



# UNIVERSITY OF JOHANNESBURG

## JUNE 2021 EXAMINATION MEMO

**COURSE:** BA PSYCHOLOGY **TIME:** 120 MINS  
**QUESTION PAPER:** PSYCHOLOGY (COGNITIVE) **MARKS:** 100  
**SUBJECT CODE:** PSY3GA3/PSY3G11

### **QUESTION 1**

1.1 Explain the differences between rationalism and empiricism (4)

A rationalist believes that the route to **knowledge is through thinking and logical analysis**. That is, a rationalist **does not need any experiments to develop new knowledge but rather is interested in cognitive processes would appeal to reason as a source of knowledge or justification**. An empiricist believes that **we acquire knowledge via empirical evidence**— that is, we **obtain evidence through experience and observation**. To explore how the human mind works, empiricists would design experiments and conduct studies in which they could observe the behavior and processes of interest to them. Empiricism therefore leads directly to empirical investigations of psychology.

1.2 Discuss the problems that occur in the what/where pathways. (4)

What pathway:

- Determining the identity of an object (cup) which is known as object discrimination. Lesioning the temporal lobe makes this task difficult.

Where pathway:

- Determining the location of an object (on the table) which is known as landmark discrimination. Lesioning the parietal lobe makes this task difficult

1.3 As it relates to long-term memory, list and explain five encoding procedures that affect retrieval success. (5)

- Forming visual images: pairs of words are remembered better if images are formed compared to just reading words.
- Linking words to yourself: words associated with yourself are remembered better. this is also called the self-reference effect.

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- Generating information: memory is better if the second word in a word pair is generated by the individual who is learning. An example of this is a fill in the blank exercise.
- Organising information: studying information in an organised manner through generating a knowledge tree results in better memory.
- Practicing retrieval: also known as the testing effect where testing following learning results in better memory.

1.4 Define amnesia, **and** describe retrograde and anterograde amnesia

(3)

Amnesia is **severe loss of explicit memory**. One type is retrograde amnesia, in which individuals **lose their purposeful memory for events before whatever trauma** induces memory loss. Anterograde amnesia is the **inability to remember events that occur after a traumatic event**.

1.5 What is the relationship between pidgins and creoles?

(3)

Sometimes when people of **two different language groups are in prolonged contact with one another, the language users of the two groups begin to share some vocabulary that is superimposed onto each group's language use**. This superimposition results in what is known as a pidgin. It is **a language that has no native speakers**. Over time, **this admixture can develop into a distinct linguistic form**. It has its own grammar and hence becomes a creole.

1.6 Discuss four of the seven sins of memory.

(4)

- Transience: Memory fades quickly.
- Absent-mindedness: People forget that to which they do not attend.
- Blocking: People sometimes have something that they know they should remember, but they can't. It's as though the information is on the tip of their tongue, but they cannot retrieve it.
- Misattribution: People often cannot remember where they heard what they heard or read what they read. Sometimes people think they saw things they did not see or heard things they did not hear.
- Suggestibility: People are susceptible to suggestion, so if it is suggested to them that they saw something, they may think they remember seeing it.
- Bias: People often are biased in their recall.
- Persistence: People sometimes remember things as consequential that, in a broad context, are inconsequential.

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1.7 Apply **elimination by aspects** to a decision about what elective course to take next semester.

(5)

- Focus on one aspect (attribute) of the various options (time available based on other courses);
- Form a minimum criterion for that aspect (maximum number of hours per week on elective course, e.g. 6);
- Eliminate all options that do not meet that criterion (e.g., Course A will take 8 hours per week );
- For the remaining options, select a second aspect for which we set a minimum criterion by which to eliminate additional options (must add to resume); and
- Continue using a sequential process of elimination of options by considering a series of aspects until a single option remains.

1.8 List and describe the six symptoms of groupthink.

(12)

- Closed mindedness—the group is not open to alternative ideas.
- Rationalization—the group goes to great lengths to justify both the process and the product of its decision making, distorting reality where necessary in order to be persuasive.
- Squelching of dissent—those who disagree with the group are ignored, criticized, or even ostracized.
- Formation of a “mindguard” for the group—one person appoints himself or herself the keeper of the group norm and ensures that people stay in line.
- Feeling invulnerable—the group believes that it must be right, given the intelligence of its members and the information available to them.
- Feeling unanimous—members believe that everyone unanimously shares the opinions expressed by the group.

1.9 Discuss five slips of the tongue as it relates to conversation.

(10)

Anticipation	Use a language element too early because it is needed later “an <b>expiring</b> <b>expression</b> ” instead of “an inspiring expression”
Perseveration	Use a language element that was needed earlier but not later “ <b>bounteous</b> <b>beast</b> ” instead of “bounteous feast”
Substitution	Substitute on language element for another “ <b>after</b> it is too late” instead of “ <b>before</b> it is too late”

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Reversal	Switch the positions of two language elements “ <b>flutterby</b> ” instead of “butterfly”
Spoonerisms	The initial sounds of two words are reversed “ <b>chipping the flannel</b> ” instead of “flipping the channel”
Malapropism	One word is replaced by another that is similar in sound but different in meaning “ <b>naughty</b> pine” instead of “ <b>knotty</b> pine”
Insertion	“mischiev <b>/i/</b> ous” instead of “mischievous”
Deletion	“prossing” instead of “processing”

1.10 Compare the sensory store, short-term store and long-term store?

(10)

The sensory store (iconic store) is the **initial repository of much information** that eventually enters the shorthand long-term stores. Strong evidence argues in favor of the existence of an iconic store. The **iconic store is a discrete visual sensory register** that holds information for **very short periods**. Its name derives from the fact that **information is stored in the form of icons**. These in turn are visual images that represent something. Icons usually resemble whatever is being represented.

The short-term store is capable of storing information **for somewhat longer periods but of relatively limited capacity as well**. According to the Atkinson– Shiffrin model, the short-term store **does more than hold onto a few items**. It also has some control processes available that **regulate the flow of information to and from the long-term store**, where we may hold information for longer periods. Typically, **material remains in the short-term store for about 15-20 seconds, unless it is rehearsed to retain it**.

The long-term store is capable of **very large capacity and of storing information for very long periods, perhaps even indefinitely**. Some theorists have suggested that the **capacity of long-term memory is infinite**, at least in practical terms. At present, we have no proof even that there is an absolute outer limit to how long information can be stored.

[60]

**QUESTION 2**

- 2.1 Discuss the early and intermediate selection models of attention, with a special focus on how they differ.

**[20]**

Broadbent's filter model of attention (also known as the early filter model) proposes that we filter information right after we receive it at a sensory level, and that we block or filter out unattended messages at this early point.

Contrary to Broadbent, Ann Treisman believed that at least some parts of the unattended message was analyzed further. She proposed a modification to the Broadbent filter model that involved an attenuating mechanism, which is known as the Attenuation model. With this model instead of blocking out unattended information, the attenuator merely attenuates (weakens) the strength of all unattended stimuli.

The Broadbent model follows the following process:

- a) Sensory memory: the sensory memory stores of the incoming information for a split second and then forwards it to the filter.
- b) Filter: the filter processes the physical characteristics such as loudness, pitch, tone, voice, speech speed or accent and lets this attended information pass through. It filters out all unattended messages out.
- c) Detector: the detector processes all the information from the attended message in more detail and extracts the meaning of the message.
- d) Short-term memory: the output from the detector is sent to the short term memory which enables us to respond to the message and to store it further in the long-term memory.

The Treisman model follows the following process:

- a) Sensory memory: the sensory memory stores of the incoming information for a split second and then forwards it to the filter.
- b) Attenuator: analyses incoming information for (i) physical characteristics- pitch, tone; (ii) it's language- words, syllables; (iii) it's meaning.
- c) Dictionary Unit: the messages are then analyzed by the dictionary unit which contains words and concepts stored in memory, each of which has an activation threshold. Words that are common or important have low thresholds (those that indicate danger or have meaning but are mentioned softly – 'fire', 'cancer', 'COVID', or our names. while uncommon words have high thresholds – these are less important to us.
- d) Short-term memory: the output is sent to the short term memory which enables us to respond to the message and to store it further in the long-term memory.

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2.2. Discuss the eight errors that can occur in judgement.

**[20]**

- Availability heuristic: An error that can occur when events that are more easily remembered are judged as being more probable than those less easily remembered.
- Illusory correlations: Correlation appears to exist, but either does not exist or is much weaker than assumed which can result in an error of judgement.
- Representativeness heuristic: Probability that A is a member of class B is determined by how well properties of A resemble properties normally associated with B. Errors occur when the presence of similar characteristics does not predict membership in B.
- Base rate: Relative proportions of different classes in the population. Errors occur when base rate information is not considered.
- Conjunction rule: Probability of the conjunction of two events cannot be higher than the probability of a single event. Errors occur when a higher probability is assigned to the conjunction.
- Law of large numbers: The larger the number of individuals randomly drawn from a population, the more representative the resulting group will be of the entire population. Errors occur when it is assumed that a smaller number of individuals accurately represent the entire population.
- Myside bias: Tendency for people to generate and evaluate evidence and test their hypotheses in a way that is biased toward their own opinions and attitudes. Errors occur when own opinions and attitudes influence the evaluation of evidence.
- Confirmation bias: Tendency to selectively look for information that conforms to our hypothesis and overlook information that argues against it. Errors occur when there is a narrow focus on confirming information.

**TOTAL ..... [100]**

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