

**PYC3703**

( 481083) October/November 2015

**COGNITION: THINKING, MEMORY AND PROBLEM SOLVING**

Duration 2 Hours

70 Marks

**EXAMINERS :**

FIRST

DR MMLF DOS SANTOS  
DR C OCHSE

PROF HC JANEKE

SECOND  
EXTERNALPROF P KRUGER  
PROF DJF MAREE

MRS JK MOODLEY

**Closed book examination**

This examination question paper remains the property of the University of South Africa and may not be removed from the examination venue.

This paper consists of 20 pages plus two pages for rough work.

**This examination paper remains the property of the University of South Africa and may not be removed from the examination room.**

This examination paper contains 70 questions. Your mark out of 70 for this paper will be converted to a mark out of 80. A further 20 marks is based on your year mark. The examination paper and year marks together count 100.

After completing your answers, you must hand in the following

- (i) The mark reading sheet
- (ii) The question paper (All the pages must be handed in)

**ENSURE THAT YOU HAVE WRITTEN YOUR STUDENT NUMBER AND COURSE CODE ON BOTH THE EXAMINATION BOOK AND THE MARK READING SHEET.**

[TURN OVER]

ANSWER THE FOLLOWING SEVENTY MULTIPLE CHOICE QUESTIONS ON THE MARK READING SHEET. SELECT THE *MOST* APPROPRIATE OPTION AMONG THE ALTERNATIVES FOR EACH QUESTION.

**QUESTION 1**

Consider the following statements

- (a) Thabo: "You know, as far as I'm concerned this talk about internal mental processes is unscientific. Everybody knows that we can only conduct psychological research by concentrating on actual, explicitly observable and quantifiable behaviours"
- (b) Jeanette: "I don't agree with you. I think that it is scientifically valid to construct theories of internal mental processes if these theories are tested against empirical data."

Given the assumptions they make about studying human cognition in a scientific manner, contemporary cognitive psychologists are likely to agree with

- 1. (a), but not (b)
- 2. (b) but not (a)
- 3. (a) and (b)
- 4. Neither of the two statements

**QUESTION 2**

A psychologist places electrodes at various places on a subject's scalp and makes recordings of event-related potentials (ERPs) while the subject is engaged in a problem-solving task. Afterwards the psychologist analyses the ERPs on a computer. The psychologist's procedure illustrates - - - - -

- 1. the gestalt school's approach to analysing mental phenomena in terms of their holistic features
- 2. cognitive neuroscience research
- 3. artificial intelligence research
- 4. the behaviourist methodology

**QUESTION 3**

Aristotle's *empiricist* approach to the investigation of the mind and reality was based on the belief that one acquires knowledge through - - - - -.

- 1. logical analysis
- 2. introspection
- 3. experience and observation
- 4. spiritual insight

[TURN OVER]

**QUESTION 4**

Which of the following examples is most analogous to the goal of the structuralist movement in psychology?

- 1 Scientists study an entire assembled jigsaw puzzle in order to understand each of the pieces
- 2 Scientists look at how the pieces of the jigsaw puzzle fit together in order to understand the assembling process
- 3 Scientists look at each piece of a jigsaw puzzle in order to understand the whole puzzle as assembled
- 4 Scientists study the different ways a jigsaw puzzle can be assembled to form different images

**QUESTION 5**

Pavlov's landmark experiment in which dogs salivate at the sight of the person who feeds them provides an example of - - - -

- 1 classically conditioned learning
- 2 instrumental learning
- 3 social learning
- 4 operant conditioning

**QUESTION 6**

Lesiba says that in order to understand cognitive processes we need to look directly at the brain to see how it functions. Ayami disagrees and argues that we must look at how people perform on various cognitive tasks. This disagreement illustrates a debate in psychology concerning

- 1 Validity of inference versus behavioural methods
- 2 Nature versus nurture
- 3 Biological versus behavioural methods
- 4 Rationalism versus empiricism

**QUESTION 7**

Adrian has been diagnosed as suffering from Parkinson's disease and experiences difficulty in planning and executing motor behaviours. The neurologist examining Adrian prescribed a drug, L-DOPA, to increase the level of the neurotransmitter - - - - , and this has helped to reduce Adrian's symptoms of Parkinson's disease. However, since taking the drug Adrian spends most of his free time playing poker and gambling on the Internet.

- 1 serotonin
- 2 acetylcholine
- 3 GABA
- 4 dopamine

[TURN OVER]

**QUESTION 8**

Sonia lies in a hospital bed and is unable to wake up. Scans of her brain show damage to the -----, which is important for regulating the overall level of arousal and consciousness.

- 1 corpus callosum
- 2 amygdala
- 3 reticular activating system
- 4 medulla oblongata

**QUESTION 9**

Which neurotransmitter is important for regulating impulsivity and is also associated with some types of anorexia, and with aggressive behaviour?

- 1 Acetylcholine
- 2 Dopamine
- 3 GABA
- 4 Serotonin

**QUESTION 10**

Split brain patients have had their (a) ----- surgically removed, to prevent (b) -----.

- 1 (a) optic chiasma (b) prosopagnosia
- 2 (a) thalamic nuclei (b) Parkinson's tremors
- 3 (a) corpus callosum (b) epileptic seizures
- 4 (a) hypothalamus (b) endocrine abnormalities and hypothermia

**QUESTION 11**

This particular type of metabolic imaging technique uses a radioactive form of glucose that emits positrons as it is metabolised to look at the physiological functioning of the brain in action. It monitors increase in blood flow to particular parts of the brain.

- 1 Electroencephalograms (EEGs)
- 2 Glucose Metabolism Tomography (GMT)
- 3 Positron emission tomography (PET)
- 4 ERPs

**QUESTION 12**

Damage to the hippocampus can result in a 'loss of memory function' in which an individual is still able to recall information learned in the past, but is unable to form new memories. This is known as -----.

- 1 Benzine syndrome
- 2 apraxia
- 3 aphasia
- 4 Korsakoff's syndrome

[TURN OVER]

**QUESTION 13**

This perceptual deficit is thought of in terms of damage to the "how" visual pathway, and results in difficulties with using one's visual system to guide one's own movements

- 1 achromacy
- 2 akinetopsia
- 3 optic ataxia
- 4 apoptosis

**QUESTION 14**

----- refers to instances in perception where we (unconsciously) divide visual information into two parts in which some of the information appears closer and better defined while the rest of the information appears further away and 'de-emphasized'

- 1 Object specification
2. Binocular depth cues
- 3 Decompositional analysis
- 4 Figure-ground

**QUESTION 15**

Melanie has a peculiar perceptual deficit. She cannot recognize familiar faces and claims that even close relatives are complete strangers, and that she has never seen them before. Melanie probably suffers from -----

- 1 protanopia
- 2 prosopagnosia
- 3 simultagnosia
- 4 akinetopsia

**QUESTION 16**

Jerry is trying to find his seat in a movie theatre in which the light has been dimmed. These long thin photoreceptors are very sensitive to light, and are the cells that primarily contribute to Jerry's ability to distinguish objects in this dim light. They are called -----.

- 1 cones
2. cells in the foveal region of the retina
- 3 rods
- 4 ganglion cells

[TURN OVER]

**QUESTION 17**

Which of the following statements involve mainly top-down processing and which involve mainly bottom-up processing?

- (a) Interpreting the meaning of mispronounced or missing words
- (b) Finding every "e" in a given passage
- (c) Finding every noun in a given passage
- (d) Guessing what a word is when the handwriting is bad

- 1 Top-down = (a), (b) Bottom up = (c), (d)
- 2 Top-down = (a), (c) (d) Bottom up = (b)
- 3 Top-down = (b), (c) (d) Bottom up = (a)
- 4 Top-down = (a), (d) Bottom up = (b), (c)

**QUESTION 18**

----- occurs when our perception of an object remains the same even if we move further away. If we move away from an object the size of the proximal stimulus changes because the same object at two different distances will project two different-sized images on the retina.

- 1 Binocular Depth perception
- 2 Monocular Depth perception
- 3 Relative-size illusion
- 4 Perceptual constancy

**QUESTION 19**

This hypothesis suggests that there are two distinct visual pathways in the brain, one pathway is important for identifying the object and the other for identifying the function of the object

- 1 Object Identity/Object Location
- 2 Object Identity/Object Position
- 3 What/How
- 4 What/Where

**QUESTION 20**

If you were to study top-down processing as it applies to smell, which of the following topics would be most relevant?

- 1 Whether people recognise a lemon fragrance more readily when they see a photo of a lemon than when they see a photo of a rose
- 2 Whether the chemical structure of lemon fragrance molecules is substantially different from the chemical structure of rose-fragrance molecules
- 3 Whether the receptors in the nasal passage respond differently to lemon and rose fragrances
- 4 Whether the portion of the brain that receives information about smell stores different fragrances in different locations

[TURN OVER]

**QUESTION 21**

The two eyes send increasingly disparate images to the brain as objects approach the eyes. The brain interprets the degree of disparity as an indication of distance from the person. The major depth cue represented in this description is - - - - -

- 1 binocular disparity
- 2 interposition
- 3 binocular convergence
- 4 motion parallax

**QUESTION 22**

Lisa is experiencing difficulty in integrating information from different sensory modalities so that it makes sense to her. It seems that one component of her working memory is not functioning properly. This component is most probably the - - - - -

- 1 visuospatial sketchpad
- 2 phonological loop
- 3 spatial memory
- 4 episodic buffer

**QUESTION 23**

The case of a patient referred to as HM who underwent brain surgery to relieve severe epileptic seizures is described in your prescribed book. This case is extremely informative to psychologists because it demonstrates that - - - - -

- 1 transfer to long-term memory can take place even when short-term memory is impaired
- 2 impairment of one memory system necessarily leads to deficits in the functioning of the other
- 3 both long-term memory and short-term memory can be severely impaired in a patient
- 4 there is a dissociation between the long-term and short-term memory stores

**QUESTION 24**

According to the viewpoint of - - - - - perception, the array of information in the sensory receptors together with the sensory context is all that is needed for human perception. It is not necessary to postulate that prior knowledge or complex computational processes and heuristics are essential for perception to occur.

- 1 synthetic
- 2 unconscious
- 3 direct
- 4 constructive

[TURN OVER]

**QUESTION 25**

To examine iconic memory, George Sperling created the partial-report technique. The partial-report technique is superior to the whole-report technique because it - - - - -

- 1 estimates the size of iconic memory, reducing the problem of rapid fading from memory
- 2 allows a larger number of items to be visually presented
- 3 reduces the problem of proactive interference from earlier test trials
- 4 allows iconic memory to be assessed, without contamination from echoic memory

**QUESTION 26**

This model, based on neuroscientific results, suggests that episodic and semantic memories are in fact distinct from one another given that they activate different parts of the brain.

- 1 Hemispheric Specialization Model
- 2 Asymmetrical Hemispheric Specialization (AHS model)
- 3 Hemispheric Encoding/Retrieval Asymmetry (HERA Model)
- 4 Intrahemispheric activation model

**QUESTION 27**

An item on an implicit memory task would most likely resemble which of the following?

- 1 "Report the first word that you associate to this word TREE "
- 2 "Explain your earliest personal memory that relates to this word TREE "
- 3 "Which of the following words is related to 'plant' TREE or SHOE "
- 4 "Fill in the first word that comes to mind T- -E "

**QUESTION 28**

Which type of memory is primarily responsible for our ability to understand that the following sentence is mainly about the brain, rather than soccer? "The brain is involved in everything we know about the important things in life, like soccer "

- 1 short-term memory
- 2 long-term-memory
- 3 procedural memory
- 4 echoic memory

**QUESTION 29**

Flashbulb memory is best described by which of the following statements?

- 1 It is a rather transient, brief memory for an emotional event, much like the flash of a bulb
- 2 It is a highly accurate memory for the circumstances surrounding how a person heard about an emotional event. The memory remains vivid for a couple of weeks before fading
- 3 It is a memory for an emotional event that remains especially vivid over time
- 4 It is a memory for habitual, everyday events. These memories last for a long time because they are so frequently rehearsed

[TURN OVER]



**QUESTION 30**

Which of the following memory strategies involves picturing yourself on a walk and associating different spots along the way with the things you are supposed to remember?

- 1 Method of loci
- 2 Chunking
- 3 Peg words
- 4 Digit span

**QUESTION 31**

A study by Kintsch and Buschke showed that items at the beginning of a list were often confused with other words that were similar in meaning. In contrast, words at the end of a list were often confused with other words that sounded the same. This study is important because it seems to suggest that - - - -

- 1 all material must be rehearsed before it can be recalled
- 2 the serial position effect holds only for items at the beginning of the list
- 3 During short-term memory recall, items at the beginning of a list of to-be-remembered items are processed in terms of meaning
- 4 material in long-term memory is encoded semantically, whereas material in short-term memory is encoded acoustically

**QUESTION 32**

Research on humans as well as nonhuman animals have shown that visual shape is processed in the ventral stream as well as visual areas such the ventral temporal cortex and the lateral occipital cortex. Processing has been found to occur in which of the following sequences?

- 1 The process starts with activation of the primary visual cortex and parietal cortex, then depth and shape information are acquired in the V5 region of the visual cortex, and after this moving 3-D shapes are processed in the human motion complex (hMT)
- 2 Initially depth and shape information are acquired in the V5 region of the visual cortex, then there is activation of the parietal cortex, and after this moving 3-D shapes are processed in the human motion complex (hMT)
- 3 The process starts with activation of the parietal cortex, and after this moving 3-D shapes are processed in the human motion complex (hMT), then depth and shape information are acquired in the V5 region of the visual cortex
- 4 Initial processing occurs in the primary visual cortex, then moving 3-D shapes are processed in the human motion complex (hMT), after this depth and shape information are acquired in the V5 region of the visual cortex, and then in the final stage there is activation of the primary visual area and parietal cortex

[TURN OVER]

**QUESTION 33**

After a test, Jill identified and then learned the information that she had forgotten for the test. She noted that there was a 'savings' in that the information was learned faster the second time. Jill has discovered the concept of - - - - -

- 1 partial-report method
- 2 subsequent refinement
- 3 relearning
- 4 permastore

**QUESTION 34**

Which of the following is not an example of a memory recognition test?

- 1 Is the person that you said was a good speaker in the group over there?
- 2 If I show you a list of names, will you be able to tell me who was at the meeting?
3. What's an eight-letter word for "work out" that begins with "E"?
- 4 Is this how you spell "parallel" PARALLEL?

**QUESTION 35**

A typical serial position curve shows that recall of words in a list is best for items (a) - - - - - of the list and poorest for items (b) - - - - -

- 1 (a) in the middle (b) in the beginning
- 2 (a) in the beginning (b) at the end
- 3 (a) at the end (b) in the middle
- 4 (a) in the middle (b) at the end

**QUESTION 36**

Baddeley's model of working memory proposes a 'phonological loop'. The function of the phonological loop is to - - - - -

1. solve geometrical problems
- 2 store verbal information (e.g. the sound of someone's name)
- 3 store mental images
- 4 determine whether one number is larger or smaller than another

**QUESTION 37**

At a party, Joan was introduced to Steve just as she arrived. Joan then went off to speak with a different group and was introduced to each of them as well. After hearing the new names, Joan could not remember Steve's name. This description illustrates - - - - -

- 1 retroactive interference
2. proactive interference
- 3 decay of information
- 4 reconstructive forgetting

[TURN OVER]

**QUESTION 38**

How do we transfer information from short-term memory to long-term memory?

- (a) By deliberately attending to information in order to comprehend it
- (b) By making connections or associations between the new information and what we already know
- (c) By rehearsing the information

- 1 Only (a) is correct
- 2 Only (b) is correct
- 3 Only (c) is correct
- 4 Options (a), (b), and (c) are all correct

**QUESTION 39**

In a PDP (i.e. parallel distributed processing) or connectionist model of memory, information is stored in a (a) ----- in the form of various patterns of (b) ----- and the information is (c) ----- the brain

- |   |                          |                                   |                        |
|---|--------------------------|-----------------------------------|------------------------|
| 1 | (a) schema               | (b) propositional representations | (c) distributed across |
| 2 | (a) script               | (b) analogue representations,     | (c) stored locally in  |
| 3 | (a) network              | (b) connections                   | (c) distributed across |
| 4 | (a) propositional format | (b) activation                    | (c) stored locally in  |

**QUESTION 40**

One of the examples below illustrates reasoning by analogy. Identify the example.

- 1 The judge says "Based on the available evidence I conclude that you are guilty as charged."
- 2 Since one of the sheep in this region is black, it is very likely that all the sheep are black here.
- 3 I've seen the same experiment conducted in exactly the same way in my chemistry class, so the procedure must be correct.
- 4 This company is like a race horse, it ran fast and almost won the race, but now it needs to rest and feed for a while.

**QUESTION 41**

Which of the following statements about factors affecting conditional reasoning is correct?

- 1 The length of a problem is more important in determining problem difficulty than is the abstractness of the problem.
- 2 People make more errors with abstract problems than with concrete problems.
- 3 People have more difficulty with sentences containing a single negative than they have with double-negative sentences.
- 4 If a problem contains the negative word not in the conclusions, people have difficulty, however, the negative word not in the premises does not influence response speed.

[TURN OVER]

**QUESTION 42**

Suppose that, for an assignment, you have to write a review of the literature on a topic in cognitive psychology. If you used means-ends analysis, you would - - - - -

- 1 try to think of occasions in which you faced a similar problem (e.g. writing a paper in a child development course) and use that information to help you solve the present problem.
- 2 break the problem into parts (e.g. select a topic, locate resources) and then solve each part
- 3 search systematically through a problem space (e.g. all possible topics on perception, all possible topics on memory) until you have found a solution
- 4 create a matrix consisting of possible problems and possible solutions

**QUESTION 43**

Which one of the following circumstances is most likely to encourage the successful use of analogies in problem solving?

- 1 Requiring people to use a mental set
- 2 Having people study the source problem very carefully, rather than simply trying to solve it
- 3 Exposing people to several problems that are structurally similar before they see the target problem
- 4 Encouraging people to compare at least two problems that have different structural features

**QUESTION 44**

Which of the following represents the proper sequence of cognitive operations involved in problem solving?

- 1 Generate and evaluate solutions, formulate the problem, understand the elements
- 2 Understand the elements, generate and evaluate solutions, formulate the problem
- 3 Formulate the problem, generate and evaluate solutions, understand the elements
- 4 Formulate the problem, understand the elements, generate and evaluate solutions.

**QUESTION 45**

Suppose that you are trying to solve a difficult mathematical problem, but you find that you are not making progress on it. You decide to take a break and go for a quick walk. After returning, the solution suddenly occurs to you. This would be an example of - - - - -

- 1 isomorphic thinking
- 2 incubation
- 3 divergent thinking
- 4 functional fixedness

[TURN OVER]

**QUESTION 46**

Newell and Simon were early pioneers in designing computer programs that could solve problems. Their research programme was based on the idea that problem solving is a process that involves - - - - -

- 1 backward search
- 2 incubation
3. analogical reasoning
- 4 means-ends analysis

**QUESTION 47**

In the study of human problem solving, researchers have suggested that the ability to integrate various elements into a more complex whole is an important facet of the problem solving process. Which of the following examples illustrate this ability the most clearly?

- 1 John does a large number of physics problems in which he must calculate the rate of change in the momentum of particles until he finds that he can solve such problems almost without having to think.
- 2 Mary discovers that because she studied Latin at school, she learns Spanish much easier than some of her fellow students taking Spanish 101.
3. Henriette first administers a number of different psychometric tests such as the Wisconsin Card Sorting Test, and the Connors Continuous Performance Test, and then analyses the results of the individual tests to establish whether the patient suffers from attention deficit disorder.
- 4 After collecting her laboratory data, Jacky enters the data in a statistical program and then performs her analysis.

**QUESTION 48**

Assume you have no spoon and that you use a pencil to stir your coffee. This shows that you do not suffer from - - - - -

- 1 illusory correlation
- 2 entrenchment
- 3 functional fixedness
- 4 the sunk-cost fallacy

**QUESTION 49**

Research shows that novices allocate more time and resources on - - - - - than do expert problem-solvers in a given domain.

- 1 global, "big picture" planning
- 2 working forward and implementing strategies for finding unknown information
- 3 local, detail-oriented planning
- 4 monitoring and developing rich schemas

[TURN OVER]

**QUESTION 50**

Which of the following statements is most consistent with research findings about expertise in problem solving?

- 1 Expertise is defined in terms of problem-solving speed, rather than problem-solving accuracy
- 2 Experts have *acquired* considerable knowledge about their domain and this knowledge appears to be effectively organised in their memories
- 3 True experts can acquire their expertise without extensive practice because they truly seem to be 'born' with their skills
- 4 Expertise is most effectively developed when people are not tested, or--if they are tested--they are given immediate feedback about their performance

**QUESTION 51**

Sternberg and Lubart's investment theory of creativity argues that - - - - -

- 1 if you "invest" your ideas earlier, you will receive a greater yield; therefore, creative individuals take a buy-low, sell-high approach to ideas.
- 2 creativity is best measured in terms of the number of different ideas one can produce in a given time period.
3. the most creative people maintain their interest in a particular creative problem and develop it completely throughout their lives
- 4 creative people tend to take a buy-high, sell-low approach when they invest in ideas

**QUESTION 52**

What is the idea behind the subjective expected utility theory?

- 1 In making decisions, apply a subjective weighting of utility and also a subjective criteria for determining the likelihood of each outcome.
- 2 In making decisions, people use subjective criteria for studying probabilities of outcomes and objective criteria for evaluating each outcome
- 3 Utilities for a given action have basically the same subjective values from person to person, and do not therefore depend on individual factors
4. In making decisions, apply an objective weighting of utility, but subjective criteria for determining the likelihood of each outcome

[TURN OVER]

**QUESTION 53**

Which of the following students' statements provides the best summary of the 'elimination by aspects' strategy that is used in decision making?

- 1 Petra "The elimination by aspects strategy relates to the finding that top-down processing influences decision making and reasoning, we don't concentrate on the actual information in the problem, but eliminate the most crucial details when we make our decisions "
- 2 Chris "The elimination by aspects strategy illustrates how people systematically keep trying to confirm a hypothesis, rather than trying to disconfirm it "
- 3 Josh. "According to the elimination by aspects strategy people systematically prefer a conclusion that is stated in the positive form, and will systematically ignore negative aspects, eliminating such information from the problem formulation
- 4 Cynthia "The elimination by aspects strategy refers to the finding that people will tend to use a set of defining criteria for their decision options and that they will systematically eliminate options that do not meet those criteria until just one remains "

**QUESTION 54**

Because of the - - - - we falsely tend to see particular attributes, categories, or events as going together

- 1 fallacy of composition
- 2 tendency to perceive illusory correlation
- 3 hindsight bias
- 4 framing effect

**QUESTION 55**

*If it is raining, then I will take my umbrella I did not take my umbrella. Therefore it is not raining*

The example above illustrates

- 1 modus ponens
- 2 denial of the antecedent
- 3 modus tollens
- 4 affirmation of the consequent

**QUESTION 56**

Consider the following rule for the Wason four-card problem

"If there is a vowel on one side, then there is an even number on the other side" Let's say that you are presented with **A**, **8**, **M**, and **13** each displayed on one of four cards To establish whether the rule is valid, you would have to turn over the cards showing

- 1 8 and M
- 2 A and M
- 3 A and 13
4. 8 and 13

[TURN OVER]

**QUESTION 57**

What is the main conclusion about general reasoning and problem solving strategies that can be drawn from the fact that many people have difficulty in solving the Wason selection task?

- 1 Very few people will try to find support for a hypothesis
- 2 People deal better with abstract than with concrete problems
- 3 People are better at solving inductive than deductive problems
4. Most people attempt to find support for a hypothesis, instead of trying to disprove it

**QUESTION 58**

Consider the following syllogism

"All cats are birds All birds have wings Therefore all cats have wings "

The syllogism is - - - - -

- 1 logically invalid but factually false
- 2 factually true and logically invalid
- 3 factually false but logically valid
- 4 logically valid and therefore factually true

**QUESTION 59**

Which one of the following students' statements provides the best overview of the research on decision making?

- 1 Samantha "People consistently make correct decisions based on the information they are given, problems arise when some crucial information is missing "
- 2 Nayan: "People use heuristics in decision making, their decisions are usually correct, but not if they use the heuristics inappropriately "
- 3 Arthur "People consistently make incorrect decisions, unless the material is extremely concrete "
- 4 Shirley "The most common kinds of decision-making errors involve illicit conversions and belief-bias errors, otherwise, decision making is reasonable accurate "

**QUESTION 60**

Which of the following statements contains a *modus tollens* argument?

- 1 If you are born, then you have parents You do not have parents Therefore you are not born
- 2 If a spider bites you, then your arm swells A spider bit you Therefore your arm swells
- 3 If it rains John carries his umbrella It is not raining Therefore John is not carrying his umbrella
- 4 If a black cat crosses your path, then you will have bad luck A black cat crosses your path Therefore, you will have bad luck.

[TURN OVER]



**QUESTION 61**

A young couple have planned for some time to take a hiking vacation in the Drakensberg. When they arrive at their camp site, the weather is awful and there is news of a possible snow storm that might be on its way. Instead of cancelling their holiday they stay in their tent, shivering from the cold, unable to do any of their planned hikes, but determined to stay the whole period that they set aside for the holiday because they invested so much time and effort in planning the vacation. The couple's decision to stay and not abandon their hiking vacation is an illustration of the - - - - -

- 1 hindsight bias
- 2 gambler's fallacy
- 3 sunk-cost fallacy
- 4 conjunction fallacy

**QUESTION 62**

Suppose that you are given several pieces of information, and you must determine which logical consequence of that information is correct. The task you are performing is called - - - - -

- 1 decision making
- 2 insightful problem solving
- 3 divergent thinking
- 4 deductive reasoning

**QUESTION 63**

Which of the following statements is not deductively valid?

- 1 If John watches television for more than an hour, he will get a headache. John watches television for two hours. He will therefore get a headache.
- 2 If students make use of multivariate statistics in their research papers, they get good grades for it. Mary did not use multivariate statistics in her paper. Therefore she will not get a good grade for her paper.
- 3 If it rains John carries his umbrella. John is not carrying his umbrella. Therefore it is not raining.
- 4 If a black cat crosses your path, then you will have bad luck. A black cat crosses your path. Therefore, you will have bad luck.

[TURN OVER]

**QUESTION 64**

A student is doing the Wechsler Adult Intelligence Scale and has to answer the following item

*“Consider the sentence*

*Since Mary started her new job she has her nose to the grindstone all the time*

*This sentence means that.*

- (a) *She has to live very frugally to come out each month*
- (b) *She lives downtown in the concrete jungle part of the city.*
- (c) *She has to do a lot of physical exercise to keep mentally fit for her job*
- (d) *She has to concentrate on her work and has no time for partying ”*

What is this item testing?

- 1 Verbal comprehension and general, cultural knowledge
- 2 Retention of vocabulary items in working memory
- 3 The ability to solve simple verbal and arithmetic puzzles
- 4 Object assembly, that is, knowledge of how the different constituents of a sentence contribute to its meaning

**QUESTION 65**

What is the main theoretical motivation underlying *both* Sternberg's triarchic theory of intelligence and Gardner's theory of multiple intelligence?

- 1 Both theories assume that there is a unique general intelligence which can be accurately tested by a general intelligent scale such as the Wechsler
- 2 Sternberg and Gardner's theories have been developed in critical reaction to the information processing approaches to human intelligence
- 3 They developed theories of intelligence which emphasise the important role that linguistic and logical abilities play in human reasoning and spatial perception
- 4 They have both tried to present a broader notion of intelligence than the traditional psychometric approaches by highlighting respectively aspects such as practical intelligence and musical abilities

**QUESTION 66**

*“If a student majors in psychology at university, then he or she must have taken statistics Mary graduates from a university without taking statistics Therefore, Mary is not a psychology major”* The previous statement illustrates - - - - -

- 1 modus ponens
- 2 modus tollens
- 3 affirmation of the consequent
- 4 denial of the antecedent

[TURN OVER]

**QUESTION 67**

Dan tends to have trouble in parallel-parking his car, as he is never sure where the car's front and back are with respect to the sidewalk. According to Gardner's theory of multiple intelligence, we can conclude that Dan's - - - - intelligence is not very high.

- 1 bodily-kinesthetic
- 2 logical-mathematical
- 3 spatial
- 4 object-relational

**QUESTION 68**

Historically, artificial intelligence research can be distinguished from cognitive psychology in what way?

- (a) Artificial intelligence researchers are much less concerned than cognitive psychologists about brain mechanisms.
  - (b) Artificial intelligence, which makes extensive use of experimental methods to study human cognition, is a much more empirical approach than cognitive psychology.
  - (c) Only artificial intelligence researchers (but never cognitive psychologists) make use of computer simulations to study human cognition.
- 1 (a) and (b), but not (c)
  - 2 (a) and (c), but not (b)
  - 3 (b) and (c), but not (a)
  - 4 (a), but not (b) nor (c)

**QUESTION 69**

In order to pass the Turing test, a computer must be able to - - - - .

- 1 prove theorems in logic
- 2 solve problems containing analogies
- 3 play chess better than a human grandmaster
- 4 engage in normal conversation with a human

[TURN OVER]

**QUESTION 70**

Imagine that an article is published in a science journal in which the researchers claim to have developed a computer capable of conversing in natural language. If John Searle were to read the article, he would probably doubt the article, because he argues that - - - - -

- 1 computers will never be able to converse in a foreign language such as Chinese
- 2 weak artificial methods may well be sufficient for developing an understanding of human language, but they are not enough for simulating true intelligence that is required for problem-solving in scientific domains. Further psychometric testing is therefore required to determine if the computer is really intelligent
- 3 symbol manipulation may be sufficient, but it is not necessary for the creation of humanlike intelligence in robots
- 4 symbol processing of the kind performed by computers is not sufficient for truly understanding human language

**[TOTAL: 70]**

©  
**UNISA 2015**

**[TURN OVER]**

ROUGH WORK

[TURN OVER]

ROUGH WORK

**PART 1 (GENERAL/ALGEMEEN) DEEL 1**

STUDY UNIT e.g. PSY100-X  
STUDIE-EENHEID by PSY100-X

**1**

PAPER NUMBER  
VRAESTELNOMMER **2**

INITIALS AND SURNAME  
VOORLETTERS EN VAN **3**

DATE OF EXAMINATION  
DATUM VAN EKSAMEN **4**

EXAMINATION CENTRE (E.G. PRETORIA)  
EKSAMENSENTRUM (BY PRETORIA) **5**

STUDENT NUMBER  
STUDENTENOMMER **6**


**7**

UNIQUE PAPER NO  
UNIEKE VRAESTEL NR **8**


**9**

For use by examination invigilator  
Vir gebruik deur eksamenopsiener

**IMPORTANT**

- USE ONLY AN HB PENCIL TO COMPLETE THIS SHEET
- MARK LIKE THIS 
- CHECK THAT YOUR INITIALS AND SURNAME HAS BEEN FILLED IN CORRECTLY
- ENTER YOUR STUDENT NUMBER FROM LEFT TO RIGHT
- CHECK THAT YOUR STUDENT NUMBER HAS BEEN FILLED IN CORRECTLY
- CHECK THAT THE UNIQUE NUMBER HAS BEEN FILLED IN CORRECTLY
- CHECK THAT ONLY ONE ANSWER PER QUESTION HAS BEEN MARKED
- DO NOT FOLD.

**BELANGRIK**

- GEBRUIK SLEGS N HB POTLOOD OM HIERDIE BLAD TE VOLTOOL
- MERK AS VOLG 
- KONTROLEER DAT U VOORLETTERS EN VAN REG INGEVUL IS
- VUL U STUDENTENOMMER VAN LINKS NA REGS IN
- KONTROLEER DAT U DIE KORREKTE STUDENTENOMMER VERSTREK HET
- KONTROLEER DAT DIE UNIEKE NOMMER REG INGEVUL IS
- MAAK SEKER DAT NET EEN ALTERNATIEF PER VRAAG GEMERK IS
- MOENIE VOU NIE

**PART 2 (ANSWERS/ANTWOORDE) DEEL 2**

1	c1) c2) c3) c4) c5)	36	c1) c2) c3) c4) c5)	71	c1) c2) c3) c4) c5)	106	c1) c2) c3) c4) c5)
2	c1) c2) c3) c4) c5)	37	c1) c2) c3) c4) c5)	72	c1) c2) c3) c4) c5)	107	c1) c2) c3) c4) c5)
3	c1) c2) c3) c4) c5)	38	c1) c2) c3) c4) c5)	73	c1) c2) c3) c4) c5)	108	c1) c2) c3) c4) c5)
4	c1) c2) c3) c4) c5)	39	c1) c2) c3) c4) c5)	74	c1) c2) c3) c4) c5)	109	c1) c2) c3) c4) c5)
5	c1) c2) c3) c4) c5)	40	c1) c2) c3) c4) c5)	75	c1) c2) c3) c4) c5)	110	c1) c2) c3) c4) c5)
6	c1) c2) c3) c4) c5)	41	c1) c2) c3) c4) c5)	76	c1) c2) c3) c4) c5)	111	c1) c2) c3) c4) c5)
7	c1) c2) c3) c4) c5)	42	c1) c2) c3) c4) c5)	77	c1) c2) c3) c4) c5)	112	c1) c2) c3) c4) c5)
8	c1) c2) c3) c4) c5)	43	c1) c2) c3) c4) c5)	78	c1) c2) c3) c4) c5)	113	c1) c2) c3) c4) c5)
9	c1) c2) c3) c4) c5)	44	c1) c2) c3) c4) c5)	79	c1) c2) c3) c4) c5)	114	c1) c2) c3) c4) c5)
10	c1) c2) c3) c4) c5)	45	c1) c2) c3) c4) c5)	80	c1) c2) c3) c4) c5)	115	c1) c2) c3) c4) c5)
11	c1) c2) c3) c4) c5)	46	c1) c2) c3) c4) c5)	81	c1) c2) c3) c4) c5)	116	c1) c2) c3) c4) c5)
12	c1) c2) c3) c4) c5)	47	c1) c2) c3) c4) c5)	82	c1) c2) c3) c4) c5)	117	c1) c2) c3) c4) c5)
13	c1) c2) c3) c4) c5)	48	c1) c2) c3) c4) c5)	83	c1) c2) c3) c4) c5)	118	c1) c2) c3) c4) c5)
14	c1) c2) c3) c4) c5)	49	c1) c2) c3) c4) c5)	84	c1) c2) c3) c4) c5)	119	c1) c2) c3) c4) c5)
15	c1) c2) c3) c4) c5)	50	c1) c2) c3) c4) c5)	85	c1) c2) c3) c4) c5)	120	c1) c2) c3) c4) c5)
16	c1) c2) c3) c4) c5)	51	c1) c2) c3) c4) c5)	86	c1) c2) c3) c4) c5)	121	c1) c2) c3) c4) c5)
17	c1) c2) c3) c4) c5)	52	c1) c2) c3) c4) c5)	87	c1) c2) c3) c4) c5)	122	c1) c2) c3) c4) c5)
18	c1) c2) c3) c4) c5)	53	c1) c2) c3) c4) c5)	88	c1) c2) c3) c4) c5)	123	c1) c2) c3) c4) c5)
19	c1) c2) c3) c4) c5)	54	c1) c2) c3) c4) c5)	89	c1) c2) c3) c4) c5)	124	c1) c2) c3) c4) c5)
20	c1) c2) c3) c4) c5)	55	c1) c2) c3) c4) c5)	90	c1) c2) c3) c4) c5)	125	c1) c2) c3) c4) c5)
21	c1) c2) c3) c4) c5)	56	c1) c2) c3) c4) c5)	91	c1) c2) c3) c4) c5)	126	c1) c2) c3) c4) c5)
22	c1) c2) c3) c4) c5)	57	c1) c2) c3) c4) c5)	92	c1) c2) c3) c4) c5)	127	c1) c2) c3) c4) c5)
23	c1) c2) c3) c4) c5)	58	c1) c2) c3) c4) c5)	93	c1) c2) c3) c4) c5)	128	c1) c2) c3) c4) c5)
24	c1) c2) c3) c4) c5)	59	c1) c2) c3) c4) c5)	94	c1) c2) c3) c4) c5)	129	c1) c2) c3) c4) c5)
25	c1) c2) c3) c4) c5)	60	c1) c2) c3) c4) c5)	95	c1) c2) c3) c4) c5)	130	c1) c2) c3) c4) c5)
26	c1) c2) c3) c4) c5)	61	c1) c2) c3) c4) c5)	96	c1) c2) c3) c4) c5)	131	c1) c2) c3) c4) c5)
27	c1) c2) c3) c4) c5)	62	c1) c2) c3) c4) c5)	97	c1) c2) c3) c4) c5)	132	c1) c2) c3) c4) c5)
28	c1) c2) c3) c4) c5)	63	c1) c2) c3) c4) c5)	98	c1) c2) c3) c4) c5)	133	c1) c2) c3) c4) c5)
29	c1) c2) c3) c4) c5)	64	c1) c2) c3) c4) c5)	99	c1) c2) c3) c4) c5)	134	c1) c2) c3) c4) c5)
30	c1) c2) c3) c4) c5)	65	c1) c2) c3) c4) c5)	100	c1) c2) c3) c4) c5)	135	c1) c2) c3) c4) c5)
31	c1) c2) c3) c4) c5)	66	c1) c2) c3) c4) c5)	101	c1) c2) c3) c4) c5)	136	c1) c2) c3) c4) c5)
32	c1) c2) c3) c4) c5)	67	c1) c2) c3) c4) c5)	102	c1) c2) c3) c4) c5)	137	c1) c2) c3) c4) c5)
33	c1) c2) c3) c4) c5)	68	c1) c2) c3) c4) c5)	103	c1) c2) c3) c4) c5)	138	c1) c2) c3) c4) c5)
34	c1) c2) c3) c4) c5)	69	c1) c2) c3) c4) c5)	104	c1) c2) c3) c4) c5)	139	c1) c2) c3) c4) c5)
35	c1) c2) c3) c4) c5)	70	c1) c2) c3) c4) c5)	105	c1) c2) c3) c4) c5)	140	c1) c2) c3) c4) c5)

Specimen only