Time allowed for this paper
- Working time: 3 hours
- Plus 15 minutes recommended reading time

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 section in a separate answer booklet.
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 statement:

**Criterion 2** Analyse perspectives about psychobiological processes.

**Criterion 3** Analyse theories about human learning.

**Criterion 4** Analyse theories about remembering.

**Criterion 7** Use evidence to support a psychological point of view.
SECTION A – Psychobiological Processes

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 2 and 7.

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**Question 1 – Visual Perception**

Examine the following stimulus items:

**Stimulus 1 – Cross cultural studies**

Cultural differences may play an important part in how we perceive our environment. Hudson (1960) noted difficulties among members of the South African Bantu tribe in interpreting depth cues in pictures. Hudson tested pictorial depth perception by showing participants a picture like the one below. The results indicated that Bantu children and adults found it difficult to perceive depth in the pictures: they consistently perceived the man to be throwing his spear at the elephant as opposed to the antelope.

![Figure 1: An example of the pictures shown to participants in Hudson's (1960) research.](https://www.simplypsychology.org/perceptual-set.html)
In a dynamic and ever-moving world, images projected onto the retina are constantly changing. Imagine that a person is walking towards you; their image cast onto your retina becomes larger in size. While the retinal image of a moving object constantly changes, we still perceive the actual object to remain constant in size, shape or orientation. Constancy principles help us to perceive our world as remaining stable and unchanging, even though the images projected onto the retina are quite the contrary.


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

(a) explain how visual perception principles allow an individual to make sense of the world.

(b) critically evaluate perspectives used to explain visual perception. In your answer refer to the following concepts:

- the role of attention
- perceptual set
- physiological influences on vision such as alcohol, diabetes and age
Question 2 – Consciousness

Examine the following stimulus items:

Stimulus 1 – A normal night’s sleep

Figure 3: A hypnogram showing the recording of a normal night’s sleep.

(Source: adapted from: https://patient.info/health/insomnia-poor-sleep)
Stimulus 2 – Why do we dream?

While most dreaming occurs during REM sleep, researchers have known since the 1960s that it can also occur in non-REM sleep – although these dreams are different. Non-REM dreams tend to be sparse and more thought-like, often without the complexity, length and vividness of REM dreams. Both types of dreams seem to hold a mirror to our waking lives. Dreams often reflect recent learning experiences and this is particularly true at the start of a night’s sleep, when non-REM dreaming is very common. Someone who has just been playing a skiing arcade game may dream of skiing, for example.

The link between waking experience and non-REM sleep has also been observed in brain scanning studies. Pierre Maquet at the University of Liège, Belgium, looked at the later stages of non-REM sleep and found that the brains of volunteers replayed the same patterns of neural activity that had earlier been elicited by waking experiences. Many REM-sleep dreams also reflect elements of experiences from the preceding day, but the connection may not be so clear.

(Source: Adapted from Young, E. (2011, March 12). The I in Dreaming. New Scientist, pp. 36-37)

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

(a) critically evaluate at least three theories explaining why humans dream.

(b) describe sleep and explain how it is distinguished from normal waking consciousness, referring to the following concepts in your answer:

- characteristics of the stages of sleep
- methods used to establish levels of alertness
- the effects of sleep deprivation
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 3 – Memory**

Examine the following stimulus items:

**Stimulus 1 – A model of memory**

![Multi-store model of memory diagram](https://image.slidesharecdn.com/unit1memory)

*Figure 4: The multi-store model of memory.*

(Source: https://image.slidesharecdn.com/unit1memory)

**Section B continues.**
Stimulus 2 – Memory in the courtroom

There are few situations in which accurate retrieval of memories is more important – and constructive memory is more dangerous – than when an eyewitness testifies in court about a crime. Eyewitnesses often make mistakes (Wells, Memon & Penrod, 2006). In 1984, for example, Jennifer Thompson confidently identified Ronald Cotton as the man who had raped her at knifepoint. Cotton was convicted of rape and sentenced to life in prison. He was released eleven years later when DNA evidence revealed he was innocent. Jennifer Thompson's memory had been faulty (O'Neill, 2000).

There are limits to how valid the reports of eyewitnesses can be. For example, hearing new information about a crime (including in the form of a lawyer's questions) can alter a witness's memory (Bell & Loftus, 1996; Wells & Quinlivan, 2009). Experiments show that when witnesses are asked, 'How fast were the cars going when they smashed into each other?' they are likely to recall a higher speed than when asked, 'How fast were the cars going when they hit each other?' (Loftus & Palmer, 1974).


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

(a) argue a well-reasoned and coherent point of view explaining the processes of encoding, storing, and retrieving information in memory. Evaluate at least two models of memory in your answer.

(b) explain the following concepts used in the psychological study of memory:

- rehearsal – elaborative and maintenance
- false memory
- confabulation
Question 4 – Forgetting

Examine the following stimulus items:

Stimulus 1 – The serial position effect

Figure 5: This graph shows the results of an experiment in which subjects were presented with a list of items and then were asked to recall the items. The graph depicts the results from fast as well as slow presentation.

(Source: http://socrates.berkeley.edu/~kihlstrom/IntroductionWeb/memory_supplement.htm)
Stimulus 2 – Mnemonic devices

One way to reduce forgetting is to use mnemonic devices – ways to put information into an organised framework in order to remember it more easily. Verbal organisation is the basis for many mnemonic strategies. You can link items by weaving them into a story, a sentence or a rhyme. To help customers remember where they parked their cars, some large carparks have replaced traditional section designations such as ‘A1’ or ‘G8’ with the names of colours, months or animals. Customers can then tie the location of their cars to information already in long-term memory, for example, ‘I parked the car in the month of my mother’s birthday’.

The success of mnemonic devices in reducing forgetting demonstrates the importance of relating new information to knowledge already stored in memory. All mnemonic devices require that you have a well-learned body of knowledge (such as locations) that can be used to provide a framework, or context, for organising incoming information (Hilton, 1986).


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

(a) argue a well-reasoned and coherent point of view explaining how forgetting may occur. Evaluate at least three explanations of forgetting in your answer.

(b) explain the effectiveness of techniques for improving recall. In your answer, describe the following concepts:

- elaboration
- organisation
- consolidation
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 3 and 7**.

**Question 5 – Conditioning**

Examine the following stimulus items:

**Stimulus 1 – Conditioning of mother-baby attachment**

1. **Before conditioning**

   ![Diagram of conditioning before](https://www.simplypsychology.org/attachment.html)

   - **Food**: Unconditioned Stimulus
   - **Happy baby**: Unconditioned Response

2. **During conditioning**

   ![Diagram of conditioning during](https://www.simplypsychology.org/attachment.html)

   - **Mother**: Neutral Stimulus
   - **Food**: Unconditioned Stimulus
   - **Happy baby**: Unconditioned Response

3. **After conditioning**

   ![Diagram of conditioning after](https://www.simplypsychology.org/attachment.html)

   - **Mother**: Conditioned Stimulus
   - **Happy baby**: Conditioned Response

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Figure 6: The process of classical conditioning.
(Source: https://www.simplypsychology.org/attachment.html)

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

Stimulus 2 – An experimental living project

At the University of Kansas, students took part in an experimental living project that was quite successful (Miller, 1976). Thirty men and women shared a large house where work, leadership and self-government were tied to behavioural principles. Work-sharing illustrates the project’s approach. Basic jobs such as preparing food and cleaning were divided into approximately 100 tasks. Residents did all the tasks themselves, and one community member checked daily to see that each job was completed. This role was rotated. To maintain job performance, credits were assigned for each task.

At the end of the month, residents who had collected 400 credits received a sizeable rent reduction. This system was very effective in maintaining day-to-day work habits. While no known major ‘operant communities’ like this exist today, the principles of operant conditioning greatly affect behaviour in homes, schools and businesses.


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

(a) critically evaluate theories explaining how humans learn through classical and operant conditioning.

(b) explain the following concepts used in the psychological study of human learning:

- neutral, unconditioned and conditioned stimuli
- shaping
- aversion therapy
Section C (continued)

Question 6 – Observational and Social Cognitive Learning

Examine the following stimulus items:

Stimulus 1 – Learning through observation

Figure 7: The process of observational learning.

(Source: https://www.slideshare.net/NancyDLuffy22/social-cognitive-theory-by-albert-bandura)
Stimulus 2 – Modelling behaviour

Bandura’s research suggested that although an individual may display no evidence of having learned a behaviour from observing a model, a cognitive (mental) form of the model’s response has still been made, and may not be used unless an incentive to do so is present. So do children blindly imitate adults? No. Observational learning only prepares a person to duplicate a response. Whether it is actually imitated depends on whether the model was rewarded or punished for what was done.

Through modelling, children learn not only attitudes, gestures, emotions and personality traits, but also fears, anxieties and bad habits. A good example is the children of smokers, who are much more likely to try smoking that children with non-smoking parents (Rowe et al., 1996).


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

(a) critically evaluate theories explaining how humans learn through observational and cognitive learning.

(b) explain the following concepts used in the psychological study of human learning:

- latent learning
- transfer of learning
- cognitive maps
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