GradeMax



Mark Scheme (Results)

Summer 2018

Pearson Edexcel International GCE
In Psychology (WPS02)
Paper 2: Biological Psychology, Learning Theories and Development

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications are awarded by Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at www.edexcel.com or www.btec.co.uk. Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus.

Pearson: helping people progress, everywhere

Pearson aspires to be the world's leading learning company. Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk

Summer 2018
Publications Code WPS02_01_1806_MS
All the material in this publication is copyright
© Pearson Education Ltd 2018

General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Paper WPS02 mark scheme
June 2018

Section A.

Question Number	Answer	Mark
1	**AO1 (3 marks)** Credit up to **three** marks for description. For example: • The action potential in the pre-synaptic neuron excites the vesicles (1). The vesicles may then release a neurotransmitter into the synapse (1). If the neurotransmitter fits the receptors in the post-synaptic neuron they are picked up and the message continues (1) **Look for other reasonable marking points.**	**(3)**

Question Number	Answer	Mark
2(a)	**AO2 (3 marks)** **One** mark for correct one-tailed direction. **One** mark for a fully operationalised IV. **One** mark for a fully operationalised DV. For example: • The participants who drink coffee will take less time to solve a puzzle (1) • The amount of coffee participants have will decrease the number of seconds it takes to complete a puzzle (2) • Participants who have no coffee will take fewer seconds to complete a puzzle compared to participants who have a cup of coffee (3) **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(3)**

Question Number	Answer	Mark
2(b)	**AO2 (3 marks)** Credit up to **three** marks for accurate description in relation to scenario. For example: • Oti's results show that drinking coffee negatively affects the participants' ability to solve the puzzle (1). It took the participants 360 seconds to complete the puzzle without drinking coffee and 600 seconds after drinking coffee (1). This is a difference of 240 seconds, so it takes them 60% longer to complete the puzzle after drinking a cup of coffee (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(3)**

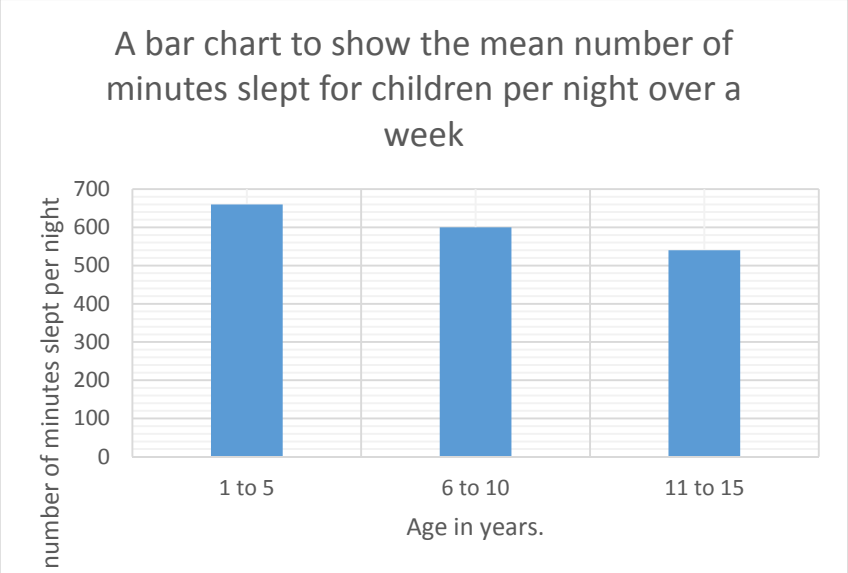
Question Number	Answer	Mark
2(c)	**AO2 (1 mark)** Credit **one** mark for accurate statement in relation to scenario. For example: • Oti could use a Wilcoxon Signed Ranks test to determine if the results were significant (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(1)**

Question Number	Answer	Mark
2(d)	**AO2 (1 mark), AO3 (1 mark)** Credit **one** mark for accurate identification of one improvement in relation to scenario. (AO2) Credit **one** mark for justification/exemplification of one improvement. (AO3) For example: • Oti could have used an independent groups design and used one group with no coffee and a different group with coffee (1). This would mean the group with coffee may not have got worse because they were bored with solving the puzzle, and so avoided order effects (1) **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
3(a)	**AO2 (4 marks)** Credit up to **four** marks for accurate description in relation to scenario. For example: • When Anastacia hit her head she may have damaged her pre-frontal cortex (1). Due to the damage to her pre-frontal cortex Anastacia may not be able to control her impulse to shout at her friends (1). The amygdala, which controls impulsive behaviour, may also have been damaged when Anastacia hit her head on the floor (1). The damage to her amygdala may have led to her becoming more aggressive and hitting the other person (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(4)**

Question Number	Answer	Mark
3(b)	**AO2 (2 marks), AO3 (2 marks)** Credit **one** mark for accurate identification of one strength and one weakness in relation to scenario. (AO2) Credit **one** mark for justification/exemplification of one strength and one weakness (AO3) For example: Strength • Like Anastacia's banging her head when she slipped, the case of Phineas Gage showed that damage to the brain due to a head injury can lead to an increase in aggression (1) showing that brain functioning as an explanation of Anastacia's aggression has validity (1) Weakness • There are other explanations for Anastacia's aggression such as the role of reinforcement as she may experience satisfaction after hitting someone else (1) therefore we cannot state it is her brain injury alone that caused her aggression so reducing the validity of the explanation (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(4)**

Question Number	Answer	Mark
4 (a)	**AO2 (1 mark)** Credit **one** mark for a correct answer • 11:10 **Reject all other answers.**	**(1)**

Question Number	Answer	Mark
4(b)	**AO2 (3 marks)** **One** mark for correct/appropriate title. **One** mark for correct/appropriate labelling of axes. **One** mark for correct plotting of both mean scores. For example:  **Look for other reasonable marking points.**	**(3)**

Question Number	Answer	Mark
4 (c)	**AO1 (1 mark), AO3 (1 mark)** Credit **one** mark for accurate identification of one weakness. (AO1) Credit **one** mark for justification/exemplification of one weakness. (AO3) For example: • The mean can be affected by extreme scores (1) which means it may not be an accurate representation of the majority of the scores. (1) **Look for other reasonable marking points.**	**(2)**

Question Number	Indicative content	Mark
5	**AO1 (4 marks), AO3 (4 marks)** For example: AO1 • Some research, measures aggression using a variety of different methods such as rating scales and samples of saliva. • Chang et al. (2012) found that when aggression, exploring and boldness increased in fish so did the amount of testosterone in their blood. • Dabbs et al. (1987) found that the level of testosterone was higher in the males who had committed violent crimes compared to those who had committed non-violent crimes. • Studies on humans may be correlations that find a relationship between hormones and aggression. AO3 • When more than one method is used then the data from each method can be cross checked for reliability. • Animal studies may not be generalisable to humans as aggression in humans is can be social whereas in animals this is rarely the case. • Dabbs et al. (1987) had 89 participants which could be considered generalisable due to the large sample size. • Correlations cannot tell us if an increase in hormones causes aggression or vice versa. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer.		
	0	No rewardable material.
Level 1	1-2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	3-4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	5-6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning, leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	7-8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Section B.

Question Number	Answer	Mark
6 (a)	**AO2 (1 mark), AO3 (1 mark)** Credit **one** mark for accurate identification in relation to scenario. (AO2) Credit **one** mark for justification/exemplification (AO3) For example: • Ore's father is male, so the father is the same sex as Ore (1). According to Bandura, boys are more likely to imitate a male role model because they identify with them (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
6 (b)	**AO2 (2 marks)** Credit up to **two** marks for accurate description in relation to scenario. For example; • Ore may have been vicariously reinforced as he saw his father being given praise from his mother (1). Ore may also want praise from his mother so decides to paint in the hope his mother will praise him (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
6 (c)	**AO2 (2 marks)** Credit up to **two** marks for accurate description in relation to scenario. For example; • Ore is positively reinforced with his favourite food when he comes back after playing cricket (1), so he associates a positive consequence with his behaviour of playing cricket (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
7 (a)	**AO2 (1 mark)** Credit **one** mark for correct answer. • 1 [(2-1) x (2-1)] **Reject all other answers**	**(1)**

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>7 (b)</td><td>
AO2 (4 marks)

One mark for accurate completion of O-E column.
One mark for accurate completion of (O-E)² column.
One mark for accurate completion of (O-E)²/E column.
One mark for correct answer to two decimal places.

<table>
<tr><th></th><th></th><th>Observed</th><th>Expected</th><th>O-E</th><th>(O-E)²</th><th>(O-E)²/E</th></tr>
<tr><td rowspan="2">Condition A
Did not get electric shock</td><td>Did not peck at circle</td><td>13</td><td>19.25</td><td>-6.25</td><td>39.0625</td><td>2.029220779220779</td></tr>
<tr><td>Pecked at circle</td><td>20</td><td>13.75</td><td>6.25</td><td>39.0625</td><td>2.840909090909091</td></tr>
<tr><td rowspan="2">Condition B
Did get electric shock</td><td>Did not peck at circle</td><td>22</td><td>15.75</td><td>6.25</td><td>39.0625</td><td>2.48015873015873</td></tr>
<tr><td>Pecked at circle</td><td>5</td><td>11.25</td><td>-6.25</td><td>39.0625</td><td>3.472222222222222</td></tr>
<tr><td></td><td></td><td></td><td colspan="3">Chi-squared =</td><td>10.82</td></tr>
</table>

Look for other reasonable answers.
</td><td>(4)</td></tr>
</table>

Question Number	Answer	Mark
7 (c)	**AO1 (4 marks)** Credit up to **two** marks for each accurate description. For example: • Re-use of animal's states that an animal cannot be reused for a second procedure if the second procedure is more painful than the first procedure (1). If an animal is going to be reused then the vet has to declare that the animal is healthy enough to be reused (1). • If an animal has to be killed as part of the procedure it can only be done if the establishment has a license to kill the animals (1). One condition of having the license is that it should be done as humanely as possible and they must be sedated before they are killed (1). **Look for other reasonable marking points.**	**(4)**

Question Number	Answer	Mark
7(d)	**AO1 (1 mark), AO3 (1 mark)** Credit **one** mark for accurate identification of one weakness. (AO1) Credit **one** mark for justification/exemplification of one weakness. (AO3) For example: • The results of animal studies may not be generalisable to humans as they have different brain structures (1), therefore humans may not behave in the same way so the results may not be valid (1) **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
8 (a)	**AO1 (4 marks)** Credit up to **four** marks for accurate description. For example: • The aim of free association is to allow unconscious thoughts to be expressed (1). The patient would lie on a couch, usually where they cannot see the psychoanalyst's reactions to what they are saying (1). The patients are then asked to talk about their early memories, with little or no input from the psychoanalyst (1). This would allow the patients to say things they may not say if asked direct questions as the unconscious would not be as closely monitoring what was said (1). **Look for other reasonable marking points.**	**(4)**

Question Number	Answer	Mark
8 (b)	**AO1 (2 marks)** Credit up to **two** marks for accurate description. For example: • Transference is when the patient feels towards the therapist what they felt towards their parents (1). This allows the psychoanalyst and the patient to understand how the patient reacts to their parents because of their unconscious thoughts (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
8 (c)	**AO2 (3 marks)** Credit up to **three** marks for accurate description in relation to the scenario For example: • Tameka is responding to her client in the same way the client's parents may respond by thinking the client should act in a more adult manner (1). This allows Tameka to see that the parents may get frustrated with the client and talk to the client in an angry tone of voice (1). Tameka and the client can then explore how this reaction from the client's parents may have led to the client's unconscious response of acting in a childlike manner (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(3)**

Question Number	Indicative content	Mark
9	**AO1 (4 marks), AO3 (4 marks)** **AO1** • The therapist first carries out a functional analysis to determine what triggers the anxiety. • The client then makes a hierarchy of fear, ranking the situations from the least to the most anxious. • The therapist teaches the client relaxation techniques, such as deep breathing exercises. • The client is then put in the lowest situation on the hierarchy of fear and practices the relaxation techniques until they no longer feel any anxiety. **AO3** • The therapy may be more effective than other therapies as the client has input into the hierarchy of fear, so they feel some ownership over the therapy. • Toozandehani et al (2011) found that a combined treatment of systematic desenstitsation and assertive training was more effective than either treatment on their own, so it is not effective as a single treatment. • McGrath et al (1990) found that 75% of patients with a phobia of a specfic object showed significant improvement after systematic desensitisation showing it is effective when used on specific phobias. • Psychoanalysis would argue it is not effective as it does not get rid of the cause for the phobia, meaning the client may have other issues after the therapy. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between Knowledge and understanding vs assessment/conclusion in their answer.		
	0	No rewardable material.
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning, leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this may be imbalanced. (AO3)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Section C

Question Number	Indicative content	Mark
10	**AO1 (6 marks), AO3 (6 marks)** **AO1** • Light therapy aims to simulate sunlight for those who suffer from seasonal affective disorder. • Patients sit under a light box for 30 to 60 minutes each day, preferably in the morning. • The stronger the light from the light box the less time the patient has to spend under the light box. • Light boxes may have diffusers so that the light is softer on the eyes. • Some light boxes use a dawn simulator which gradually increases the light in the morning. • The light will decrease the levels of the patient's melatonin so they should feel less tired throughout the day. **AO3** • Lam et al. (2016) found that light therapy was more effective for treating depression than being given anti-depressants, therefore it can be deemed to be an effective therapy. • It depends on the type of box being used how effective the treatment is as dawn simulators have been found to be less effective than a light box. • Light boxes can be unsafe to use if the patient has pre-existing conditions, such as taking medicine for rheumatoid arthritis so may not be a suitable treatment for everyone, therefore not effective for everyone. • Light therapy may only work in the short term, it may not prevent seasonal affective disorder from reoccurring in the future, so it does not cure it, so is not an effective treatment if you want to cure SAD. • Light therapy may be a better treatment for those who suffer from side effects from taking anti-depressants as it has fewer side effects, so is very effective in these cases. • Reeves et al. (2012) found that self-report scores for depression fell after one session of light therapy showing that it does work, and so can be said to be effective. **Look for other reasonable marking points.**	**(12)**

Level	Mark	Descriptor
AO1 (6 marks), AO3 (6 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs judgement/conclusion in their answer.		
	0	No rewardable material.
Level 1	1–3 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A judgement/decision may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	4–6 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material leading to a judgement/decision being presented. Candidates will demonstrate a grasp of competing arguments but response may be imbalanced. (AO3)
Level 3	7–9 Marks	Demonstrates accurate knowledge and understanding. (AO1) Displays a mostly developed and logical argument, containing mostly coherent chains of reasoning. Demonstrates an awareness of competing arguments, presenting a judgement/decision which may be imbalanced. (AO3)
Level 4	10–12 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical argument, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments and presents a balanced response, leading to a balanced judgement/decision. (AO3)

Question Number	Indicative content	Mark
11	**AO1 (6 marks), AO3 (10 marks)** **AO1** • Watson and Rayner (1920) reported the stages of their study, including what objects were presented to Little Albert and whether the metal bar was hit or not. • Raine et al. (1997) had a standardised procedure, all the participants carried out the same continuous performance task. • Raine et al. (1997) used objective data as the brain activity was measured by a PET scan. • The participant in Watson and Rayner's (1920) study was one male baby aged 9 months old. • Raine et al. (1997) had 82 participants, 41 NGRIs and 41 in the control group. • Both studies were carried out in controlled conditions, as both were carried out in a laboratory, and Raine et al. (1997) gave each participant 32 minutes on the continuous performance task. **AO3** • Because Watson and Rayner (1920) reported all the stages of their study this means it is possible to replicate the exact procedure, increasing the reliability of the study. • It would be unethical to put a baby through the distress Little Albert went through therefore it is not possible to replicate the study to check the reliability of the findings. • Due to the standardised procedure of Raine et al.'s (1997) study, such as the practice at the continuous performance task before the experiment started, reliability is increased as other researchers can carry out the same procedure to check the results. • Due to the use of objective data from the PET scans the results can be said to be reliable as they accurately stated which areas of the brain were more active. • There may have been some subjectivity in Raine et al. (1997) as people still had to interpret the data from the PET scan, possibly reducing reliability. • Both studies can be said to lack population validity, Watson and Rayner (1920) because of the small sample size, and Raine et al. (1997) due to the specific group of murderers. • The validity of Watson and Rayner's (1920) results is questioned as there is some debate about whether Little Albert was a normal baby as they stated. • The use of a laboratory in both studies affects the ecological validity of the studies as the behaviour seen in the laboratory may not be the participants' natural behaviour. • It could be said that Little Albert would have encountered loud noises paired with an object in real life so the fact the study was done in a laboratory does not affect his behaviour. • Raine et al. (1997) can be said to have internal validity as the control group was matched in terms of mental illness, so the researchers knew that mental illness did not cause the brain differences.	**(16)**

	Look for other reasonable marking points.	

Level	Mark	Descriptor
AO1 (6 marks), AO3 (10 marks) Candidates must demonstrate a greater emphasis on evaluation / conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 6 marks.		
	0	No rewardable material.
Level 1	1-4 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	5-8 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	9-12 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning, leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	13-16 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)