On the basis of your performance in this examination, the examiners will provide results on each of the following criteria taken from the course statement:

**Criterion 3**  
Use evidence to support a psychological view.

**Criterion 4**  
Analyse and evaluate ideas and information related to Psychology.

**Criterion 5**  
Display knowledge and understanding of psychological concepts and ideas.
CANDIDATE INSTRUCTIONS

You **MUST** make sure that your responses to the questions in this examination paper will show your achievement in the criteria being assessed.

You must answer a total of **THREE** questions, **ONE** question from each section.

You must answer each question in a separate answer booklet.

All written responses must be in English.
Question 1 – Gender

Examine the following stimulus items:

**Stimulus 1 – Gender stereotypes**

‘We’ve known for a while now that females do as well as males on tests that measure ability in maths and science,’ says psychologist Pamela Davis-Kean. ‘But women are still underrepresented in science, technology, engineering and maths university programs and in careers based on those disciplines.’ A study by Davis-Kean et al. found that parents provided more maths-supportive environments for their sons than for their daughters. Parents’ attitudes, particularly stereotypes they hold about whether maths and science are more important for boys than for girls, were found to have a significant effect on their children’s later mathematics achievement, and even on their eventual career choices.

![Figure 1: The mean number of maths and science items purchased by parents of girls and boys in each grade of primary school.](Source: Adapted from: http://www.ur.umich.edu and http://dadsanddaughters.blogspot.com.au)
Question 1 (continued)

Stimulus 2 – Brain differences

No one would dispute that men and women behave in different ways; the question is why? Are we biologically wired that way or is it due to social conditioning? Recent advances in neuroimaging have provided new insights into how women and men use their brains differently, according to Louann Brizendine. She says that women have 11% more neurones in the area of the brain devoted to emotion and memory.

Women’s brains have a thicker corpus callosum, the cable of nerves that channels communication between the brain’s two hemispheres. Women tend to use both hemispheres for language tasks, which may be why girls tend to learn to talk earlier than boys. The right hemisphere plays a dominant role in the male brain, and it is this side that we use to navigate the world and perform spatial tasks.

Some experts believe the physical differences in the brain may not be there at birth but are gradually sculpted. This is because social conditioning begins right from the first day of life, when the brain produces neurones at the rate of 500 000 a minute.


(a) Referring to the above stimuli and other relevant information, demonstrate your knowledge and understanding of the following psychological concepts:

• gender
• gender stereotypes
• genetic endowment

(b) Provide evidence to support different explanations of gender differences.

Section A continues.
Section A (continued)

Question 2 – Intelligence

Examine the following stimulus items:

**Stimulus 1 – Studies of IQ similarity**

![Graph showing mean correlations of IQ scores for various relationships.]

- A – identical twins reared together
- B – identical twins reared apart
- C – fraternal twins reared together
- D – siblings reared together
- E – siblings reared apart
- F – parent and child living together
- G – parent and child living apart
- H – adoptive parent and child living together
- I – adoptive siblings reared together
- J – cousins reared together

**Figure 2:** Mean correlations of IQ scores for people of various relationships. Higher correlations show greater similarity.


Question 2 continues.
Question 2 (continued)

Stimulus 2 – The Head Start program

The Head Start program is an intervention program designed to help disadvantaged children build self-confidence and learn the skills necessary to succeed in school. The program is intended to head off problems on several fronts by catering for children’s physical as well as mental needs with nutritional and medical support, plus a year or two of preschool education.

Children who were involved in the program score higher on IQ tests and have higher school achievement during the early grades than children who received no such intervention (Zigler & Styfco, 1994). Although the differences between the Head Start children and the matched control group diminish over time, the effects are still detectable in adolescence. Compared with the control group, the Head Start children are less likely to be placed in special education classes, less likely to fail a grade, and more likely to complete high school.

Other studies indicate that early educational intervention starting in the first months of life can raise infants’ scores on intelligence tests by as much as 30% compared with control groups (Ramey & Ramey, 1998; Wickelgren, 1999). The earlier the individual is immersed in an enriched environment, the better.


(a) Referring to the above stimuli and other relevant information, demonstrate your knowledge and understanding of the following psychological concepts:

• intellectual potential
• genetic endowment
• enrichment

(b) Provide evidence to support explanations of how intellectual differences may develop.

Section A continues.
Section A (continued)

Question 3 – Personality

Stimulus 1 – Heritability and environmental variance for the Big Five traits

![Diagram showing heritability and environmental variance for Big Five traits]

**Figure 3:** The heritability and environmental variance of the Big Five traits as estimated by Plomin and Caspi (1999) based on twin study data.


Question 3 continues.
Stimulus 2 – The influence of genes

Much of our predisposition towards determination, sociability, self-control and sense of purpose is, apparently, in our genes. DNA has a bigger influence on these traits than our upbringing and the company we keep. These aspects of our personality can make the difference between success and failure, according to researchers from Edinburgh University. The researchers questioned more than 800 pairs of twins about their attitudes to life.

Comparing identical twins who share DNA and upbringing with non-identical twins who have shared backgrounds but are no more genetically alike than other siblings allows researchers to assess the influence of nature over nurture. The results, published in the *Journal of Personality*, found genes play a much bigger role than lifestyle, with self-control in particular part of our DNA. Genes are also largely the force behind how determined and persistent we are.

‘Previously, the role of family and environment around the home often dominated people’s ideas about what affected psychological well-being,’ researcher Timothy Bates said. ‘However, this work highlights a much more powerful influence from genetics.’

(Source: Adapted from Want to be a success? It’s in your DNA (2012, May 29). *The Mercury*)

(a) Referring to the above stimuli and other relevant information, demonstrate your knowledge and understanding of the following concepts:

• personality
• personality traits
• genetic endowment

(b) Provide evidence to support different explanations of personality development.
SECTION B – HUMAN LEARNING

Answer **ONE** question from this section. You must answer **ALL** parts of the chosen question.

It is recommended that you spend approximately **60 minutes** on this section.

Use a separate answer booklet for this section.

This section assesses **Criteria 3** and **4**.

**Question 4 – Conditioning**

Examine the following stimulus items:

**Stimulus 1 – Systematic desensitisation of exam phobia**

Before therapy

![Diagram](before.png)

After therapy

![Diagram](after.png)

**Figure 4:** An individual before and after therapy using systematic desensitisation to treat exam phobia.


**Question 4 continues.**
Stimulus 2 – Token economies

One of the most successful applications of operant conditioning has been the token economy. Token economies are systems, often set up in psychiatric hospitals, for reinforcing appropriate behaviours and extinguishing inappropriate ones (Kazdin, 1982). In token economies, staff members reinforce patients who behave in a desired fashion using tokens, chips, points or other secondary reinforcers.

Typically, psychologists who construct token economies begin by identifying target behaviours – actions they hope to make more frequent. In one hospital psychiatric unit there were children with serious behaviour problems including yelling and swearing. One target behaviour was being polite to staff members. So whenever a child was especially polite to a staff member, he or she was rewarded with points which could be traded in for something he or she wanted, such as ice cream or attending a movie. Whenever a child was rude to a staff member, he or she was punished with a loss of points.

Research suggests that token economies are often effective in improving behaviour in hospitals, group homes and juvenile detention centres (Allyn & Milan, 2002). However, the behaviours learned in institutions do not always transfer to the outside world.


(a) Referring to the above stimuli and other relevant evidence, explain how humans may learn through systematic desensitisation and the use of token economies.

(b) Analyse and evaluate evidence for how humans learn through classical and operant conditioning.

Section B continues.
Section B (continued)

**Question 5 – Observational/Social cognitive learning**

Examine the following stimulus items:

**Stimulus 1 – Observational learning and advertising**

One important aspect of a cognitive learning perspective is observational learning; this occurs when people change their own attitudes or behaviours simply by watching the actions of others. Learning occurs as a result of vicarious rather than direct experience. This type of learning is a complex process; people store these observations in memory as they accumulate knowledge, perhaps using this information at a later point to guide their own behaviour.

One example of observational learning comes from the world of advertising.

![Figure 5: Stages of the effects of advertisements on behaviour.](Source: Adapted from http://2012books.lardbucket.org/books/advertising-campaigns-start-to-finish/s07-05-internal-influences-on-consume.html)

**Question 5 continues.**
Question 5 (continued)

Stimulus 2 – Modelling

The process of observing and imitating a specific behaviour is often called modelling. By observing and imitating models we learn all kinds of social behaviours. By nine months of age infants will imitate novel play behaviours, and by age fourteen months will imitate acts modelled on television (Meltzoff, 1988).

The bad news from studies of observational learning is that antisocial models, whether in one’s family, neighbourhood or on television, may have antisocial effects. This helps us to understand how abusive parents might have aggressive children. The good news is that prosocial (positive, helpful) models can have prosocial effects. People who exemplify nonviolent, helpful behaviour can prompt similar behaviour in others.

Parents are powerful models. For example, European Christians who risked their lives to rescue Jews from the Nazis, and civil rights activists of a generation ago, usually had a close relationship with at least one parent who modelled a strong moral or humanitarian concern (London, 1970; Oliner & Oliner, 1988). All models are most effective when their actions and words are consistent.


(a) Referring to the above stimuli and other evidence, explain the processes involved in observational and social cognitive learning.

(b) Analyse and evaluate evidence for how humans learn through observational and social cognitive learning.
SECTION C – REMEMBERING

Answer ONE question from this section. You must answer ALL parts of the chosen question.

It is recommended that you spend approximately 60 minutes on this section.

Use a separate answer booklet for this section.

This section assesses Criteria 4 and 5.

Question 6 – Memory

Examine the following stimulus items:

Stimulus 1 – Memory

Any memory system must perform three essential functions. It must encode information in a useful format; it must store the information; and it must have a means of accessing and retrieving the stored data.

Encoding requires that you first select some stimulus event from among the vast array of inputs assaulting your senses. Next you identify the distinctive features of that input. Is it a sound, a visual image, or a smell? Finally, you mentally tag, or label, an experience. These steps are usually so automatic and rapid that you are unaware you are performing them. Further encoding entails elaboration, which relates the new input to other information you already have in memory, or to goals and purposes for which it might later prove useful.

Storage involves the retention of encoded material over time. Information is best retained when it is linked to information already stored. Occasional rehearsal of the material also helps. In general, the more meaningful some item of information is and the more often it is rehearsed, the more likely it is to be retained.

Access and retrieval involve the recovery of stored information. This is the pay-off for your earlier effort involved in encoding and storage.


Question 6 continues.
Question 6 (continued)

Stimulus 2 – Narrative methods of remembering

<table>
<thead>
<tr>
<th>Example Word Lists</th>
<th>Sample Stories</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bird Costume</td>
<td>A man dressed in a Bird Costume and wearing a Mailbox on his Head was seen leaping into the River. A Nurse ran out of a nearby Theatre and applied Wax to his Eyelids, but her efforts were in vain. He died and was tossed into the Furnace.</td>
</tr>
<tr>
<td>Mailbox</td>
<td></td>
</tr>
<tr>
<td>Head</td>
<td></td>
</tr>
<tr>
<td>River</td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td></td>
</tr>
<tr>
<td>Theatre</td>
<td></td>
</tr>
<tr>
<td>Wax</td>
<td></td>
</tr>
<tr>
<td>Eyelid</td>
<td></td>
</tr>
<tr>
<td>Furnace</td>
<td></td>
</tr>
<tr>
<td>Rustler</td>
<td>A Rustler lived in a Penthouse on top of a Mountain. Her specialty was the three-toed Sloth. She would take her captive animals to a Tavern where she would remove Fuzz from their Glands. Unfortunately, all this exposure to sloth Fuzz caused her to grow Antlers. So she gave up her profession and went to work in a Pencil factory. As a precaution she also took a lot of Vitamin E.</td>
</tr>
<tr>
<td>Penthouse</td>
<td></td>
</tr>
<tr>
<td>Mountain</td>
<td></td>
</tr>
<tr>
<td>Sloth</td>
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<td>Tavern</td>
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<td>Fuzz</td>
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<td>Gland</td>
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</tr>
<tr>
<td>Antler</td>
<td></td>
</tr>
<tr>
<td>Pencil</td>
<td></td>
</tr>
<tr>
<td>Vitamin</td>
<td></td>
</tr>
</tbody>
</table>

Figure 6: Narrative methods of remembering.

Bower and Clark (1969) presented subjects with 12 lists of ten words. Subjects in the ‘narrative group’ were asked to recall the words by constructing a story out of them (like the stories shown here). Subjects in the control group were given no special instructions.


(a) Referring to the above stimuli and other relevant information, demonstrate your knowledge and understanding of the following psychological concepts:

- encoding
- elaboration
- mnemonic devices

(b) Analyse and evaluate at least two explanations of the processes involved in storing information in memory.

Section C continues.
Section C (continued)

Question 7 – Forgetting

Examine the following stimulus items:

**Stimulus 1 – The effect of interfering events**

![Graph showing the results of an experiment in which members of a rugby team were asked to recall the names of teams they had played against. Memory was influenced by the number of games that intervened between the game to be recalled and the attempt to remember.](image)

This graph shows the results of an experiment in which members of a rugby team were asked to recall the names of teams they had played against. Memory was influenced by the number of games that intervened between the game to be recalled and the attempt to remember.


Question 7 continues.
Question 7 (continued)

Stimulus 2 – The case of Mr G.

Mr G. was a cheerful and healthy person who was quick-witted, observant, logical and had no trouble solving complex puzzles. When asked about his past, he recalled with tremendous detail and affection his childhood in a small country town. He spoke of the day he completed high school and his days in the navy. On outward appearances, it was not clear why, in the early part of 1975, he had been admitted to a hospital in New York.

However, when he was asked, ‘What year is it, Mr G.?’ the reason for his presence in the hospital became clear. Mr G. replied, ‘It’s 1945, man. What do you mean? We’ve won the war.’ When asked how old he was, Mr G. replied, ‘Why I guess I’m nineteen. I’ll be twenty next birthday.’ He was in fact forty-nine years old, with a crop of grey curly hair.

Mr G. had completely lost his capacity to form memories for more than a few minutes. It meant that he had lived through, but lost all recollection of, the past thirty years. When he was shown photos of the Earth taken from the moon, he thought that they were jokes. When he looked in a mirror, Mr G. expected to see a nineteen-year-old, and was overcome with disbelief and amazement at the old man he saw in the reflection. Fortunately, like everything else, this realisation was soon forgotten.

(Source: Adapted from Rawlings, M., & Skouteris, H. (2004). Psychology Two (2nd ed.). Port Melbourne, Vic.: Heinemann, p. 239)

(a) Referring to the above stimuli and other relevant information, demonstrate your knowledge and understanding of the following psychological concepts:

- forgetting
- interference theory
- amnesia

(b) Analyse and evaluate at least three explanations of why humans may forget.
This question paper and any materials associated with this examination (including answer booklets, cover sheets, rough note paper, or information sheets) remain the property of the Tasmanian Qualifications Authority.