



**STAV Publishing 2016**

# **PSYCHOLOGY**

## **Units 3 & 4**

### **Trial Examination**

#### **SOLUTIONS BOOK**

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Use this page as an overlay for marking the multiple choice answer sheets. Simply photocopy the page onto an overhead projector sheet. The correct answers are open boxes below. Students should have shaded their answers. Therefore, any open box with shading inside it is correct and scores 1 mark.

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**SECTION A – Multiple-Choice Questions**

1	B	14	B	27	B	40	A	53	A
2	A	15	A	28	D	41	B	54	A
3	D	16	C	29	A	42	A	55	D
4	B	17	D	30	B	43	D	56	A
5	B	18	A	31	A	44	A	57	B
6	C	19	D	32	B	45	B	58	C
7	D	20	B	33	D	46	D	59	C
8	C	21	C	34	C	47	A	60	D
9	B	22	B	35	D	48	B	61	C
10	B	23	B	36	D	49	C	62	B
11	A	24	A	37	C	50	A	63	A
12	C	25	C	38	C	51	D	64	A
13	C	26	A	39	D	52	C	65	D

**SECTION B – Short-Answer Questions****Question 1**

a. **Answer** *Kyla may experience*

- *memory problems*
- *confusion*
- *depression*

1 mark Students make one of the above points

b. **Answer**

- *Electroencephalograph: used to detect, amplify and record electrical activity of the brain (brain wave patterns); can indicate stage of sleep and dreaming.*
- *Electromyograph: used to detect, amplify and record electrical activity (muscle tension) in skeletal muscles; can indicate sleep stage.*
- *Electrooculograph: used to detect, amplify and record electrical activity (tension) in eye muscles that control eye movements; helps to determine if person is dreaming.*
- *Apparatus to measure temperature/blood pressure - these vary depending on sleep stage.*
- *Video camera to record Kyla's sleep.*

3 marks Students identify and describe three items

2 marks Students identify and describe two items

1 mark Students identify and describe one item

c. **Answer**

- *Presence in the EEG recordings of low amplitude, high frequency waves (beta-like waves with a saw-tooth pattern)*
- *together with rapid eye movements and very low levels of tension in skeletal muscles.*

2 marks Students make both of the above points

1 mark Students make one of the above points

d. **Answer**

- *Relative absence from the EEG recordings of delta brain waves.*

1 mark Students make the above point

e. **Answer**

- *Deep (NREM) sleep is needed for physical growth and tissue repair (so if Kyla spends insufficient time spent in sleep stages 3&4 she is more likely to suffer from stress and infectious diseases such as colds).*

1 mark Students make the above point

**f. Answer**

- *A microsleep is a brief period of sleep that occurs while the person is apparently awake, without the person being aware of being asleep.*
- *Kyla should be concerned, since it could occur while she is engaged in a risky activity, e.g. while she is driving a car.*

2 marks            Students make both of the above points

1 mark             Students make the above point

**Question 2****Answer**

- *In controlled processes information processing involves conscious, focused attention and mental effort. Controlled processes interfere with the performance of tasks. For example: a learner playing the piano.*
- *In automatic processes information processing involves little conscious awareness, mental effort and attention. Automatic processes do not interfere with the performance of other tasks. For example: an experienced piano player can play while conducting a conversation.*

2 marks            Students define each type of process and give an appropriate example.

1 mark             Students provide information about one process only or provide incomplete response

**Question 3****a. Answer**

- *Similarity exists with respect to the comparative size of many body parts e.g. hands, lips. This is because body parts that are comparatively sensitive are also ones that produce fine movements.*
- *For both, top parts correspond to lower parts of the body.*

1 mark            Students make one of the above points

**b. Answer**

- *The primary auditory cortex, located in the temporal lobes.*

1 mark            Students make the above point

**Question 4****Answer**

- *Survival theory: sleep evolved to enhance survival. It protects the organism at times when it is most vulnerable, by making it inactive and concealed. Support: we are inactive at night, when our vision (primary sense) functions least well.*
- *Restoration theory: function of sleep is to help organisms recover/replenish/repair/detox. Support: We sleep longer during illness and after strenuous activity; **or** Prolonged sleep deprivation causes immune system disturbances; **or** Repair/growth processes appear to take place during NREM sleep; **or** Higher mental functions such as memory storage appear to occur during REM sleep*

2 marks            Students explain theories and give appropriate examples

1 mark             Students explain theories or give appropriate examples but not both

**Question 5****Answer**

	<i>SM</i>	<i>STM</i>
<i>Capacity</i>	<i>Very large</i>	<i>7 ± 2 items</i>
<i>Duration</i>	<i>About 0.4 sec for visual information; about 4 sec for auditory information</i>	<i>Up to 30 seconds, unless rehearsed</i>

2 marks            Students make all of the above points

1 mark             Students' response omits one/two elements

**Question 6****a. Answer**

- *Recall*

1 mark Students make the above point

**b. Answer**

- *Get students to learn list and determine how long it takes to achieve 100% success.*
- *Six months later, determine how long it takes to relearn the list to achieve 100% success.*
- *Calculate 'savings score', i.e. % of time that was 'saved' because of earlier learning.*

3 marks Students explain how the savings method can be used

2 marks Students' response omits a key detail

1 mark Students' response is superficial

**Question 7****a. Answer**

- *The serial position effect: when we learn a list of items, free-recall is best for items at the end of the list, then for those at the start.*
- *Recall is poorest for the items in the middle of the list.*

2 marks Students make both of the above points

1 mark Students make one of the above points

**b. Answer**

- *Get participants to learn a list of 20 terms read out slowly one at a time. (Should try to make all terms equally familiar, so no word stands out as unusual/odd).*
- *Immediately, get students to write down all the terms they can remember, in any order.*

2 marks Students make both of the above points

1 mark Students make one of the above points

**Question 8****a. Answer**

- *Trying, but failing to remember the name of an acquaintance, while feeling I know it.*

1 mark Students give an appropriate example

**b. Answer**

- *The experience of the 'tip-of-the-tongue' phenomenon suggests that*
  - *we can have partial retrieval of the needed information*
  - *different bits of information can act as retrieval cues but if we lack the appropriate cues we cannot retrieve all the information*
  - *each memory is stored in a complex fashion involving a variety of locations in the brain.*
- *Information in LTM is organised and connected in meaningful ways.*

2 marks Students explain the significance of TOT phenomenon

1 mark Students' response is incomplete

**Question 9****Answer**

- *Narrative chaining involves linking otherwise unrelated items to one another ('chaining') to form a meaningful sequence or story ('narrative').*
- *Jane should think of a story which can include the terms she needs to learn. Then, when retrieval is required, she can re-tell the story to herself.*

2 marks Students make both of the above points

1 mark Students make one of the above points

**Question 10****Answer**

- *Semantic memories: remembering facts about the ski resort.*
- *Episodic memories: remembering the cold, the sounds, the feel of the snow.*
- *Procedural memories: remembering how to ski.*

2 marks            Students identify and give examples of two types of memory

1 mark            Students identify and give an example of one type of memory *or* either name *or* exemplify two types

**Question 11****a. Answer**

- *Retention refers to the storage in memory of the model's behaviour: Lani would have to memorise the actions so that she may perform them later.*
- *Reproduction refers to the imitation of the model's behaviour: Lani was physically able to reform the actions when required to do so.*

2 marks            Students make both of the above points

1 mark            Students make the above point

**b. Answer**

- *Lani's feelings towards her grandmother are significant*
  - *a learner is more likely to imitate a model who is liked/has high status for the learner*
  - *the possible approval of a liked model would act as a reinforcer.*

1 mark            Students make one of the above points

**Question 12****Answer***Graduated exposure*

- *The psychologist would help Ella construct an 'exposure fear' hierarchy, starting with least feared, e.g. standing next to a boat; sitting in a boat, etc.*
- *Ella would then be progressively exposed to each stimulus.*
- *Exposure would be combined with relaxation exercises to make Ella feel more calm and to enable her to break the association between the feared objects (boats) and fear.*

*Flooding*

- *Ella would be placed directly in the fear-inducing situation (e.g. by being taken on a boat ride) ensuring there is no actual danger.*
- *The trial would continue until Ella no longer experienced the conditioned fear response.*
- *This strategy assumes that over that time Ella will break the association between boats and fear.*

3 marks            For either of the two strategies, students make all three of the above points

2 marks            Students make two of the above points

1 mark            Students make one of the above points

**Question 13****a. Answer**

- *Following a behaviour with an aversive stimulus, to reduce its occurrence.*

1 mark            Students make the above point

**b. Answer**

- *Punishment does not teach the 'learner' the desired behaviour.*
- *Learner may associate punishment with the person administering it and not the behaviour.*
- *It is ineffective unless the punisher is*
  - *used consistently*
  - *used immediately following the behaviour*
  - *sufficiently aversive.*

2 marks            Students explain two issues associated with the use of punishment

1 mark            Students make one of the above points

**c. Answer**

- *punish behaviour and not the person*
- *explain reason*
- *be consistent*
- *ensure behaviour is punished as soon as it occurs*

2 marks            Students make two of the above points

1 mark             Students make one of the above points

**Question 14****Answer**

- *The statement does apply for many behaviours. For example, until 1973, homosexuality was considered to be a mental disorder.*
- *However, most cultures/societies consider behaviour associated with severe mental illness such as schizophrenia to be abnormal and a sign of dysfunction.*

2 marks            Students make both of the above points in the context of a suitable example

1 mark             Students make one of the above points

**Question 15****a. Answer**

- *As with physical illness, mental disorders can be explained in terms of biological causes. In particular they are related to the physical structure and functioning of the brain. Causes can be genetic or environmental.*
- *Treating mental illness should involve medical strategies such as drugs/surgery.*

2 marks            Students make both of the above points

1 mark             Students make one of the above points

**b. Answer**

- *The causes of many dysfunctions are still not fully determined.*
- *Drug therapy is often ineffective, undermining this model.*
- *Diagnosis has been shown to be problematic.*

1 mark             Students make one of the above points

**Question 16****a. Answer**

- *Emotion-based coping strategy.*

1 mark             Students make the above point

**b. Answer**

- *Problem-based coping: involves defining the problem and generating alternative solutions.*
- *Adira could investigate alternative pathways to the course she wishes to study.*

2 marks            Students identify problem-based coping and give appropriate example

1 mark             Students identify strategy or give appropriate example but not both

**Question 17****a. Answer**

- *insomnia*
- *mood changes*
- *behavioural responses such as smoking and/drinking alcohol*

1 mark             Students make one of the above points



**b. Answer**

- *Social factors may include*
  - *lack of support from family/friends*
  - *bullying*
- *Cultural factors*
  - *Do may belong to a culture that discourages discussion of problems*
  - *Do's culture may stress external success, which may put additional pressure on Do*
- *Environmental factors, in the workplace or at home may include*
  - *poor lighting*
  - *noise*
  - *heat/cold, etc*

3 marks            Students give an appropriate example of each type of stressor

2 marks            Students give two examples

1 mark             Students give one example only

**c. Answer**

- *On-going stress leads to persistently elevated levels of stress hormones such as adrenaline and cortisol.*
- *These hormones increase heart rate and constrict blood vessels, producing raised blood pressure.*

2 mark             Students make both of the above points

1 mark             Students make one of the above points

**d. Answer**

- *The term 'allostatic overload' refers to the situation where the wear and tear on the body and brain that result from experiencing on-going stress is excessive.*
- *Depending on duration and individual's state, overload may*
  - *lead to the development of conditions such as chronic heart disease, diabetes, etc*
  - *have little permanent effect.*

2 marks            Students explain the concept and name a possible consequence

1 mark            Students explain the concept or name a consequence but not both

**SECTION C – Research scenario****Question 1****Answer***Replication*

- *enables the verification of reliability*
  - *over time*
  - *for different populations*
- *determines if results are dependable or a fluke*
- *determines if results are genuine or fraudulent*

1 mark             Students make one of the above points

**Question 2****Answer**

- *To obtain permission from an Ethics Committee at the University Dr Epstein must have sought and obtained written informed consent from each volunteer.*
- *The form would have included a brief description of the study and its requirements, plus any issues it posed for participants.*

2 marks            Students make both of the above points

1 mark            Students make one of the above points

**Question 3****Answer**

- *Second year Psychology students who are exposed to the crime drama video information will be significantly more likely to remember related terms than participants who were not exposed to the video.*

2 marks          Students identify the population and the IV and DV.

1 mark          Students' hypothesis is missing one of the above elements

**Question 4****Note:**

Responses to this question are marked holistically. Students are assessed on the extent to which they:

- identify and describe the key terms/theories/issues
- explain the relevant terms/theories/issues and make connections between psychological concepts/theories and data and research
- use appropriate examples/evidence/data to support the response
- interpret and analyse the issues/data/information
- evaluate issues/data/information and draw appropriate conclusions

Below are possible responses to the specific questions

- *The hypothesis was supported since the probability of the difference between the means occurring by chance was less than 0.05.*
- *Participants who were given a 'framework' for memorising the information remembered significantly more terms. This provides some support for the Semantic Network theory and cue-dependent forgetting, which state that when we memorise new information, we try to link it to information already in LTM.*
- *The study used an independent groups design. This was suitable for the study, since it avoided practice effects.*
- *Participant selection was opportunistic (not random). It is possible that the sample did not represent the population, thus it is not appropriate to generalise from these results.*
- *Allocation was not random. It is possible that the groups were not comparable.*

10 marks

**END OF SUGGESTED SOLUTIONS**



