



2010

Psychology: GA 3 Written examination 2

GENERAL COMMENTS

The mean score on the November 2010 paper was 64%, which was slightly lower than in 2009. This was mainly the result of decreased mean scores on the multiple-choice section.

The scores in the short answer section (overall mean 49% correct) were: Memory 53% correct, 48% for Learning and 47% for Research Methods. In the multiple-choice section, the mean score for Memory was 78% correct and the mean score for Learning was 77% correct.

A number of students did not answer some of the multiple-choice questions. Students are strongly encouraged to respond to each question; not only is it impossible to achieve a mark where no response is given, leaving a blank also increases the likelihood that later answers on the computer-scored sheet will be out of synchronisation and further marks may be lost. If they are unsure, students are advised to mark the response that is their 'best guess'. It is always possible to change a response by carefully erasing and re-shading. The use of a ruler, moved down the page as each question is answered, may help to ensure that the correct response line is being completed.

In the short answer section, some students failed to address command terms in the questions.

In the Research Investigation, many students gave generic answers and did not apply their knowledge to the case described. These students were therefore unable to demonstrate understanding of the concepts being assessed.

Marking Policy

An answer that does not address all aspects of the question **cannot** achieve full marks. Students are reminded to read questions carefully and answer all parts of a question.

Students are advised to check their spelling because meanings must be clear and unambiguous for marks to be awarded. While spelling is not directly assessed, there are many words and phrases used in Psychology that can become ambiguous if they are spelt incorrectly.

SPECIFIC INFORMATION

Section A – Multiple-choice questions

The table below indicates the percentage of students who chose each option. The correct answer is indicated by shading.

Question	% A	% B	% C	% D	Comments
Area of Study 1 – Memory					
1	90	2	6	1	
2	1	32	5	62	
3	3	1	7	88	
4	3	1	2	94	
5	96	1	1	1	
6	21	24	28	26	Decay constitutes one of the processes by which information is lost from short-term memory (as well as from sensory and long-term memory). All students received a mark for this question.
7	16	8	70	6	
8	1	3	93	3	
9	2	2	71	25	
10	14	13	4	69	
11	71	15	9	5	
12	14	8	76	2	
13	3	10	2	85	

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Question	% A	% B	% C	% D	Comments
14	6	19	11	63	It was evident that students who selected working memory (option B) did not understand Baddeley's model.
15	1	84	9	6	
16	4	13	4	78	
17	2	9	8	81	
18	96	1	2	1	
19	3	1	6	89	
20	6	3	91	1	
21	21	9	64	7	The phrase in the question 'According to semantic network theory ...' should have alerted students that they were most likely to be seeking an aspect of the three characteristics of semantic network theory: nodes, links and hierarchical organisation.
22	93	6	0	1	
Area of Study 2 – Learning					
23	34	2	10	54	Many students selected option A. It is true that 'species-specific behaviour' is an alternative name for 'fixed action pattern', but this was not what the question was asking. The behaviours – often related to mating and reproduction – increase the chances of the perpetuation of the species; this is therefore a survival need.
24	1	1	2	97	
25	6	9	60	25	The unconditioned stimulus cannot become the conditioned stimulus under any circumstances.
26	91	6	1	2	
27	0	2	92	6	
28	1	4	93	2	
29	95	2	2	1	
30	89	6	3	2	
31	83	3	2	12	
32	7	29	7	56	Students who chose option B, which referred to the timing of the consequence, appeared to assume that the question was asking why the intended punishment was ineffective.
33	1	70	15	15	
34	9	19	25	47	Option D was incorrect as there was no indication that being in the classroom was an aversive experience. The fact that the children were prevented from accessing their normal privilege and that they 'wanted to play outside' shows that the strategy was a response cost – a punishment.
35	3	4	14	80	
36	8	4	65	23	The choice of option D by over 20 per cent of students indicated a lack of understanding of both observational learning and learning set. Learning set refers to the fact that learning in one situation may affect the ability to learn in another.
37	87	1	9	3	
38	10	11	4	75	
39	8	77	12	3	
40	11	6	3	80	
41	5	88	4	2	
42	87	1	1	10	
43	15	8	10	67	
44	1	2	1	96	

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Section B – Short answer questions

For each question, an outline answer (or answers) is provided. In some cases the answer given is not the only answer that could have been awarded marks.

Area of Study 1 – Memory

Question 1a.

Marks	0	1	2	Average
%	20	32	48	1.3

- Semantic – names learned (for example, from hearing the roll being marked)
- Episodic – recalling names in association with class events
- Declarative – either or both of the above explanations would be valid as ‘declarative’ includes both ‘semantic’ and ‘episodic’

It was necessary for students to refer to the class and/or names. A common error made by students was using key terms as part of their own definition; for example, ‘Declarative, because they had to declare the names of students they knew’ or ‘Episodic, because they had to remember episodes of their life’.

Question 1b.

Marks	0	1	2	Average
%	9	10	81	1.7

Condition 1: Recall (or free recall)

Condition 2: Recognition

Question 1c.

Marks	0	1	Average
%	51	49	0.5

Recognition is a more sensitive measure of retrieval than recall.

Question 1d.

Marks	0	1	2	Average
%	29	47	24	1

No, because:

- the results reflect differences in measures of retention, not differences in memory due to age
- all participants were the same age (there was no cross-age comparison)
- age was not an independent variable.

Question 2a.

Marks	0	1	2	Average
%	37	45	18	0.8

Forgetting is most rapid immediately after learning. The type of material learned does not affect the relative rate of forgetting.

Question 2b.

Marks	0	1	Average
%	60	40	0.4

Meaningful material is semantically encoded (deeper encoding than Group A). The semantic network is accessed in Group B, not in Group A.

Many students used everyday language instead of psychological terms. This caused responses to be less specific than required.

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Question 3

Marks	0	1	2	3	Average
%	30	24	34	12	1.3

Encoding – The mayor should first visualise a familiar route, and then picture an item representing each important topic at a specific location along this route in the order in which she wants to recall them. For example, home to town hall, cars outside gate, recycling bins on the road, piles of rubbish in the street, pedestrian jumping off road at traffic crossing, elderly person with walking frame, and twin toddlers in pusher at town hall steps.

Retrieval – When giving the speech, the mayor can mentally move through the route, visualising and using each site along the route to cue recall of the important topics in sequential order. The various locations will act as retrieval cues for the items that have been visually linked to the locations.

For full marks it was essential that students discussed the:

- visualisation process
- method of visualising to assist encoding
- method of visualising to assist retrieval
- six items the mayor wanted to mention in her speech.

Question 4

Marks	0	1	Average
%	50	50	0.5

There may be no evidence that the memory was encoded or stored in the first instance. Consolidation may not have been completed or memory trace may not have formed. It is not possible to know whether or not cues being given relate to the memory (everybody's semantic network is different for each concept). It is virtually impossible to scientifically test for retrieval failure as a theory of forgetting (is it really forgotten?).

Many students mentioned the tip-of-the-tongue phenomenon as a criticism of this theory; however, this phenomenon supports the theory.

Area of Study 2 – Learning

Question 5

Marks	0	1	Average
%	27	73	0.8

Partial or any specific partial schedule (variable or fixed, interval or ratio)

Question 6

Marks	0	1	2	3	Average
%	35	23	20	21	1.3

- behaviour – wearing the chain
- consequence – positive reinforcement: winning the race (feeling good because of winning)

This has increased the likelihood that Frank will repeat the behaviour of wearing the chain when he races.

Too many students tried to explain Frank's behaviour as classical conditioning, despite the wording of the question. There were many references to the chain being the stimulus and winning the race being the response, with no further attempt at using psychological language.

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Question 7ai–iii.

Marks	0	1	2	Average
%	25	33	42	1.2

Question 7ai.

Unconditioned stimulus – the mother’s screaming/fainting/fear

Conditioned stimulus – the spider(s)

Many students did not indicate that the unconditioned stimulus was the mother’s fear.

Question 7b.

Marks	0	1	2	Average
%	44	41	15	0.7

- The therapist could gradually extinguish Jan’s conditioned response of fear of spiders by presenting stimuli similar to spiders (pictures/models, etc.), without ever pairing the stimulus with an unconditioned stimulus that generates the reflexive response of fear.
- The psychologist could associate the spider with an unconditioned stimulus that causes a reflexive response of pleasure or relaxation (chocolate/cute puppy), so that the spider stimulus changes to become a conditioned stimulus eliciting the conditioned response of pleasure.

Some students used the terms ‘graduated exposure’, ‘systematic desensitisation’ or ‘flooding’ appropriately; however, these terms were not required in order to gain marks. A generic response, however, could not achieve full marks. Many students incorrectly identified the process as aversion therapy.

Question 7c.

Marks	0	1	Average
%	16	84	0.9

Stimulus generalisation (a stimulus similar in nature to the conditioned stimulus of spiders produces the conditioned response – fear of the crab)

Question 8a.

Marks	0	1	Average
%	60	40	0.4

Either of:

- operant conditioning
- avoidance learning.

A common error was to identify the process as ‘one-trial learning’; however, it should be emphasised that the study design specifies one-trial learning in the form of taste aversion.

Question 8b.

Marks	0	1	2	Average
%	36	31	34	1

- Her behaviour of going to school without having done her homework was punished, so the behaviour was not repeated.
- Her behaviour of staying at home (when she has not completed her homework) is reinforced because she feels good about avoiding detention.
- Her behaviour of staying at home (when she has not completed her homework) is reinforced because it avoids the unpleasant consequence of detention.

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Question 9

Marks	0	1	2	Average
%	48	40	12	0.7

Retention occurs when the learner stores a mental representation (memory) of the observed behaviour and its consequences.

Any example was acceptable, but needed to include storing a mental representation (or remembering the process) of the observed behaviour.

Area of Study 3 – Research Investigation

Question 10

Marks	0	1	2	Average
%	27	20	52	1.3

Dependent variable: Recall or number of words correctly recalled

Independent variable: Relatedness of word pairs (related or unrelated)

Many students interpreted the description of the independent variable incorrectly as 'related word pairs first followed by unrelated', compared with 'unrelated word pairs first followed by related'. Many students identified the independent variable as related versus unrelated words, rather than word pairs.

Question 11

Marks	0	1	Average
%	49	51	0.5

The experimental design used by Dr Nicholls was repeated measures (within subjects).

Question 12a.

Marks	0	1	Average
%	63	37	0.4

The term for this feature of experimental design is counterbalancing.

Students who had not identified the experimental design correctly in Question 11 were unlikely to provide a correct response to this question as counterbalancing is most frequently associated with repeated measures designs.

Question 12b.

Marks	0	1	2	Average
%	62	19	20	0.6

Counterbalancing eliminates the confounding influence of order effects such as learning (practice) effects and/or boredom effects.

Students who had not correctly identified repeated measures (Question 11) and counterbalancing (Question 12a.) were unlikely to be able to achieve any marks for this question.

Question 13

Marks	0	1	2	Average
%	30	57	13	0.9

Either of:

- people will show better recall – operationalised as number of words recalled from a list of pairs in a related word-pair condition compared to an unrelated word-pair condition
- people who learn related pairs of words will show improved memory – operationalised as number of words recalled from a list of 30 pairs – compared to people who learn unrelated word pairs.

An operational hypothesis is a stated prediction of the outcome of the experiment that includes:

- statement of the population (not significant in this response)
- statement of the independent variable (IV)

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- statement of the dependent variable (DV)
- operationalisation of the dependent variable.

(If the independent variable was also continuous, then it would also be operationalised.)

A correct response included appropriate operationalisation of the dependent variable and statement of the population, the independent variable and dependent variable.

Students needed to demonstrate their understanding of the concept of operationalisation and their understanding that a hypothesis is a statement of the predicted effect of a change in the independent variable on the value of the dependent variable. Students are reminded that a hypothesis cannot be expressed as a question and that it need not be directional; '... relatedness of word pairs will affect memory ability ...' is appropriate. Population was not significant in this response.

Question 14

Marks	0	1	2	3	Average
%	15	28	38	19	1.6

Recall for related word pairs (mean = 25/30)

Recall for unrelated word pairs (mean = 17/30)

$P < .05$ – the difference in the means is statistically significant ($p = .02$)

It was evident that many students misunderstood the meaning of ' $p < .05$ '. It does not mean 'Fewer than 5 times in 100 this result will occur by chance', it means 'The probability that this difference would occur by chance alone is less than 5 per cent'. Students must be aware that 'statistical significance' is the term required and that 'significance' is a different concept.

Question 15a.

Marks	0	1	Average
%	26	74	0.8

Either of:

- independent groups
- matched participants.

Question 15b.

Marks	0	1	2	Average
%	22	40	37	1.2

An advantage (or a disadvantage) of one design compared with another.

Independent groups

- advantage: all measures taken at the same time – less time involved
- disadvantage: need large numbers of participants

Matched participants

- advantage: controls variables on which participants are matched (compared with independent groups) and there is no need for counterbalancing (compared with repeated measures)
- disadvantage: time taken in measuring the matching variable, and drop-outs – if one of a pair drops out, it eliminates the scores of both members of the pair.

Students could choose either of the alternative research designs.

Question 16a.

Marks	0	1	2	Average
%	16	56	28	1.1

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Two of:

- possible harm/risk to participants
- withdrawal rights
- confidentiality of data
- voluntary participation.

Question 16b.

Marks	0	1	2	Average
%	73	23	4	0.3

Two of:

- no psychological or physiological harm to participants
- no invasion of personal privacy, which can cause stress
- no coercion, which can place participants under duress.

It was necessary for students to provide a response that corresponded with the ethical considerations listed in Question 16a.

Debriefing takes place after research has concluded and conclusions have been drawn. Many students indicated that participants should be told what would be involved in the research, implying incorrectly that debriefing occurs before the research.