Mark Scheme (Results)

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Pearson Edexcel GCE

In Psychology (9PS0)

Paper 02: Applications of Psychology

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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.

Mark schemes will indicate within the table where, and which strands of QWC, are being assessed. The strands are as follows:

SECTION A: Clinical Psychology

Question Number	Answer	Mark
1(a)	**AO1 (1 mark)** One mark for a definition of reliability in relation to classification systems. For example: • A classification system for mental health is reliable if there is consistent diagnosis of mental health between clinicians (1). **Look for other reasonable marking points.**	**(1)**

Question Number	Answer	Mark
1(b)	**AO1 (2 marks), AO3 (2 marks)** One mark for identification of each reason (AO1). One mark for justification of each reason (AO3). For example: • Different classification systems such as DSM and ICD may diagnose different mental health for a person presenting with the same symptoms so they may lack concurrent validity (1), as shown by Cooper et al. (1972) where the same patient was diagnosed with schizophrenia twice in New York two times more than in London (1). • Classification systems cannot always accurately predict how effective treatments will be for a given disorder, so they may lack predictive validity (1) as shown by Kuyken et al. (2008) who found that 75% of his participants stopped taking anti-depressants and more relapsed compared to MCBT, so classification systems cannot predict who anti-depressants will work for (1). **Look for other reasonable marking points.**	**(4)**

Question Number	Answer	Mark
2 (a)	**AO2 (1 mark)** One mark for an identification of the dependent variable in relation to the scenario. For example: • The dependant variable was whether the patients said they had improved, stayed the same or deteriorated after eight weeks of therapy (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(1)**

Question Number	Answer	Mark
2(b)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of one weakness in relation to the scenario (AO2). One mark for justification of the weakness (AO3). For example: • Charles's sample may be biased as only those patients who felt they were responding well to their face to face or online therapy may have contacted him (1), so Charles's results may not be representative of all patients receiving face to face or online therapy, so there may be issues with generalising the results (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
2(c)	**AO2 (1 mark)** One mark for stating a reason for using a chi-squared test in relation to the scenario. For example: • Charles used nominal data as the results were whether they clients had improved, stayed the same or deteriorated (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(1)**

Question Number	Answer	Mark
2(d)	**AO2 (1 mark) AO3 (1 mark)** One mark for identification of the correct critical value (AO2). One mark for accurate judgment of difference (AO3). For example: • Charles did not find a significant difference in the effectiveness of face to face/in person or online therapy (1) as his calculated value (3.23) does not equal or exceed the critical value (4.61) for a one-tailed test at $p \leq 0.05$ when $df=2$ (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
2 (e)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of an improvement in relation to the scenario (AO2). One mark for justification of the improvement (AO3). For example: • Charles could have used participants who had the same therapist for online therapy and face to face therapy to improve the validity of his investigation (1), as this would ensure his results are not affected by the participants reactions to different therapists so he could be more certain his results are due to the different types of the therapy (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
3 (a)	**AO1 (3 marks)** Up to three marks for a description of the function of neurotransmitters in relation to schizophrenia. For example: • The dopamine hypothesis states that those with too much dopamine in the mesolimbic pathway will have positive symptoms of schizophrenia (1). A higher number of D2 receptors in the brain means that more dopamine will bind to the receptors leading to schizophrenia (1). A decrease of glutamate in the mesolimbic pathway in people with schizophrenia no longer inhibits dopamine leading to an excess of dopamine. (1). **Look for other reasonable marking points.**	**(3)**

Question Number	Answer	Mark
3(b)	**AO1 (1 mark), AO3 (1 mark)** One mark for identification of a strength (AO1). One mark for justification of the strength (AO3). For example: • Carlsson et al. (2000) proposed that glutamate and dopamine interacted in their review of studies giving the explanation credibility (1) as they reviewed several studies that found NMDA antagonists reduce glutamate functioning and increased the release of dopamine (1). **Look for other reasonable marking points.**	(2)

Question Number	Indicative content	Mark
4	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Many psychiatric disorders run in families suggesting there is a genetic component to the development of mental health disorders. • Several chromosomes such as 22,1, 18, 15, 14, 13, 12 are thought to contain genes that are associated with an increased risk of schizophrenia. • People who have a first degree relative with depression could be three times more likely develop depression at some point in their lifetime compared to the general population. • Chromosomes 1 and 10 are linked to the development of eating disorders including anorexia nervosa. **AO3** • Gottesman (1991) found that the concordance rate of 48% in monozygotic twins for schizophrenia suggesting that genes do affect the development of schizophrenia. • Studies have not found a 100% concordance rate between genes and a mental disorder therefore genes are not the only factor that affect the development of mental disorders, the environment also plays a part. • The cognitive explanation of unipolar depression says that it is caused by a combination of negative thoughts about themselves, the world and the future suggesting it is thought patterns not genes that affect the development of unipolar depression. • Scott-Van Zeeland et al. (2013) concluded there was an association between the EPHX2 gene and anorexia suggesting genes do play a role in the development of anorexia.	(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)

Question Number	Indicative content	Mark
5	**AO1 (4 marks), AO2 (4 marks)** **AO1** • Interviews can be used to gather detailed information about different aspects of clinical psychology to gain an understanding of people's experiences. • Interviews can be structured where they use the same questions for all patients, semi-structured or unstructured. • Interviews can use closed questions where the answers, such as yes/no questions for example, to gather quantitative data about clinical psychology. • Open questions allow the patients to answer in their own words giving an understanding of why they gave the answer they did. **AO2** • Lydia is using interviews to gather detailed data about the patients' views and experiences and whether they feel they are listened to in the local mental health unit. • Lydia could use a semi-structured interview as she could adapt her questions based on the patients answers about what could be improved in the mental health unit, but some questions about how they feel they are listened to could be the same for all the patients. • Lydia could use closed questions, such as 'do you feel the staff speak to you with empathy?' which would gather numerical data which she could then analyse and include in her report to the manager to help improve the mental health unit. • Lydia could ask open questions about what the patients feel works well in the mental health unit so the manager can build on this once they have seen Lydia's report.	(8)

Level	Mark	Descriptor
		AO1 (4 marks), AO2 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs application in their answer.**
	0	No rewardable material
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Discussion is partially developed, but is imbalanced or superficial occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. Candidates will demonstrate a grasp of competing arguments but discussion may be imbalanced or contain superficial material supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures (AO2)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical balanced discussion, containing logical chains of reasoning. Demonstrates a thorough awareness of competing arguments supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). (AO2)

Question Number	Indicative content	Mark
6	**AO1 (8 marks), AO2 (4 marks), AO3 (8 marks)** **AO1** • Cognitive behavioural therapy sees the patient with schizophrenia once a week in a supportive non-threatening environment. • Specific symptoms are focussed on target areas such as delusions with the therapist and patient working together. • The therapist may help the client identify their irrational thoughts that lead to the delusions and challenge them to prove the thoughts using reality. • Explaining that hallucinations come from irrational thought processes can help reduce the client's anxiety around their symptoms. • When working with auditory hallucinations the therapist will first focus on physical attributes of the voice such as the tone of voice. • Therapists will discuss events that happened before the schizophrenia and cognitive distortions from illness in order to make the schizophrenia seem more normal. • The client may be asked to record their beliefs and feelings about any hallucinations as homework so the therapist can better understand the clients. • The client may be asked to record evidence to back up their delusions with the aim of showing there is no basis for the delusions. • Clients may also be asked to change their behaviour and record their experiences, such as going out with friends if social withdrawal is a symptom. **AO2** • The therapist will focus on Henry's specific symptom such as hearing voices saying he is not a good person asking Henry what exactly they are saying. • The therapist will challenge Henry's irrational delusions asking him why he needs to save the world and how he will do it. • The therapist will try and work out the trigger for the schizophrenia, so the therapist may look at the parental relationship. • Henry may be asked to go for a coffee with a friend over the next week and record how he felt about the situation.	**(20)**

14	**AO3** • Drake & Sederer (1986) found that intense, over long therapies often led to worsening of the schizophrenia and negatively affects them in the long term, so CBT may not be an effective treatment for Henry if it is both intense and long. • CBT requires the patient to be motivated and engage with the therapy, which may not be possible for patients like Henry with schizophrenia as he has social withdrawal so it may not be effective for all patients with schizophrenia. • Patients with schizophrenia may need to take medication in order to be able to engage in CBT as they may not be able to communicate effectively, so CBT without medication may not be effective for Henry as it may not work. • CBT aims to treat the cause of the schizophrenia so it could be seen as more effective as a treatment than anti-psychotics on their own, as these just treat the symptoms. • If schizophrenia has a biological basis in the form of neurotransmitters, then CBT will not be an effective treatment as it does not address the biological cause of the schizophrenia. • Bradshaw (1998) assessed CBT in a case study with a female schizophrenic patient called Carol and found considerable improvement in functioning and symptoms over a 3-year treatment period and 1-year follow-up so it could be effective for Henry. • Chadwick et al. (2000) found significant reductions in the power and control that voices had over 22 schizophrenic patients using group based CBT, so if Henry did CBT in a group it could be effective for him. • Turkington et al. (2002) found the use of CBT improved overall symptomology, insight and depression in those with schizophrenia showing that it can be an effective treatment for Henry. **Look for other reasonable marking points**	

Level	Mark	Descriptor
		AO1 (8 marks), AO2 (4 marks), AO3 (8 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs judgement/conclusion in their answer.** **Application to the scenario is capped at maximum 4 marks.**
	0	No rewardable material.
Level 1	1–4 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2) 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	5–8 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2) 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	9–12 Marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) 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	13–16 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates throughout the skills of integrating and synthesising relevant knowledge with consistent linkages to psychological concepts and/or ideas. (AO2) 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)
Level 5	17-20 Marks	Demonstrates accurate and comprehensive knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates consistently the skills of integrating and synthesising relevant knowledge with thorough, accurate linkages to psychological concepts and/or ideas. (AO2) Displays a well-developed and logical argument, containing logical chains of reasoning throughout. Demonstrates a full awareness of competing arguments and presents a fully balanced response, leading to an effective nuanced and balanced judgement/decision. (AO3)

Section B.

Criminological psychology

Question Number	Answer	Mark
7 (a)	**AO1 (2 marks)** Credit up to two marks for a description of a biological treatment. For example: • Drugs such as MPA are given to offenders to address the imbalance in neurotransmitters or hormones and so reduces their criminal behaviour (1). Antiandrogens such as MPA are given to sex offenders to reduce their level of testosterone and their reoffending (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
7 (b)	**AO1 (1 mark), AO3 (1 mark)** One mark for identification of a strength (AO1). One mark for justification of the strength (AO3). For example: • Turner et al. (2013) showed that the use of drugs is an effective treatment for sex offenders so the treatment has validity (1) as they found that up to 75% of inmates prescribed testosterone lowering medication did reduce frequency or intensity of sexual thoughts (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
8 (a)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of one weakness in relation to the scenario (AO2) One mark for justification of the weakness (AO3). For example: • Alicia only collects numerical data in a score from 1 to 10 in terms of the likelihood the manager committed a crime so her data lacks detail (1), therefore she does not get a full understanding of why the participants thought the manager may or may not have committed assault or fraud (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
8 (b)	AO2 (4 marks)	(4)

Participant	Condition A: Likelihood of committing assault	Condition B: Likelihood of committing fraud	Difference	Rank	Rank if positive	Rank if negative
A	1	5	**-4**	**4**		**4**
B	3	3	**0**			
C	2	7	**-5**	**5.5**		**5.5**
D	7	8	**-1**	**1**		**1**
E	5	10	**-5**	**5.5**		**5.5**
F	4	2	**2**	**2**	**2**	
G	3	6	**-3**	**3**		**3**
Total:					**2**	**19**

One mark for accurate completion of the difference column.
One mark for accurate completion of the ranked difference column.
One mark for accurate calculation of sum of both ranks.
One mark for the correct value of **T=2**

Question Number	Answer	Mark
8 (c)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of an improvement in relation to the scenario (AO2). One mark for justification of the improvement (AO3). For example: • Alicia could have used an independent groups design so the participants were only exposed to either the assault or the fraud scenario (1), which would increase the validity of the findings regarding the judgements of likelihood as they would not be affected by prior exposure to the other scenario (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	(2)

Question Number	Indicative content	Mark
9	**AO1 (4 marks), AO2 (4 marks)** **AO1** • Psychological formulations aim to create hypotheses about what has led to someone's criminal behaviour and why they may continue that behaviour. • Psychological formulations should be short and focus on key features about the criminal behaviour. • To create a psychological formulation psychologists will look at an offender's past and present relationships as well as social and economic circumstances. • Formulations can be used to decide how likely an offender is to reoffend as well as possible reasons why they may not be responding to treatments. **AO2** • George will use the information he has gathered, such as the fact the prisoner is homeless to create a hypothesis about whether he thinks the prisoner will commit more crimes or not if released. • George has gathered a lot of data about the prisoners past and current circumstances, such as his previous relationships which he will have to condense into a brief document so he will need to decide the most important information to include. • George has asked the prisoner about his childhood and his unstable relationships and he will use this information to create a psychological formulation about the prisoner. • As the prisoner is due for parole George may take into account the prisoner has an addiction and has not responded to treatment, and may suggest he is likely to reoffend if released on parole.	(8)

Level	Mark	Descriptor
		AO1 (4 marks), AO2 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs application in their answer.**
	0	No rewardable material
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Discussion is partially developed, but is imbalanced or superficial occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. Candidates will demonstrate a grasp of competing arguments but discussion may be imbalanced or contain superficial material supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures (AO2)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical balanced discussion, containing logical chains of reasoning. Demonstrates a thorough awareness of competing arguments supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). (AO2)

Question Number	Indicative content	Mark
10	**AO1 (6 marks), AO2 (4 marks), AO3 (6 marks)** **AO1** • XYY syndrome is caused by males having an extra Y chromosome thought to be due to an error when the cells divide around fertilisation. • About 50% of boys who have XYY syndrome will have some delay when developing their speech. • Boys with XYY tend to grow slightly faster than other boys their age, and tend to be slightly taller as men. • Boys who have XYY syndrome have normal intelligence but their intelligence may be 10 to 15 IQ points below their siblings. • Boys who have XYY syndrome find it harder to concentrate on tasks and they may be more easily distracted from what they are doing. • Boys with XYY may be more impulsive than XY boys, and they may also be more active physically. **AO2** • Mark had some delay in his speech as he started talking at a later age than his sister. • Compared to his sister Mark could be said to be less intelligent as his sister got better exam results, but he did get some average exam results so can be said to be in the normal range. • Mark did not do as well at school as his sister possibly because he got easily distracted from his work which he could not concentrate on. • Mark was a member of the junior rugby team but his impulsive behaviour meant he was asked to leave the team after being too aggressive. **AO3** • Re and Birkhoff (2015) conducted a literature review of articles from the past 50 years and concluded that males with XYY syndrome were not necessarily going to become anti-social or criminals. • In a meta-analysis Leggett et al (2010) found that males with XYY syndrome had IQs within the average range, but had difficulties with their speech and language. • There are alternative theories of anti-social behaviour such as labelling theory, if XYY boys are labelled as disruptive due to them being easily distracted at school this could lead to the	(16)

3	anti-social behaviour rather than the extra Y chromosome. • The XYY theory has application, as knowing that XYY males are more physically active and more easily distracted means strategies can be put in place a school to help them, which may reduce their tendency to be anti-social. • XYY syndrome focuses on nature and ignores nurture, such as it may be that people treat the boys differently due to their extra height and it could be this that leads to the anti-social behaviour. • Money et al. (1969) found that 19 of his participants had behavioural problems at school including a deficit attention span, restlessness and disrupting the classroom routine showing XYY can affect a child's education.	

Level	Mark	Descriptor
		AO1 (6 marks), AO2 (4 marks), AO3 (6 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer.** **Application to the context is capped at maximum 4 marks.**
	0	No rewardable material.
Level 1	1-4 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) 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) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) 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) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) 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) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Child Psychology

Question Number	Answer	Mark
11 (a)	**AO1 (2 marks)** Credit two marks for a description of one therapy. For example: • Applied behavioural analysis works through the use of rewards when a child with autism shows a desired behaviour such as making eye contact (1). Each child with autism has specific goals to work towards, and applied behavioural analysis can be used in a variety of situations to help achieve those goals (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
11 (b)	**AO1 (1 mark), AO3 (1 mark)** One mark for identification of a strength (AO1) One mark for justification of the strength (AO3). For example: • Yu et al. (2020) showed that the use of applied behavioural analysis is effective for children with autism so the therapy has validity (1) as they found that applied behavioural analysis led to a significant improvement in socialisation, communication and expressive language in children with autism spectrum disorder (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
12 (a)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of one weakness in relation to the scenario (AO2) One mark for justification of the weakness (AO3). For example: • Alicia only collects numerical data in a score from 1 to 10 in terms of the likelihood of the child's cognitive development improving so her data lacks detail (1), therefore she does not get a full understanding of why the participants thought the child's cognitive development may or may not have improved (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
12 (b)	AO2 (4 marks)	(4)

Participant	Condition A: Likelihood of child who did not go to day care improving	Condition B: Likelihood of child who did go to day care improving	Difference	Rank	Rank if positive	Rank if negative
A	1	5	-4	4		4
B	3	3	0			
C	2	7	-5	5.5		5.5
D	7	8	-1	1		1
E	5	10	-5	5.5		5.5
F	4	2	2	2	2	
G	3	6	-3	3		3
				Total:	2	19

One mark for accurate completion of the difference column.
One mark for accurate completion of the ranked difference column
On mark for accurate calculation of sum of both ranks.
One mark for the correct value of **T=2**

Question Number	Answer	Mark
12 (c)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of an improvement in relation to the scenario (AO2). One mark for justification of the improvement (AO3). For example: • Alicia could have used an independent groups design so the parents were only exposed to either the child who did or did not attend day care (1), which would increase the validity of the findings regarding the judgements of likelihood as they would not be affected by prior exposure to the other scenario (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Indicative content	Mark
13	**AO1 (4 marks), AO2 (4 marks)** **AO1** • Children should be placed in a home where an adult can provide a substitute mother figure who can give the child focussed attention. • Parents should try and maintain regular contact with their children if they have to be separated from them. • If it is not possible to maintain contact then reminders of the absent parent may help reduce the effects of deprivation. • Routines can help a child adjust to any prolonged period of time away from home. **AO2** • If the child is placed with a substitute mother figure as they will be in a foster home, then they may form an attachment to them and so not get upset this time. • If possible, the child should visit its mother regularly whilst she is in hospital so that the effects of the deprivation are not as severe. • As the mother is in hospital the child may not be able to visit her so to ensure it does not get so upset photographs of the mother should be in its foster home. • To reduce any further effects of deprivation the home routines of the child should be kept, such as bedtime routines, rather than make the child fit into existing routines as happened in the children's institute.	(8)

Level	Mark	Descriptor
		AO1 (4 marks), AO2 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs application in their answer.**
	0	No rewardable material
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Discussion is partially developed, but is imbalanced or superficial occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. Candidates will demonstrate a grasp of competing arguments but discussion may be imbalanced or contain superficial material supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures (AO2)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical balanced discussion, containing logical chains of reasoning. Demonstrates a thorough awareness of competing arguments supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). (AO2)

Question Number	Indicative content	Mark
14	**AO1 (6 marks), AO2 (4 marks), AO3 (6 marks)** **AO1** • Cross cultural research into attachment types uses Ainsworth's strange situation where there are a variety of episodes involving the mother, child and a stranger. • The reaction of the child when with the mother, when left alone and when with the stranger are recorded to determine attachment type. • Ainsworth said that the majority of the children she observed were securely attached to their mothers. • IJzendoorn and Kroonenberg (1988) said that the most common attachment was type B in all the studies they used apart from one study from Germany where the most common attachment was anxious avoidant. • Cassiba et al. (2013) said that 53% of Italian infants were securely attached compared to 65% of American infants in Ainsworth's studies. • Studies have shown that in Japan there tend to be more type C (Miyake et al. 1985). **AO2** • The children at the nursery who get upset when their parent leaves but then settle down may be from an American culture as studied by Ainsworth. • Those children who happily start playing may be German as they show the characteristics of an anxious avoidant attachment. • The culture of the children may not affect how upset they get when their parent leaves them at the nursery as the most common attachment across cultures seems to be type B. • As there are more Type C children in Japan then the children who get very upset and cannot be comforted by the nursery workers may be from Japan. **AO3** • Cross cultural research in attachment that uses the strange situation can be said to be reliable as it uses a series of standardised episodes with each one being 3 minutes long so it can be replicated. • Research into attachment could be seen as unethical as the child is left alone and it is	(16)

		known that in most cases the child will become upset, so they are not protected from harm.	
2		• Ainsworth's research just looked at the interactions with the child and the mother, it ignored any effect the father may have on the child's attachment and their behaviour. • Van IJzendoorn and Kroonberg (1988) included a sample of 1990 in their meta-analysis, from a variety of different cultures so their results on attachment can be said to be representative of the children at the nursery. • Cassibba et al. (2013) used unpublished studies as well as published studies to try and avoid publication bias where negative results are not published so may be seen as more valid when explaining the children's behaviour. • The results from Miyake et al. (1985) may be biased as they used mothers who did not go out to work, it cannot be said that the same results would be found in Japan with mothers who did work so may not explain the children's behaviour.	

Level	Mark	Descriptor
		AO1 (6 marks), AO2 (4 marks), AO3 (6 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer.** **Application to the context is capped at maximum 4 marks.**
	0	No rewardable material.
Level 1	1-4 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) 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) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) 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) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) 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) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Question Number	Answer	Mark
15 (a)	**AO1 (2 marks)** Credit up to two marks for a description of one treatment. For example: • When using aversion therapy alcohol is paired with Antabuse that stops the oxidising of the acetaldehyde so a person will feel sick after drinking alcohol (1). The person then associates alcohol with the reflexive action of being sick so no longer drinks alcohol (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
15 (b)	**AO1 (1 mark), AO3 (1 mark)** One mark for identification of a strength (AO1) One mark for justification of the strength (AO3). For example: • Howard and Howard (2009) showed the use of aversion therapy is effective for treating alcohol addiction so the therapy has validity (1) as they found that patients who had pharmacological aversion therapy were more confident that they would not drink in high-risk situations (1) **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
16 (a)	**AO2 (1 mark), AO3 (1 mark)**	**(2)**
	One mark for identification of a weakness in relation to the scenario (AO2)	
	One mark for justification of the weakness (AO3).	
	For example:	
	• Alicia only collects numerical data in a score from 1 to 10 in terms of the likelihood of the drug addict or non-addict committing the crime so her data lacks detail (1), therefore she does not get a full understanding of why the participants thought the drug addict or non-addict may or may not have committed the crime (1).	
	Answers must relate to the scenario.	
	Generic answers score 0 marks.	
	Look for other reasonable marking points.	

Question Number	Answer	Mark
16 (b)	**AO2 (4 marks)**	**(4)**

Participant	Condition A: Likelihood of non-addict committing the crime	Condition B: Likelihood of drug addict committing the crime	Difference	Rank	Rank if positive	Rank if negative
A	1	5	-4	4		4
B	3	3	0			
C	2	7	-5	5.5		5.5
D	7	8	-1	1		1
E	5	10	-5	5.5		5.5
F	4	2	2	2	2	
G	3	6	-3	3		3
				Total:	2	19

One mark for accurate completion of the difference column.
One mark for accurate completion of the ranked difference column.
On mark for accurate calculation of sum of both ranks.
One mark for the correct value of **T=2**

Question Number	Answer	Mark
16 (c)	**AO2 (1 mark), AO3 (1 mark)** **One** mark for identification of an improvement in relation to the scenario (AO2). **One** mark for justification of the improvement (AO3). For example: • Alicia could have used an independent groups design so the participants were only exposed to either the crime scenario with the addict or non-addict (1), which would increase the validity of the findings regarding the judgements of likelihood as they would not be affected by prior exposure to the other scenario (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Indicative content	Mark
17	**AO1 (4 marks), AO2 (4 marks)** **AO1** • The use of role models in campaigns means the target audience should identify with them so observe and imitate their behaviour. • The person who is delivering the message should be a credible source in order to change people's attitudes to drugs. • The Hovland-Yale model of communication campaigns that give both sides of the argument are more likely to be effective. • Fear arousal within a drugs campaign can be used to change people's behaviour as they may feel that they may be negatively affected by the drug. **AO2** • The use of a social media celebrity means that the celebrity should be a role model for teenagers, so they are more likely to imitate not taking drugs. • As the celebrity has previously taken drugs they may been seen as a credible source, as they have experienced the highs and lows of drug taking. • George's drug campaign should be more effective according to the Hovland-Yale model of communication as the celebrity is going to talk about the positives of drug taking as well as the negatives. • George should ensure his graphics are not too fear arousing, as high fear tactics have been shown to lead to people ignoring the message.	**(8)**

Level	Mark	Descriptor
		AO1 (4 marks), AO2 (4 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs application in their answer.**
	0	No rewardable material
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Discussion is partially developed, but is imbalanced or superficial occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. Candidates will demonstrate a grasp of competing arguments but discussion may be imbalanced or contain superficial material supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures (AO2)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical balanced discussion, containing logical chains of reasoning. Demonstrates a thorough awareness of competing arguments supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). (AO2)

Question Number	Indicative content	Mark
18	**AO1 (6 marks), AO2 (4 marks), AO3 (6 marks)** **AO1** • Operant conditioning states that when people, such as heroin addicts are reinforced, they will repeat the behaviour e.g., taking heroin. • Positive reinforcement is when taking heroin gives the addict something they desire, such as feeling good. • Negative reinforcement is when something undesirable is avoided or removed after taking the heroin. • Positive reinforcement may explain why addicts take heroin again after the first time, as they associate taking heroin with a desirable outcome. • Negative reinforcement explains why they continue taking it once they are dependent on heroin as it removes withdrawal symptoms. • A primary reinforcer satisfies a basic need, in heroin addicts it may be that taking heroin allows them to fit in with their groups of friends. **AO2** • The addicts that Mark treats have been positively reinforced for taking heroin as they state that they enjoyed getting high. • Negative reinforcement may be a factor in why the heroin addicts continue to take heroin as they say they take it to take away the pain. • The heroin addicts are receiving a primary reinforcement as they have friends who also take it, so they are part of the group which satisfies the desire to belong. • The heroin addicts may be addicted due to social learning theory rather than operant conditioning as they knew people who took it, who may be their role models so they copied the behaviour. **AO3** • The principles of operant conditioning can be applied as a therapy, if not taking the heroin is rewarded in a way that is meaningful for the addict it can help them recover. • Operant conditioning does not explain why heroin addicts continue taking heroin if they have a bad experience, such as an overdose, as this should act as a punishment.	(16)

| | | • Olds and Milner (1954) found that positive reinforcement did lead to the rats pressing a lever to get the reinforcement of brain stimulation, so this may explain heroin addiction as well.
• Mundt et al. (2012) found that adolescent alcoholics were influenced by their friends in their alcohol uptake, so it may be that heroin addicts start taking heroin due to imitating role models and not operant conditioning.
• Operant conditioning for heroin addiction takes into account the biological processes of dependency and withdrawal symptoms so it focuses on nature as well as nurture.
• Operant conditioning cannot explain why people first try heroin, as there is no associated reinforcement, but social learning theory says that they first take it in imitation of their role models. | |

Level	Mark	Descriptor
AO1 (6 marks), AO2 (4 marks), AO3 (6 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer.** **Application to the context is capped at maximum 4 marks.**
	0	No rewardable material.
Level 1	1-4 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) 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) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) 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) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) 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) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)