

## Year 11 Practice Exam 1 Semester 1 2023 – PLC

### 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
<b>Number of cakes sold</b>	60	22	14	25	12	16	49	15	20	38	26	75

- a) i. Would you consider Merlin's approach as scientific or non-scientific?

Description	Marks
Scientific	1
<b>Total</b>	<b>1</b>

- ii. Explain your answer.

(2 marks)

Description	Marks
Answers to include any TWO of the following:	
<ul style="list-style-type: none"> <li>• She has identified specific variables to be measured and related</li> <li>• She has a specific problem that she wants to find an answer to and/or test</li> <li>• A clear hypothesis can be made of possible patterns in sales</li> <li>• She has systematically recorded her data</li> <li>• She can describe the pattern of cake sales over a year</li> <li>• She can use her findings to predict future behaviour</li> <li>• Her findings have added to her knowledge of customer behaviour that will influence how she future plans about her business</li> </ul>	1-2
Accept other relevant responses related to scientific psychological research	
<b>Total</b>	<b>2</b>

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

Description	Marks
Quantitative circled	1
<b>Total</b>	<b>1</b>

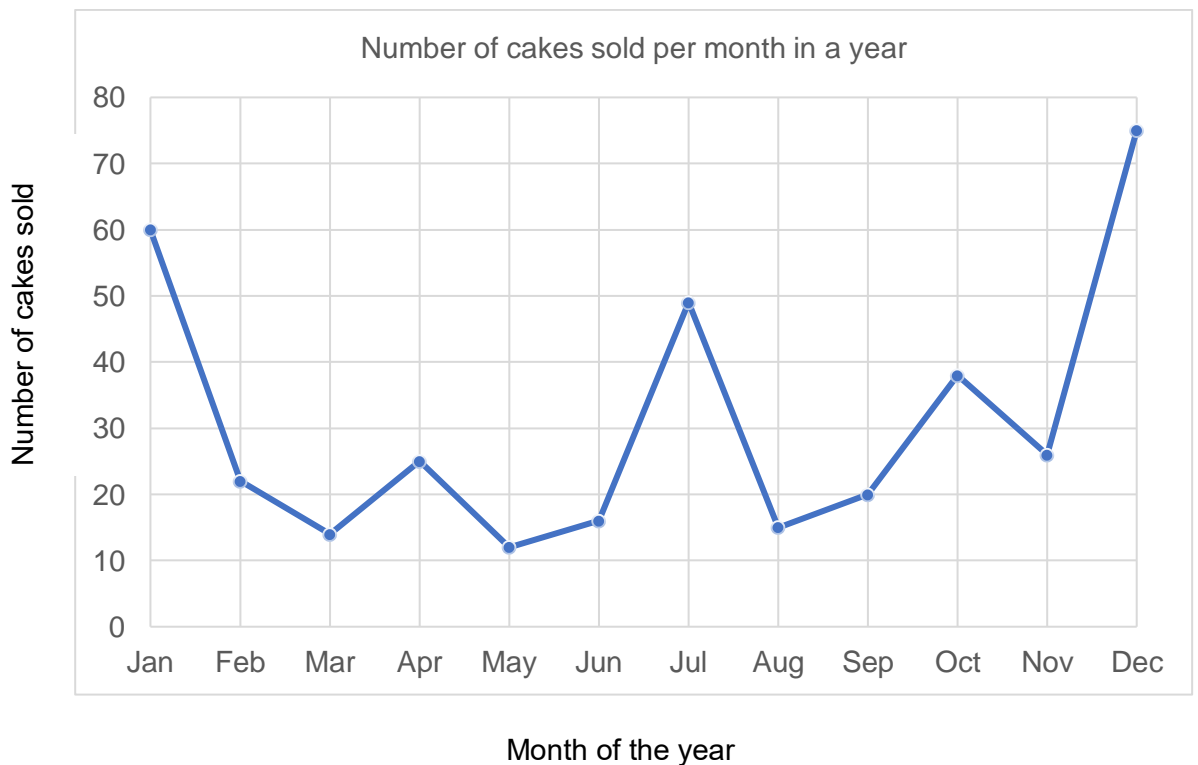
c) State **one** limitation of the data she has collected. (1 mark)

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	
<b>Total</b>	<b>1</b>

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
<b>Total</b>	<b>5</b>

Example of a five mark response:



**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:	
<ul style="list-style-type: none"> <li>• Peak sales are in the months of December and January</li> <li>• Sales drop after January and pick up again in July and towards December</li> <li>• Low sales (less than 20/month) in March, May (lowest), Jun and August</li> <li>• Sales pick up in July with slight increases in April and October</li> </ul>	1-2
<b>Total</b>	<b>2</b>
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:	
<ul style="list-style-type: none"> <li>• structured/semi-structured/unstructured interviews</li> <li>• self-report questionnaires</li> <li>• focus groups</li> </ul>	1
<b>Total</b>	<b>1</b>

- 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	
<ul style="list-style-type: none"> <li>• provide information about why they were ordering cakes at that time</li> <li>• explain what they like/ not like about her cakes</li> <li>• describe how she can improve on her products</li> </ul>	1-2
<b>Total</b>	<b>2</b>
Accept other reasonable responses that are relevant to the scenario	

## Question 2

(12 marks)

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

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

Description	Marks
<ul style="list-style-type: none"> <li>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</li> </ul>	1
<ul style="list-style-type: none"> <li>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)</li> </ul>	1
Note: response should be relevant to given scenario	
<b>Total</b>	<b>1-2</b>

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

- c) 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
<ul style="list-style-type: none"> <li>His <u>parasympathetic</u> system calms his body down / returns it to normal functioning</li> </ul>	1
<ul style="list-style-type: none"> <li>It increases salivation/stomach contractions allowing him to digest his food</li> </ul>	1
Note: response should be relevant to given scenario	
<b>Total</b>	<b>1-2</b>

### Question 3

(15 marks)

After the fall of Nicolae Ceausescu's regime in 1990, a documentary on Bucharest's street children shocked the world with images of children languishing in cribs with very little attention from caregivers and no social stimulation from playing with toys or other children. Prof Charles Nelson and his colleagues at Harvard University started the Bucharest Early Intervention Project where they removed 66 children between 6 months to 2 ½ years old from orphanages and placed them in high quality foster care. They followed the development of these children over 5 years and observed huge improvements in physical, cognitive and social skills after the first year of foster care.

- a) Prof Nelson referred to Bowlby's critical or sensitive period and maternal deprivation hypothesis to justify the need for immediate intervention in the care of these orphaned children.
- i. Explain Bowlby's critical period and how it relates to his maternal deprivation hypothesis.

(2 marks)

Description	Marks
Defines the critical period <ul style="list-style-type: none"> <li>The critical period is the optimum time when infants become attached (imprinted) to their mothers through contact from birth to about a year after</li> </ul>	1
Relates to maternal deprivation <ul style="list-style-type: none"> <li>Failure or loss of attachment during the critical period (maternal deprivation) can result in irreversible, long-term negative consequences</li> </ul>	1
<b>Total</b>	<b>1-2</b>

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

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

Description	Marks
Provides the aim <ul style="list-style-type: none"> <li>to find out whether nutrition or contact comfort was more important in the formation of mother-child attachment</li> </ul>	1
Identifies the dependent variable <ul style="list-style-type: none"> <li>the time each baby monkey spent with the cloth or wire surrogate mother</li> </ul>	1
Identifies the independent variable <ul style="list-style-type: none"> <li>where food (milk) is supplied – either by the cloth or wire surrogate mother</li> </ul>	1
Outlines the procedure <ul style="list-style-type: none"> <li>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)</li> <li>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)</li> </ul>	1-2
States the key findings <ul style="list-style-type: none"> <li>All of the baby monkeys spent more time with the cloth surrogate mother regardless of whether or not it had the food</li> </ul>	1
<b>Total</b>	<b>1-6</b>

ii. State how Harlow's experiment can be applied to the case of Bucharest's orphaned children. (1 mark)

Description	Marks
<ul style="list-style-type: none"> <li>Similarities in the condition of orphaned children to the baby monkeys indicate that lack of contact comfort was the critical factor suppressing their development.</li> </ul>	1
<b>Total</b>	<b>1</b>

- c) 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
<b>Total</b>	<b>1</b>

Behaviour during separation:

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

Behaviour during reunion:

Description	Marks
<b>Anxious-avoidant:</b> Child shows little interest when primary carer returns (1) OR <b>Anxious-resistant:</b> 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) <u>Note:</u> description of behaviour must match the attachment type stated in previous item to get the mark	1
<b>Total</b>	<b>1</b>

- 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
<b>Total</b>	<b>1</b>

Behaviour during separation:

Description	Marks
Child is distressed when the mother leaves.	1
<b>Total</b>	<b>1</b>

Behaviour during reunion:

Description	Marks
Child is quickly comforted and settled upon the mother's return	1
<b>Total</b>	<b>1</b>

#### Question 4

(17 marks)

Dr Casey, a school psychologist, was concerned about the widespread use of high energy caffeinated beverages amongst high school students. She interviewed twenty Year 11 and Year 12 students who she came across drinking caffeinated high energy drinks in the school yard. She conducted an informal unstructured interview with open-ended questions and learned that they consumed at least 3 caffeinated high energy drinks to counteract sleepiness during school hours and while studying after school.

- a) Provide **two** advantages of Dr Casey's manner of interviewing students to gather preliminary information. (2 marks)

Description	Marks
Any TWO of the following: <ul style="list-style-type: none"> <li>Students can elaborate on/ provide more detail to their responses.</li> <li>Flexibility in forming follow up questions that is based on earlier responses</li> <li>More information can be gathered to identify variables or factors that can be investigated and those that could be confounding variables.</li> </ul>	1-2 marks
<b>Total</b>	<b>2 marks</b>
Accept other relevant responses	



Dr Casey came across a comprehensive report from the Sleep Health Foundation that reported exposure to screens of technological devices one hour before sleeping significantly delayed sleep onset and shortened sleep hours leading to daytime sleepiness and decreased attention.

Knowing that all students in her school had a technological device, she was concerned about the interaction of caffeine consumption with use of technological devices before bedtime. She wanted to know if taking caffeinated drinks during the day was actually preventing daytime sleepiness or if it made the students more sleep deprived the next day. She focused her investigation on students who use technological devices one hour or more before they go to bed. Participants would be asked to record the number of times they felt sleepy and lost focus during school hours over one week.

- b) Identify the population that Dr Casey's findings would apply to. (1 mark)

Description	Marks
Year 11 and Yr 12 students who use technological devices one hour before sleeping	1 mark
<b>Total</b>	<b>1 mark</b>
Note: Consumption of caffeinated drinks is not required for the mark (but will be accepted if stated) as the control would provide data for those who do not consume caffeinated drinks.	

- c) Dr Casey had to write an operational hypothesis in her research proposal to get support from her department. Describe **four** pieces of information that should be included in her operational hypothesis. (4 marks)

Description	Marks
Population: High school students that use technological device/s one hour or more before sleeping (1)	1
IV: consume high energy caffeinated drinks versus those who do not consume high energy caffeinated drinks (1)	1
Prediction: will have higher / lower	1
DV: number of incidence of daytime sleepiness measured over a week	1
<b>Total</b>	<b>4 marks</b>

Dr Casey recruited 200 Year 11 and Year 12 students from two neighbouring high schools. All of the students used at least one technological device for 1 hour or more each night before going to bed.

d) Participants were randomly allocated to either the control or experimental group.

i. What is the purpose of using random allocation when assigning participants to a designated group? (1 mark)

Description	Marks
To eliminate bias in the composition of the experimental and control group OR To make the experimental and control groups more representative of the sample/population	1 mark
<b>Total</b>	<b>1 mark</b>
Do Not Accept: to make results valid or simply to eliminate bias. Response should indicate how bias is minimized or how validity is improved	

ii. Describe the control group. (1 mark)

Description	Marks
Year 11/12 students who use technological devices one hour before sleeping and do not consume high energy caffeinated drinks	1 mark
<b>Total</b>	<b>1 mark</b>

- e) Identify **one** confounding variable in Dr Casey's research and explain how it should be controlled to ensure that her results are valid. (2 marks)

Description	Marks
Any ONE of the following: <ul style="list-style-type: none"> <li>• Confounding variable (1): Level of difficulty of subjects the student is enrolled in How it should be controlled (1): Select only students that are enrolled in ATAR courses</li> <li>• Confounding variable (1): Study habits of participants How it should be controlled (1): Ask participants to study before bedtime rather than earlier in the day</li> <li>• Confounding variable (1): Sleep habits of participants How it should be controlled (1): Ask participants to go to bed within a set period of time (e.g. between 10-11 pm)</li> </ul>	1-2 marks
<b>Total</b>	<b>2 marks</b>
Other relevant responses accepted. Note: Explanation of how variable is controlled should be applicable to the confounding variable identified for 2 marks. Control of confounding variable should be 'doable'. Eg. Level of tolerance to caffeine is a confounding variable but it cannot be controlled and will remain a source of error. Error can only be minimized by taking a large representative sample. This response will get 1 mark for the confounding variable but not for how to control.	

- f) Explain how Dr Casey would obtain informed consent from Year 11 and 12 participants. (2 marks)

Description	Marks
Provide relevant information about the investigation in writing to both the parents/guardian and student which include: (names at least 2) purpose of the study, what data will be collected from participants, what their rights are, how confidentiality will be maintained	1 mark
After providing relevant information, <u>both the student and their parent or guardian</u> provide their consent to participate in writing.	1 mark
<b>Total</b>	<b>2 marks</b>
Accept other relevant responses	

A colleague of Dr Casey suggested that she should use a placebo in her investigation.

- g) Identify a placebo that she could use and explain how it would improve the validity of her results. (2 marks)

Description	Marks
Decaffeinated high energy drink	1 mark
It will eliminate the effect of participant bias due to the expectation that caffeinated energy drinks will improve focus and keep one alert/awake.	1 mark
<b>Total</b>	<b>2 marks</b>
Do not accept a response that only states "eliminates placebo effect" without explaining how the validity of results is improved	

- h) When a placebo is used, what should Dr Casey do after the study is completed to ensure that she meets all the ethical guidelines of psychological research? (2 marks)

Description	Marks
She should debrief participants.	1 mark
Where she explains why a placebo was used and address any anxieties or stress felt by participants as a result of getting a placebo.	1 mark
<b>Total</b>	<b>2 marks</b>
Note: Explanation of what a debriefing session entails should be related to the use of a placebo and not a generic description of debriefing (e.g. explains the results of the study)	

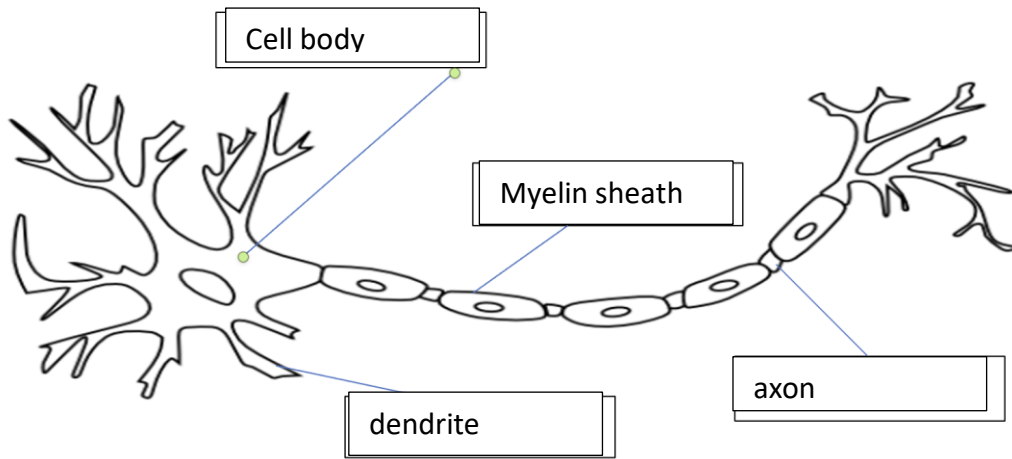
**Question 5**

**(16 marks)**

- (a) Name the **two (2)** components of the central nervous system. (2 marks)

Description	Marks
Brain	1
Spinal cord	1
<b>Total</b>	<b>2</b>

- (b) The neuron has a very distinctive structure. Label the **four (4)** identified parts of the following neuron. (4 marks)



- (c) On the diagram above, draw an arrow to indicate the direction of transmission. (1 mark)

Description	Marks
Arrow pointing to the right	1
<b>Total</b>	<b>1</b>

- (d) Name the type of neuron in the diagram. (1 mark)

Description	Marks
Motor neuron	1
<b>Total</b>	<b>1</b>

(e) For the diagram above state where in the body the cell body would be located. (1 mark)

Description	Marks
Spinal cord	1
<b>Total</b>	<b>1</b>

(f) State the role of the dendrites. (1 mark)

Description	Marks
Receive messages from other neurons	1
<b>Total</b>	<b>1</b>

(g) Explain how a neuron transmits a message to another neuron. (6 marks)

Description	Marks
An action potential (electrical signal) arrives at the axon terminal of the sending neuron	1
Vesicles containing neurotransmitter migrate to the cell membrane and release the neurotransmitter into the synapse	1
The neurotransmitter diffuses across the synapse	1
Neurotransmitter binds to receptors on the dendrite of the receiving neuron	1
This triggers an action potential (electrical signal) in the receiving neuron	1
Reuptake occurs as leftover neurotransmitter moves back into sending neuron/leftover neurotransmitter is broken down by enzymes in synapse	1
<b>Total</b>	<b>6</b>

## Question 6

(15 marks)

(a) Fill in the table below regarding developmental changes across the lifespan.

(6 marks)

Stage	Physical development	Cognitive development	Social and emotional development
Infancy (0-2)	Rapid brain and body growth. Improvement in voluntary muscle control.	Improvement in perceptual abilities, understanding and ability to communicate through language. Increase in memory and learning.	Development of self-recognition and self-identity. Beginning to understand gender identity. Enjoyment of family centred social interactions and basic pretend play.
Childhood (Preschool children)	Continued rapid brain development. Hand preference established.	Large increase in the use and understanding of language. Thoughts generally guided by perceptions rather than logic.	Rapid acquisition of gender roles. More sophisticated pretend play.
Childhood (School age children)	Physical growth slows. Motor skills improve.	Attention span improves dramatically. Logical thinking. Improved memory strategies and problem-solving abilities.	More independent from parents and carers. Friendship groups more stable and closer, mainly with the same sex.
Adolescence (12-20)	Dramatic growth spurt Sexual maturity and brain development, especially in the prefrontal cortex.	Sophisticated and logical thinking skills. Gains knowledge and understanding.	A quest for independence. More sophisticated ideas of self: self-image, self-esteem, and self-identity. Emotionally closer friendships, usually with one or two others.

**Question 6** continued

(b) Fill in the correct terms regarding brain plasticity. (6 marks)

Term	Definition
migration	The movement of new neurons to the locations where they will function
synaptic pruning	Elimination of excess neurons and synapses
proliferation	The making of new neurons
cerebellum	The increase in the number of neurons and synapses in this part of the brain during adolescence may cause a temporary clumsiness
Circuit formation	Axons of the new neurons grow out to target cells and form synapses with them
Prefrontal cortex (accept frontal lobe)	The last part of the brain to develop, accounting for snap decision making and impulsivity in adolescence

(c) Explain the differences between developmental plasticity and adaptive plasticity. (3 marks)

Any 3 of the following:

Developmental plasticity is changes in neuronal connections as we interact with the environment in normal process of growth in childhood (1), whereas adaptive plasticity is the brain's ability to compensate for lost function after damage or adjusting to new experiences (1)

Developmental plasticity includes synaptogenesis, synaptic pruning, migration and myelination whereas adaptive plasticity includes rerouting and sprouting (1)

Developmental plasticity is predetermined/occurs as a response to the initial processing of sensory stimuli whereas adaptive plasticity occurs as a response to injury or new experience (1)

Developmental plasticity occurs throughout life but diminishes with age, so does adaptive plasticity but it is most effective in infancy/childhood (1)



## Question 7

(30 marks)

Throughout history many different methods have been used to learn information about the brain. Summarise the following techniques and what we have learned from them.

In your response you should:

- Describe a case study that looked at brain function and explain what we have learned from it (5 marks)
- Summarise the method and findings of Walter Sperry's split brain studies in animals (5 marks)
- Summarise the method and findings of Walter Sperry's split brain studies in humans (5 marks)
- List the functions of the left and right hemispheres of the brain (4 marks)
- Describe the contemporary method of EEGs and explain what we can learn from them (3 marks)
- Describe the contemporary method of fMRIs and explain what we can learn from them (4 marks)
- Use appropriate psychological terminology (4 marks)

Description	Marks
<b>Case Study on Brain Function</b>	
Phineas Gage, Railway worker injured in an accident where pole went through his skull, Phineas was pleasant and organized before accident, After accident was disorganized and moody, Taught us that frontal lobe is important in planning/regulating emotion	1-5
<b>Subtotal</b>	5
<b>Split brain studies in animals</b>	
Severed corpus callosum (1) in Monkeys or cats (1)	1-2
For monkeys: could perform twice as many tasks in the same time, showed each eye a different visual field so each eye and hand was performing a different task at same time	1-3
For cats: covered one eye and hid food under a certain block, cat learned to look for food under the block, covered other eye and trained cat to look under another block, when both eyes uncovered they would look equally under each block	1-3
<b>Subtotal</b>	5
<b>Split brain studies in humans</b>	
Severing corpus callosum could relieve severe epilepsy, Two hemispheres could no longer communicate, Images to right eye could be named, Images to left eye could not be named but could be drawn with left hand, Patients experienced double consciousness	1
<b>Subtotal</b>	5
<b>Functions of left and right hemispheres</b>	
Each side controls opposite side of body	1
Left controls: Language, logic	1-2
Right controls: creativity, spatial awareness, non-verbal tasks	1-2
<b>Subtotal</b>	4
<b>EEGs</b>	
measures electrical activity in different parts of surface of brain (cerebral cortex)	1
Indicates levels of consciousness	1
Can help diagnose strokes, epilepsy	1
<b>Subtotal</b>	3
<b>fMRIs</b>	
works by measuring blood flow/oxygen consumption to different parts of brain	1
Produces a dynamic image	1
Shows which parts of the brain are active at a given time	1
Used for research in healthy patients and for clinical use	1
<b>Subtotal</b>	4
<b>Communicating in psychology</b>	
Candidate writes coherent and logically ordered paragraphs. Appropriate psychological terminology used consistently, extensively, and correctly. Punctuation and grammar do not impede meaning. <i>Does not need essay style broad introduction or conclusion for full marks</i>	4
Candidate writes coherent and logically ordered paragraphs. Uses a range of psychological terminology that is mostly correct. There may be some errors in punctuation/grammar evident, but these do not impede meaning.	3
Candidate writes using clear paragraphs. Uses simple psychological terminology. 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
<b>Subtotal</b>	4
<b>Total</b>	30

## **Question 8**

**(30 marks)**

Piaget is one of the most influential psychologists of all time. His work on how our thinking processes has informed teaching and parenting practices for generations.

In your response you should:

- Use an example to outline the processes involved in building a schema (7 marks)
- Describe Piaget's stages of cognitive development (16 marks)
- Explain a criticism of Piaget's work (4 marks)
- Communicate your psychological understandings appropriately (4 marks)

Description	Marks
<b>Process of building a schema (with example)</b>	
Assimilation – adding new examples to schema	1
If something doesn't fit with schema leads to disequilibrium	1
Must accommodate by changing schema or creating new schema	1
Equilibrium is restored	1
Relevant example	1
<b>Subtotal</b>	<b>5</b>
<b>Stages of cognitive development</b>	
Sensori-motor, 0-2 years, Exploring world using senses, Object permanence is gained	0-4
Pre-operational, 2-7 years, Using language and symbols, Not logical/trial and error testing, Egocentric	0-4
Concrete operational. 7-11, Logical but not abstract thinking, Can conserve/seriate/classify	0-4
Formal operational, 11+, Abstract thinking, Can systematically test their hypotheses	0-4
<b>Subtotal</b>	<b>16</b>
<b>Criticism of Piaget's work</b>	
<p>Either:</p> <p>Measures performance not competence  (Siegal) noticed that conservation tasks break children's language conventions/children are trying to please the experimenter  May get wrong answer due to way question was asked even if they can do it  OR  Underestimated young minds  (Hughes/Donaldson) argued that the 3 Mountains task was unfamiliar  Children can perform policeman task showing that they are not egocentric  OR  Does not take into account social/cultural factors in cognitive development  Piaget argued children are individual explorers  Many argue that parents/teachers/access to education  Can increase rate of cognitive development</p>	0-4
<b>Subtotal</b>	<b>4</b>
<b>Communicating in psychology</b>	
Candidate writes coherent and logically ordered paragraphs. Appropriate psychological terminology used consistently, extensively, and correctly. Punctuation and grammar do not impede meaning. <i>Does not need essay style broad introduction or conclusion for full marks</i>	4
Candidate writes coherent and logically ordered paragraphs. Uses a range of psychological terminology that is mostly correct. There may be some errors in punctuation/grammar evident, but these do not impede meaning.	3
Candidate writes using clear paragraphs. Uses simple psychological terminology. 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
<b>Subtotal</b>	<b>4</b>
<b>Total</b>	<b>30</b>

## Question 9

(30 marks)

Geraldine is having lunch at a restaurant with her Dad. When her juice arrives, it is in a tall, skinny glass. Geraldine is very excited to have so much juice because at home her juice is always in a short, wide glass. She loves going to restaurants! Geraldine's older brother is 14 years old and is no longer impressed by the restaurant glasses. He is concerned about the science investigation he has to plan for school tomorrow.

- Name and describe the developmental achievement that Geraldine has not yet mastered. (2 marks)
- Describe the task Piaget used to test for this ability, and explain the criticism of Piaget's work relating to this task. (7 marks)
- Name the stage of cognitive development that Geraldine is most likely in and justify your response. (2 marks)
- Describe the other characteristics of this cognitive stage and illustrate them using examples of behaviours Geraldine may exhibit. (4 marks)
- List the age range that Geraldine is likely in. (1 mark)
- Describe in detail the stage of cognitive development that Geraldine's brother is likely in and justify your response. (5 marks)
- Explain the task Piaget used to test for this stage of development. (5 marks)
- Communicate your psychological understandings appropriately (4 marks)

Description	Marks
<b>Developmental Achievement Geraldine hasn't mastered</b>	
Conservation, understanding that amount doesn't change when the arrangement is altered	1-2
<b>Subtotal</b>	<b>2</b>
<b>Piaget task and related criticism</b>	
Conservation task	1
Liquid in two identical glasses, asks child if the amount is the same	1
Pours one of the glasses into a different shaped container	1
Asks again if the amount is the same	1
Children who can conserve recognize that the amount hasn't changes	1
(Siegal) noticed that conservation tasks break children's language conventions/children are trying to please the experimenter	1
May get wrong answer due to way question was asked even if they can do it	1
<b>Subtotal</b>	<b>7</b>
<b>Geraldine's cognitive development</b>	
Geraldine is pre-operational, She cannot yet conserve/thought amount of juice had changed	1-2
<b>Subtotal</b>	<b>2</b>
<b>Characteristics of this cognitive stage with examples</b>	
Any two of the following with appropriate examples: Egocentric, appropriate example Trial and error testing/no logic, appropriate example Use of language and symbols, appropriate example	1-4
<b>Subtotal</b>	<b>4</b>
<b>Geraldine's Age</b>	
2-7	1
<b>Subtotal</b>	<b>1</b>
<b>Geraldine's Brother's cognitive development</b>	
Formal operational, 11+, Abstract thinking, Can systematically test their hypotheses	4
Justification: he is 14 (accept planning a science investigation)	1
<b>Subtotal</b>	<b>5</b>
<b>Piagetian Task</b>	
Pendulum task, given string of different lengths, different masses, different push force, must work out the best combination to make pendulum swing fastest Formal operational will be systematic in approach (control variables) Will usually solve faster than concrete operational	1-5
<b>Subtotal</b>	<b>5</b>
<b>Communicating in psychology</b>	
Candidate writes coherent and logically ordered paragraphs. Appropriate psychological terminology used consistently, extensively, and correctly. Punctuation and grammar do not impede meaning. <i>Does not need essay style broad introduction or conclusion for full marks</i>	4
Candidate writes coherent and logically ordered paragraphs. Uses a range of psychological terminology that is mostly correct. There may be some errors in punctuation/grammar evident, but these do not impede meaning.	3
Candidate writes using clear paragraphs. Uses simple psychological terminology. 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
<b>Subtotal</b>	<b>4</b>
<b>Total</b>	<b>30</b>

