Candidate Instructions
1. You MUST make sure that your responses to the questions in this examination paper will show your achievement in the criteria being assessed.
2. There are THREE sections to this paper.
3. You must answer:
   - ONE question from Section A
   - ONE question from Section B
   - ONE question from Section C.
4. Answer each question in a separate answer booklet (3 answer booklets supplied).
5. The recommended time to be spent on a section is given in the instructions in that section.
6. All written responses must be in English.

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

Criterion 1  Analyse theories about individual differences.
Criterion 2  Analyse perspectives about psychobiological processes.
Criterion 4  Analyse theories about remembering.
Criterion 7  Use evidence to support a psychological point of view.
EXAM STARTS OVER THE PAGE
SECTION A - Individual Differences

Answer **ONE** question from this section.

You must answer **ALL** parts of the chosen question.

Use a separate answer booklet for this section.

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

This section assesses **Criteria 1 and 7**.

**Question 1 – Gender**

Examine the following stimulus items:

**Stimulus 1 – 2018 HSC Subject Enrolments by Gender**

![Bar chart showing HSC subject enrolments by gender in 2018.](image)

**Figure 1**: HSC enrolments by gender 2018 – percentage

The most heavily male and female-dominated HSC subjects have barely changed in composition over the past two decades, which a leading researcher says is a self-perpetuating cycle that should generate more concern. This year, boys make up 93 percent of the engineering studies cohort in year 12 in NSW schools, which is identical to the subject's composition in 1998. Boys also account for 76 percent of the physics candidature, up from 73 percent in 1998. They make up 64 percent of students doing the highest-level maths subject offered, maths extension 2, similar to 66 percent in 1998.


**Question 1 continues.**
Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information from the course to:

(a) Explain at least TWO of the following concepts in relation to individual differences in gender:
   - Gender
   - Gender identity
   - Gender roles.

(b) Analyse and critically evaluate the explanations for both the genetic and environmental factors that impact the development of gender within an individual.

Section A continues.
Question 2 – Intelligence

Examine the following stimulus items:

Stimulus 1 – Gardner’s Multiple Intelligences

Figure 2: Gardner’s multiple intelligences


Question 2 continues.
Stimulus 2 – Reaction Range

Genes do not exist in a vacuum. Although we are all biological organisms, we also exist in an environment that is incredibly important in determining not only when and how our genes express themselves, but also in what combination. Each of us represents a unique interaction between our genetic makeup and our environment; range of reaction is one way to describe this interaction.

Another perspective on the interaction between genes and the environment is the concept of genetic environmental correlation. Stated simply, our genes influence our environment, and our environment influences the expression of our genes. Not only do our genes and environment interact, as in range of reaction, but they also influence one another bi-directionally. For example, the child of an NBA player would probably be exposed to basketball from an early age. Such exposure might allow the child to realize his or her full genetic, athletic potential. Thus, the parents’ genes, which the child shares, influence the child’s environment, and that environment, in turn, is well suited to support the child’s genetic potential.


Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information from the course to:

(a) Explain at least TWO of the following concepts in relation to individual differences in intelligence:

- Intelligence
- Heritability
- Reaction range.

(b) Analyse and critically evaluate the explanations for both the genetic and environmental factors that impact the development of intelligence within an individual.

Section A continues.
Section A (continued).

Question 3 - Personality

Examine the following stimulus items:

Stimulus 1 – Cattell’s 16PF

![Graph showing 16 source traits measured by Cattell’s 16PF]

**Figure 3: 16 source traits measured by Cattell’s 16PF**

The 16 source traits measured by Cattell’s 16PF are listed beside the graph. Scores can be plotted as a profile for an individual or a group. The profiles shown here are group averages for airline pilots, creative artists, and writers. Notice the similarity between artists and writers and the difference between these two groups and pilots.


Question 3 continues.
Stimulus 2 – Twin Studies

Although family studies can reveal whether a trait runs in a family, it cannot explain why. In a twin study, researchers study the personality characteristics of twins. Twin studies rely on the fact that identical (or monozygotic) twins have essentially the same set of genes, while fraternal (or dizygotic) twins have, on average, a half-identical set. The idea is that if the twins are raised in the same household, then the twins will be influenced by their environments to an equal degree, and this influence will be pretty much equal for identical and fraternal twins. In other words, if environmental factors are the same, then the only factor that can make identical twins more similar than fraternal twins is their greater genetic similarity.

SOURCE: https://opentextbc.ca/introductiontopsychology/chapter/11-3-is-personality-more-nature-or-more-nurture-behavioral-and-molecular-genetics/

Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information from the course to:

(a) Explain at least TWO of the following concepts in relation to individual differences in personality:
   - Personality
   - Heritability
   - Trait Theories.

(b) Analyse and critically evaluate the explanations for both the genetic and environmental factors that impact the development of personality within an individual.
Question 4 – Visual Perception

Examine the following stimulus items:

**Stimulus 1 – Perceptual Set**

- CONTEXT
- MOTIVATION
- EMOTIONAL STATE
- PAST EXPERIENCE
- CULTURAL FACTORS

**Interpretation of a visual stimulus**

**Figure 4: Perceptual Set**

SOURCE: Adapted from: https://studylib.net/doc/8666567/cognitive-psychology--perceptual-set

Question 4 continues.
Stimulus 2 – Visual Constancy

We usually perceive the world as a fairly stable place. Our visual perceptions of objects such as trees, houses and people do not alter in size, shape, brightness or orientation (position) from one minute to the next. Despite the stable nature of the real world, visual information received at the retinas is constantly changing.

For example, as you move away from an object, such as a tree, the size of the image it casts on the retina becomes smaller. But you do not perceive the tree to be shrinking. Similarly, a car is not perceived as changing in shape as we walk around it and view it from different angles, despite the fact that different shapes are produced on the retina. These are examples of what is known as visual constancy.


Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information from the course to:

(a) Explain at least TWO of the following concepts in relation to visual perception:

- Bottom-up and top-down processing
- Perceptual Set
- Visual Constancy.

(b) Analyse and critically evaluate the explanations, theories and concepts used to explain visual perception.
Question 5 – Consciousness

Examine the following stimulus items:

Stimulus 1 – Stages of sleep

Figure 5: Stages of Sleep


Question 5 continues.
Stimulus 2 – Why do we dream?

Some researchers think dreaming might have evolved for physiological reasons. There is a great deal of neuronal activity occurring while we sleep, especially in REM, and it has been suggested that dreams may just be a meaningless by-product of this biological function. Another theory of dreaming is put forth by Rosalind Cartwright, PhD, Professor and Chairman, Department of Psychology at Rush University Medical Center in Chicago. Dr. Cartwright believes that dreams are the mechanism whereby the brain incorporates memories, solves problems and deals with emotions. In this way, she maintains, dreams are essential for our emotional health.

In spite of our attempts to demystify the phenomenon of dreaming, human beings simply have not yet come close to answering the question “Why do we dream?” According to Jim Pagel, MD, Director of the Sleep Disorders Center of Southern Colorado, “If dreaming has an actual function, it really supports why we spend a third of our lives sleeping.” For now, we will have to be content with simply enjoying the show our brain puts on for us each night.

SOURCE: https://www.sleepfoundation.org/articles/your-dreams

Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information from the course to:

(a) Explain at least TWO of the following concepts in relation to states of consciousness:
   - Sleep as an altered state of consciousness
   - Methods used to establish level of alertness within stages of sleep
   - The effects and impact of sleep deprivation.

(b) Analyse and critically evaluate the explanations, theories and concepts used to explain dreaming.
SECTION C - Remembering

Answer ONE question from this section.

You must answer ALL parts of the chosen question.

Use a separate answer booklet for this section.

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

This section assesses **Criteria 4 and 7**.

**Question 6 – Memory**

Examine the following stimulus items:

**Stimulus 1 – Long-Term Memory**

![Diagram of Long-Term Memory]

Long-Term Memory is divided into explicit and implicit memories. Explicit memories can be further divided in semantic or episodic memories. Implicit memories consist of procedural memories.


Question 6 continues.
Question 6 (continued).

Stimulus 2 – Rehearsal

Rehearsal is a term used by memory researchers to refer to mental techniques for helping us remember information. Its technical meaning is not very different from our everyday use of the term. Actors rehearse their lines so that they won't forget them. Similarly, if we want to retain information over time, there are strategies for enhancing future recall. There are two main types of rehearsal. The first is maintenance rehearsal, which involves continuously repeating the to-be-remembered material. This method is effective in maintaining information over the short term. We have all had the experience of looking up a phone number and subsequently forgetting it (or part of it) before we have dialled it. This illustrates the fact that new material will fade from memory relatively quickly unless we make a purposeful effort to remember it. It is effective for maintaining relatively small amounts in memory for brief periods, but is not likely to affect retention in the long term.

Source: https://psychology.jrank.org/pages/539/Rehearsal.html

Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information from the course to:

(a) Explain at least TWO of the following concepts in relation to remembering:
   - Encoding
   - Rehearsal
   - Long-Term Memory.

(b) Analyse and critically evaluate theories explaining the process of storing, retaining and retrieving information in memory.

Section C continues.
Question 7 – Forgetting

Examine the following stimulus items:

**Stimulus 1 – Amnesia**

![Stimulus 1 - Amnesia Diagram](image)

(a) Old memories are lost | New memories can be formed
---|---
(b) Old memories remain | New memories can't be formed

**Figure 7: Amnesia**


(a) In retrograde amnesia, the person loses some or all memories formed before the brain trauma occurred.

(b) In anterograde amnesia, the person cannot form new memories for events that occur after the brain trauma.
Stimulus 2 – Retrieval Cues

There is considerable evidence that information is more likely to be retrieved from long-term memory if appropriate retrieval cues are present. This evidence comes from both laboratory experiments and everyday experience. A retrieval cue is a hint or clue that can help retrieval.

Tulving (1974) argued that information would be more readily retrieved if the cues present when the information was encoded were also present when its retrieval is required. For example, if you proposed to your partner when a certain song was playing on the radio, you will be more likely to remember the details of the proposal when you hear the same song again. The song is a retrieval cue - it was present when the information was encoded and retrieved.

Tulving suggested that information about the physical surroundings (external context) and about the physical or psychological state of the learner (internal context) is stored at the same time as information is learned. Reinstating the state or context makes recall easier by providing relevant information, while retrieval failure occurs when appropriate cues are not present, for example, when we are in a different context (i.e. situation) or state.

SOURCE: https://www.simplypsychology.org/forgetting.html

Use the information presented in Stimulus 1 and Stimulus 2, as well as other relevant information from the course to:

(a) Explain at least TWO of the following concepts in relation to forgetting:
   - Amnesia
   - Retrieval failure: cue dependent and state dependent forgetting
   - Mnemonic devices.

(b) Analyse and critically evaluate organic and non-organic explanations of how forgetting may occur.