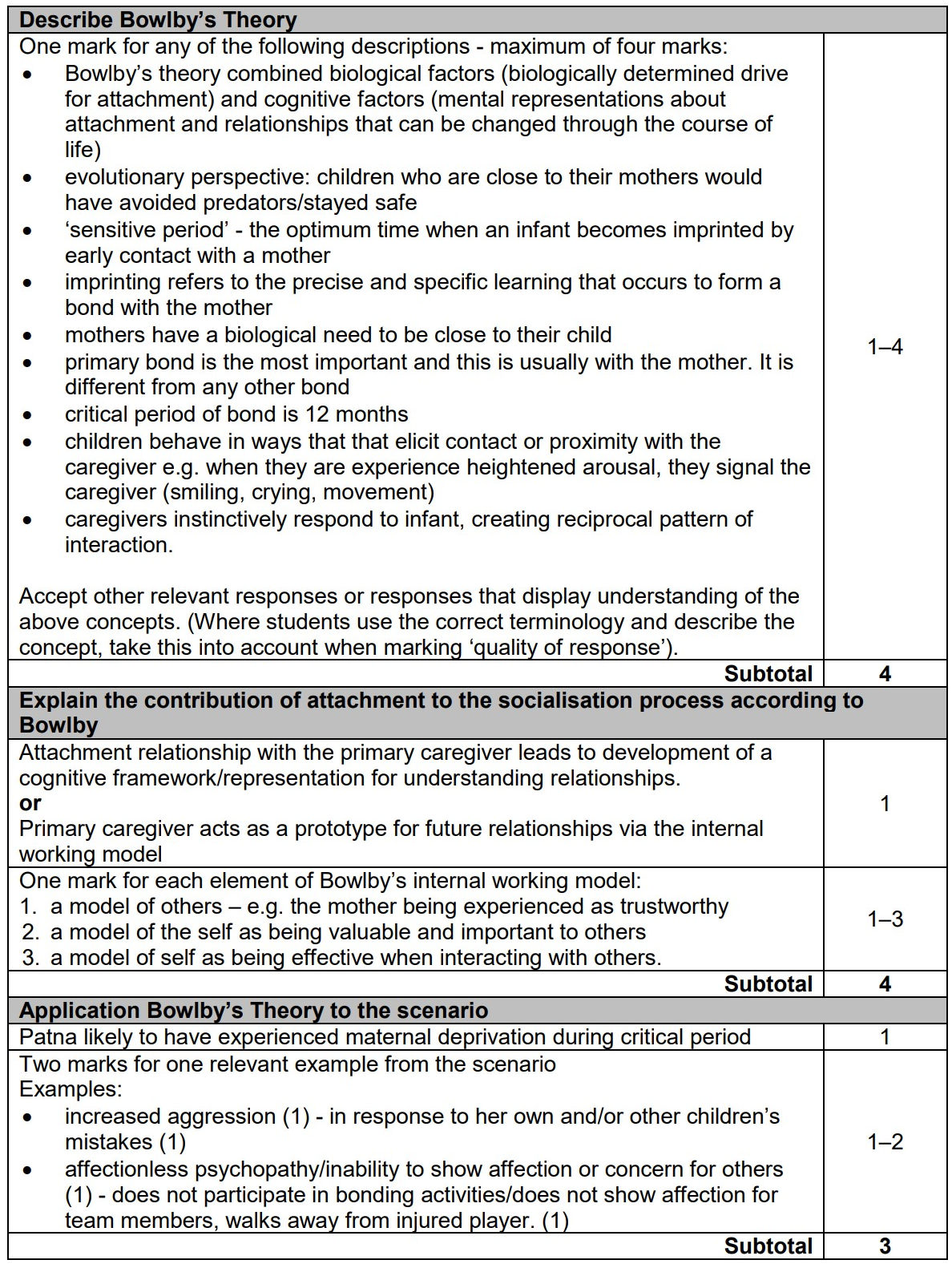
|  |  |
| --- | --- |
| **DESCRIPTION** | **MARKS** |
| Areas of the brain with a specific role in language and their function | | |
| * Broca’s area located in the frontal lobe (1) – is linked to the production and/or articulation of speech by controlling the muscle movements of the tongue, face, throat and vocal cords. (1) * Wernicke’s area found in the temporal lobe (1) – is linked to Broca’s area and responsible for verbal comprehension/giving meaning to words. (1)   Note: Stating that Broca’s and/or Wernicke’s area are found in the left hemisphere is not required to get the mark. | 1-4 |
| **Subtotal** | **4** |
| Application to scenario | | |
| Describes how Broca’s and Wernicke’s area work together to allow Lowell to read, speak and comprehend the Nyungar language   * When Lowell hears Nyungar words, Wernicke’s area gives meaning to the words (1) and connects to Broca’s area so that he can pronounce the words properly by controlling the tongue, vocal cords & facial muscles. (1) * When Lowell reads Nyungar words, Wernicke’s area converts sighted words into an auditory code (1) that is received by Broca’s area where the words are converted into speech. (1) | 1-4 |
| **Subtotal** | **4** |
| Describes Atkinson & Shiffrin’s multistore/multistage model of memory | | |
| Identifies (1) and describes (1) each store/stage of memory (x 3)  Specifies attention as a process required for selecting information to be transferred from sensory memory to short term memory/STM (1)  Specifies that rehearsal is necessary for transferring information from STM to long term memory/LTM (1)  States how retrieval of information from LTM allows past stored information to be accessed for current use (1)  Key points in description:   * Sensory memory/register (1) – encodes unlimited information from the senses and stores it for a few seconds (1) * Paying attention selects important sensory information for transfer to STM (1) * Short term memory (1) – limited information that had been attended to is stored for a short period (about 30 seconds) and holds information that is in current use (1) * New information needs to be rehearsed (by repetition/maintenance rehearsal or linked to past stored memories/elaborative rehearsal) so that it can be transferred to LTM (1) * Long term memory (LTM) (1) – stores a large amount of information for a long period/ up to a lifetime (1) * Memory cues allows retrieval of information needed for current use (1) | 1-9 |
| **Subtotal** | **9** |

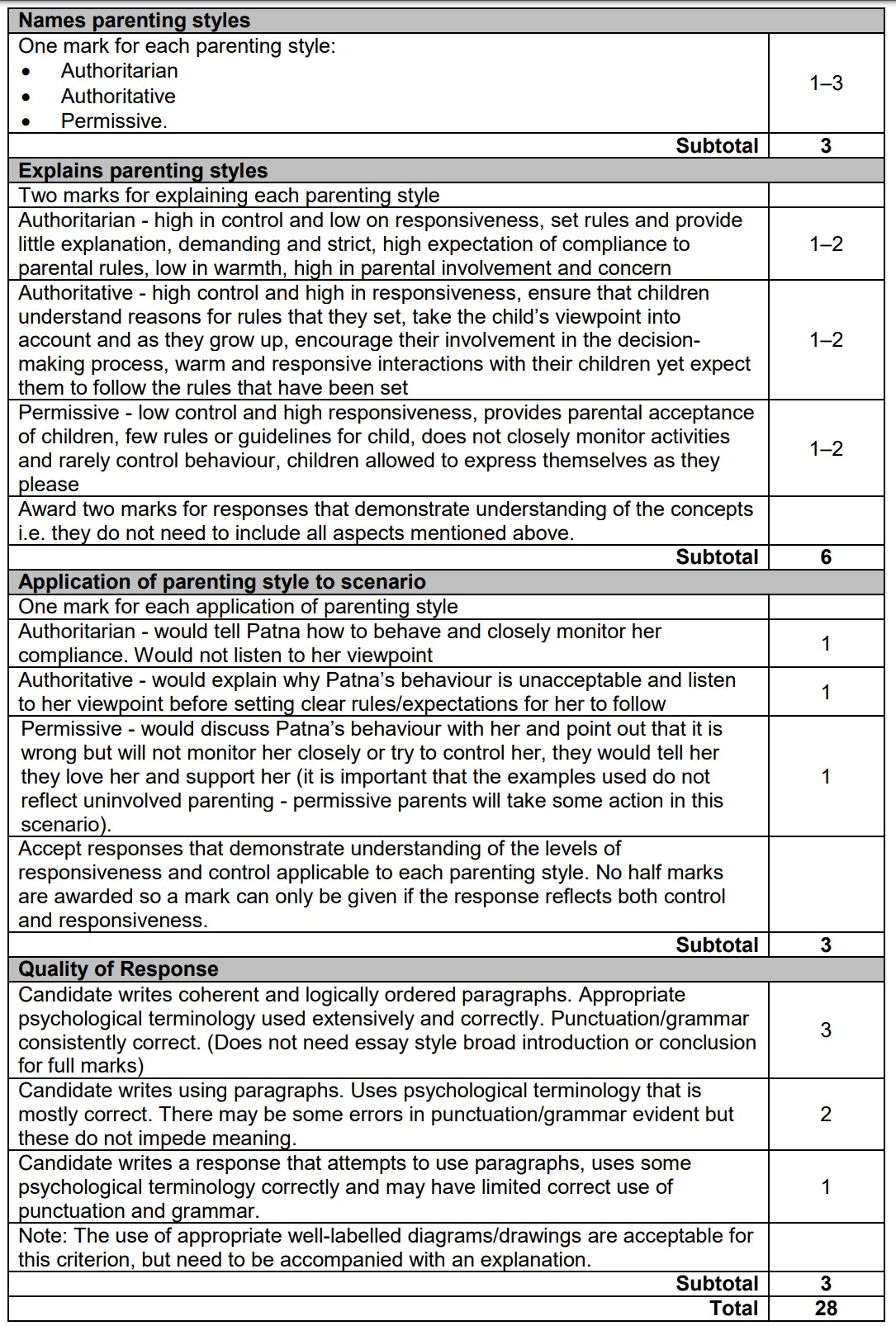
**Marking Key for Question 11 continued**

|  |  |
| --- | --- |
| **DESCRIPTION** | **MARK** |
| Application to scenario | | |
| * Lowell pays attention to the sound of Nyungar words/ OR how facial muscles and tongue move, effectively selecting this information from his echoic memory/iconic memory. (1) * The sight and sound of Nyungar words are transferred to his STM for current use and for rehearsal (1). * Rehearsal transfers the information to LTM where it is stored and retrieved every time he uses Nyungar to communicate. (1) | 1-3 |
| **Subtotal** | **3** |
| Explains the principles of observational learning | | |
| Identifies each cognitive process that comprise observational learning   * Learner pays attention to the actions of a role model (Attention) (1) * Learner must remember/ commit to memory the actions of the role model (Retention) (1) * Learner must be capable of/ have the skill to reproduce/imitate the behaviour modelled (Reproduction) (1) * Learner must have a reason/ feel rewarded for imitating the modelled behaviour (Motivation/Reinforcement) (1) | 1-4 |
| **Subtotal** | **4** |
| Application to scenario | | |
| * Lowell pays close attention to the elders (who are his role models) as they speak Nyungar. (1) * He commits the sights and sounds of the Nyungar language to memory by relating images/objects of nature like the kangaroo, gum nuts, emu to the sound of their names (1) * He practices speaking the words by listening to his own voice and communicating with other Noongar people (1) * He has a keen interest in learning the Noongar language and feels a sense of accomplishment when he is able to communicate with Noongar people effectively. (1) | 1-4 |
| **Subtotal** | **4** |
| Quality of Response | | |
| Candidate writes coherent and logically ordered paragraphs. Appropriate psychological terminology used extensively and correctly. Punctuation/grammar consistently correct. (Does not need essay style broad introduction or conclusion for full marks) | 3 |
| Candidate writes using paragraphs. Uses psychological terminology correctly. May have some errors in punctuation/grammar evident but these do not impede meaning | 2 |
| Candidate writes a response that attempts to use paragraphs, uses some psychological terminology correctly and may have limited correct spelling, punctuation and grammar | 1 |
| Note: The use of appropriate well-labelled diagrams/drawings are acceptable for this criterion, but need to be accompanied with an explanation. |  |
| **Subtotal** | **3** |
| **TOTAL** | **31** |

**Question 12 (29 marks)**

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