

GCE Advanced-Level Psychology Paper 1 Mark Scheme

Question Number	Answer	Mark
1(a)	<p style="text-align: center;">AO2 (1 mark)</p> <p>One mark for identifying the level of measurement used. Nominal/nominal data.</p>	(1)

Question Number	Answer	Mark
1(b)	<p style="text-align: center;">AO2 (1 mark)</p> <p>One mark for identifying the experimental design used. Repeated measures design/repeated measures/related/related design/within group design.</p>	(1)

Question Number	Answer	Mark
1(c)	<p style="text-align: center;">AO2 (1 mark), AO3 (1 mark)</p> <p>One mark for identifying an improvement and one mark for justifying that improvement in the context of Annabel's research.</p> <p>For example:</p> <p>Repeated measures design problem Engage two groups of students, each seeing only one report (1), because this removes order effects (so they are not influenced about one report by seeing the other reports) (1).</p> <p>OR</p> <p>Small sample size The sample size needs to be larger (1) to allow Annabel to generalise to the target population (1).</p> <p>OR</p> <p>Biased sample The sample needs to target a wider range of people (not only students) (1) to allow Annabel to generalise to the target population (1).</p> <p>Look for other reasonable marking points.</p>	(2)

Question Number	Answer	Mark
2	<p style="text-align: center;">AO2 (4 marks)</p> <p>One mark for each point related to agency theory which in combination provides a logical explanation up to a maximum of four marks.</p> <p>The answer must be contextualised with the scenario of Tom/Mrs Smith/preparing her lessons.</p> <p>For example:</p> <p>Agency theory would explain that Mrs Smith is an authority figure who has given Tom, a subordinate, an order (1) so Tom would have chosen not to run errands if in an autonomous state, but will experience moral strain if he refuses to obey (1). Therefore moral strain will cause an agentic shift and Tom will become an agent for Mrs Smith (1). Any negative aspects associated with his obedience, such as not doing his homework, will be displaced on to Mrs Smith/he will lay the responsibility for consequences of his obedience such as not doing his homework, on Mrs Smith (1).</p> <p>Generic description of obedience theory/research gains no marks.</p> <p>Look for other reasonable marking points.</p> <p>Answers must relate to the scenario.</p> <p>Generic answers score 0 marks.</p>	(4)

Question Number	Indicative content	Mark
3	<p style="text-align: center;">AO1 (4 marks), AO3 (4 marks)</p> <p>AO1</p> <ul style="list-style-type: none"> • Ethical guidelines include the right to withdraw, which means someone can leave a study at any time. • Ethics mean obtaining informed consent so everything about the study must be explained to the participants beforehand. • Ethical guidelines include keeping participants from harm/ensuring they leave the study as they arrived. Society as a whole needs to be considered in terms of future use of the research outcomes. • Research into obedience includes Milgram's (1963) study that showed that 65% of participants obeyed and gave what they thought were electric shocks to someone they thought was a fellow participant. • Milgram gained consent but deceived the participants as to the nature of the study. • Milgram de-briefed the participants after the study. • Milgram's work was considered very unethical as he did not give the right to withdraw properly; he used verbal prods when they wanted to leave, even when showing signs of distress. <p>AO3</p> <p>Concluding points to suggest that research into obedience can or cannot be conducted without violating ethical guidelines, linked from applied knowledge, for example:</p> <ul style="list-style-type: none"> • Burger (2009) replicated Milgram's work but did so just up to 150 volts, which he felt was ethical. • Less distressing research has been conducted into obedience such as Milgram et al. (1986) who used 'queue jumpers' to see if people would push them out of the queue and only about 10% did that – this has contributed to our understanding of obedience without using stressful situations, and this explains mundane obedience. • Obedience research is likely to use deception to avoid demand characteristics, which would violate the ethical guidelines. 	(8)

Question Number	Indicative content	Mark
3 cont.	<ul style="list-style-type: none"> • Without deception, no meaningful conclusions can be conducted from Milgram's obedience research. • Reasonable assumptions can be made regarding continued obedience based on ethically sound research, eg. Burger (2009) found that obedience research cannot stretch human behaviour beyond what is ethically acceptable in terms of distress. • A right to withdraw is often violated in obedience research, without which obedience cannot be produced readily. • Certain types of social research (obedience, conformity) are expensive/extensive to run and may require funding/support from notable interested parties (military, government), so the intentions and outcomes of such research may be aligned with certain organisational expectations. The outcomes therefore could be used against certain groups of people <p>Look for other reasonable marking points.</p>	

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.		
Level 0	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	Answer	Mark
4	<p style="text-align: center;">AO1 (4 marks)</p> <p>One mark for each point related to reconstructive memory which in combination provides a logical description up to a maximum of four marks.</p> <p>Memories are reconstructed each time they are recalled (1).</p> <p>The schema we possess alters the content of our memories which we recall to be consistent with our belief/previous experiences (1). Our existing schema affects our memory in line with our beliefs or previous experience (1). We use our schemas to fill in the gaps (1).</p> <p>Look for other reasonable marking points.</p>	(4)

Question Number	Answer	Mark
5	<p style="text-align: center;">AO2 (3 marks)</p> <p>One mark for each point, which in combination provides a logical description up to a maximum of three marks.</p> <p>Three marks to be drawn from the following ideas:</p> <p>Patients should be asked about their personal preferences such as with reference to their diet (1).</p> <p>A history of the patient should be documented in terms of their family relations (1).</p> <p>Patients should be provided with care that reflects this information, e.g. photos of their family in their room and their preferred foods should be provided (1).</p> <p>Any new information that the patients need to know should be written down and not left to just telling the patient (1).</p> <p>Look for other reasonable marking points.</p> <p>Answers must relate to the scenario.</p> <p>Generic answers score 0 marks.</p>	(3)

Question Number	Answer	Mark
6(a)	<p style="text-align: center;">AO2 (1 mark)</p> <p>One mark for identifying why independent groups design in this investigation is suitable.</p> <p>For example:</p> <p>Researchers are unlikely to wait the 20 years to retest the same participants at age 30 and then age 50.</p> <p>OR</p> <p>The study needs people in two different age groups, so that would require different people if the study is cross-sectional/done at one moment in time.</p> <p>Look for other reasonable marking points.</p> <p>Answers must relate to the scenario.</p> <p>Generic answers score 0 marks.</p>	(1)

Question Number	Answer	Mark
6(b)	<p style="text-align: center;">AO2 (2 marks)</p> <p>One mark for identifying which statistical test, related to the data, should have been used, and one mark for saying that this data is ordinal/interval data and/or a test of difference is being carried out and/or that the study uses an independent groups design/focuses on two ages.</p> <p>For example:</p> <p>Mann Whitney/Mann Whitney U test can be used (1) because the data is ordinal/interval data, and it is testing the difference in scores between under 30yrs olds compared to over 50 year olds (1). So it satisfies the conditions.</p> <p>Answers must relate to the scenario.</p> <p>Generic answers score 0 marks.</p>	(2)

Question Number	Indicative content	Mark
7	<p style="text-align: center;">AO1 (4 marks), AO2 (4 marks)</p> <p>AO1</p> <ul style="list-style-type: none"> • The multi-store model of memory (Atkinson and Shiffrin, 1968) divided memory into sensory store/sensory register, short-term memory and long-term memory. • Attention to information in the sensory store means it goes into short-term memory, or else it is lost. • Short-term memory has a capacity of 5 to 9 items (e.g. Miller, 1956) and duration of up to 30 seconds (probably shorter) (e.g. Posner, 1966), and it is thought to be acoustic in processing. • Memories in short-term memory can go into long-term memory if they are rehearsed, but if they are not rehearsed, they are lost (e.g. Hebb, 1961). • Interference tasks, such as that done by Peterson and Peterson (1959), show that one memory can prevent another memory being formed. <p>AO2</p> <ul style="list-style-type: none"> • Rehearsal is often used in a formal teaching setting to learn. • Revising the rehearsal of information in the classroom to ensure long-term memory retention. • Application of interference theory, e.g. learning one list of words after having learned another list to explain why learning vocabulary is so difficult. • The distinction between short-term memory and long-term memory is useful in understanding how learning a language by rote learning can move information into long-term memory. The model has a vast amount of experimental research to support it as a useful memory model that holds reliability (e.g. Milner, 1966, using case studies of brain damaged patients to show evidence for the two separate stores). <p>Look for other reasonable marking points.</p>	(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.		
Level 0	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	Answer	Marks
8(a)	<p style="text-align: center;">A02 (2 marks)</p> <p>One mark for an answer relating to nature. One mark for an answer relating to nurture.</p> <p>Nature</p> <ul style="list-style-type: none"> • Level of hormones (testosterone). • Gender. • She may have brain dysfunction. <p>Nurture</p> <ul style="list-style-type: none"> • Death of a spouse. • Personal injury. • Change in financial status. • Son or daughter leaving home. • Minor violations of the law. <p>Look for other reasonable marking points.</p>	(2)

Question Number	Answer	Marks
8(b)	<p style="text-align: center;">AO2 (4 marks)</p> <p>One mark for each point that in combination provides a logical description up to a maximum of four marks.</p> <p>The counsellor will explain to Mrs Khan that:</p> <ul style="list-style-type: none"> • She has suffered some serious events that have affected her aggression, e.g. death of her spouse (1). • There are some events she can do something about (e.g. taking a holiday) and some she cannot (e.g. children leaving home) (1). • Looking at the figures will get her to rationalise her situation (1). • Devising a strategy (e.g. to increase her circle of friends and take a holiday) will reduce the environmental causes of her aggression and help her to control her anger (1). <p>Look for other reasonable marking points.</p>	(4)

Question Number	Answer	Mark																																																						
9	<p style="text-align: center;">A02 (4 marks)</p> <table border="1"> <thead> <tr> <th>Self-rated aggression</th> <th>Rank 1</th> <th>Peer-rated aggression</th> <th>Rank 2</th> <th>D</th> <th>d²</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>6.5</td> <td>3</td> <td>6</td> <td>0.5</td> <td>0.25</td> </tr> <tr> <td>2</td> <td>6.5</td> <td>6</td> <td>4</td> <td>2.5</td> <td>6.25</td> </tr> <tr> <td>4</td> <td>5</td> <td>2</td> <td>7</td> <td>-2</td> <td>4</td> </tr> <tr> <td>5</td> <td>4</td> <td>5</td> <td>5</td> <td>-1</td> <td>1</td> </tr> <tr> <td>8</td> <td>3</td> <td>7</td> <td>3</td> <td>0</td> <td>0</td> </tr> <tr> <td>9</td> <td>1.5</td> <td>8</td> <td>2</td> <td>-0.5</td> <td>0.25</td> </tr> <tr> <td>9</td> <td>1.5</td> <td>9</td> <td>1</td> <td>0.5</td> <td>0.25</td> </tr> <tr> <td colspan="4"></td> <td>Total:</td> <td>12</td> </tr> </tbody> </table> <p>One mark for accurate completion of column d (minus signs can be present or not for the mark).</p> <p>One mark for accurate completion of d².</p> <p>One mark for substituting into equation</p> $1 - \frac{6 \times 12}{7(49-1)}$ <p>One mark for 0.786/0.79.</p>	Self-rated aggression	Rank 1	Peer-rated aggression	Rank 2	D	d ²	2	6.5	3	6	0.5	0.25	2	6.5	6	4	2.5	6.25	4	5	2	7	-2	4	5	4	5	5	-1	1	8	3	7	3	0	0	9	1.5	8	2	-0.5	0.25	9	1.5	9	1	0.5	0.25					Total:	12	(4)
Self-rated aggression	Rank 1	Peer-rated aggression	Rank 2	D	d ²																																																			
2	6.5	3	6	0.5	0.25																																																			
2	6.5	6	4	2.5	6.25																																																			
4	5	2	7	-2	4																																																			
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Question Number	Indicative content	Marks
10	<p style="text-align: center;">AO1 (4 marks), AO3 (4 marks)</p> <p>AO1</p> <ul style="list-style-type: none"> • The biological explanation sees human behaviour being primarily determined by innate factors such as our genes and hormones. • The biological explanation argues that things such as our genes, hormones, brain structure, neurochemicals (e.g. low levels of serotonin are linked to aggression) etc. influence our behaviour, e.g. aggression can be caused by an increased level of testosterone. • The biological explanation includes survival of the fittest and evolution, and aggression may have been a survival trait in humans. • The biological explanation features parts of the brain related to aggression such as pre-frontal lobes and the amygdala. • The psychodynamic explanation sees our experiences and environment as being important in determining our behaviour, such as the superego coming from our interactions with others, and catharsis being a method of releasing aggression. • The psychodynamic approach has innate features such as the focus on drives, for example aggression as being innate. The death instinct is in everyone and 'comes out' as aggression. • The psychodynamic theory considers that aggression comes from anger, which comes from frustration such as the id's desires being blocked. • Use of catharsis to explain how tension within the family, unconscious wishes and desires, can be released through aggression. <p>AO3</p> <ul style="list-style-type: none"> • The role of testosterone may explain why the male is most often the aggressor in the family. However, evidence suggests that testosterone does not lead to aggression (see below). 	(8)

Question Number	Indicative content	Marks
10 cont.	<ul style="list-style-type: none"> • The psychodynamic explanation lies more clearly within the nurture side of the argument because there is such a strong emphasis on environment, such as in the development of the superego. The superego comes from others and is the conscience and ideal self, so this shows the emphasis on nurture, and the biological explanation is about nature. However, the psychodynamic explanation is about drives and the death instinct, which is nature. • The psychodynamic approach holds that the three parts of the personality: id, ego, and superego, are innate, so there is a nature side there too. • The biological approach does take into account environmental influences such as taking recreational drugs and alcohol (which can also affect serotonin levels, and low serotonin levels link with aggression), taking medication, the influence of accidents, or surgery. So even with the biological approach, it is not the case that all behaviour is determined by innate factors. • There is evidence for the biological explanation such as low levels of serotonin being indicated by low levels of metabolites, and people who engage in aggressive behaviour and have poor levels of control have been found to have low levels of metabolites. • Mann et al. (1990) found that people given a drug that lowers levels of serotonin were found to be more aggressive (measured by questionnaire). • Measuring testosterone and aggression by looking for a correlation in fact does not show a link between the two (e.g. Archer et al., 1991 and Brook et al., 2001), so this is evidence against the hormone link to aggression. • Narabyashi et al. (1972) found that 43 out of 51 patients who had had their amygdala removed showed reduced aggression, which is evidence that the amygdala relates to aggression. • Bushman (2002) carried out a study to see if hitting a punch bag and thinking about the person who had made someone angry in fact led to more aggression not less aggression, which suggests the catharsis idea is not true, which goes against the psychodynamic explanation. <p>Look for other reasonable marking points.</p>	

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AO1 (4 marks), AO3 (4 marks)		
Candidates must demonstrate an equal emphasis between knowledge and understanding vs assessment/conclusion in their answer.		
Level 0	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)

Question Number	Answer	Marks
11(a)	<p style="text-align: center;">A02 (2 marks)</p> <p>One mark for a partially correct operationalised directional hypothesis and two marks for a fully correct operationalised directional hypothesis.</p> <p>For example: 'Females will stop more times than males to help a woman carry her baby's pushchair up the stairs' (2).</p> <p>For example: 'Females will stop more times than males to help' (1).</p> <p>Look for other reasonable marking points.</p>	(2)

Question Number	Answer	Marks
11(b)	<p style="text-align: center;">A02 (2 marks)</p> <p>Two marks for any two of the following points about the study details justifying chi-squared:</p> <ul style="list-style-type: none"> • Male versus female helping behaviour is being compared for any significant difference, therefore it needs a test of difference/association (between groups) (1). • The data gathered is nominal (males or females, help or not). Each person can only belong to one category (1). • The independent variable is gender (males and females), so the research design is 'independent measures/independent groups'/ 'between subjects design' (1). <p>Look for other reasonable marking points.</p>	(2)

Question Number	Answer	Marks
11(c)	<p style="text-align: center;">AO2 (1 mark), AO3 (2 marks)</p> <p>One mark for identification of an improvement (1 AO3), one mark for how this would be carried out (1 AO2) and one mark for how it would improve reliability (1 AO3).</p> <p>For example:</p> <ul style="list-style-type: none"> • The students could use inter-rater reliability, which would involve them using more than one observer to rate the behaviour (1). The scores from the raters could be compared to see if they showed a positive correlation/matched (1). This would ensure that the tallying of helpful behaviour was accurate/objective and consistent/reliable (1). <p>OR</p> <ul style="list-style-type: none"> • The students could ensure reliability through retest, which would mean that they carried out the same observation again at different times/stations (1). Then the results from the two observations could be compared to see if they matched/correlated (1). This would ensure the finding was not a one-off and would allow for a measure of consistency(1). <p>Look for other reasonable marking points.</p>	(3)

Question Number	Answer	Marks
12	<p style="text-align: center;">AO1 (1 mark), AO2 (2 marks)</p> <p>One mark for naming an appropriate therapy (AO1). Two marks for stating how this therapy would be carried out to treat Suraj's phobia (2 AO2).</p> <p>For example:</p> <p>Systematic desensitisation (accept 'gradual exposure') is the process of gradual exposure to the phobic stimulus while relaxation is practised (1). Suraj, with the therapist, would create a list of fearful situations involving birds and Suraj would also learn relaxation techniques to deal with increasingly fearful situations (1). Suraj would replace the fear response with the relaxed response when he encounters birds, so that would remove the phobia (1).</p> <p>Accept alternative appropriate therapies.</p>	(3)

Question Number	Indicative content	Marks
13	<p style="text-align: center;">AO1 (4 marks), AO2 (4 marks),</p> <p>AO1</p> <ul style="list-style-type: none"> • Operant conditioning shows that when rewarded, behaviour is repeated and when punished/ignored, it stops, as Skinner (e.g. Schacter et al., 2011) showed. • Classical conditioning shows that an unconditioned stimulus leads to an unconditioned response, which is reflex behaviour. • Even when conditioned responses are extinguished and the association between the unconditioned stimulus and neutral stimulus is no longer present, there can be spontaneous recovery, as Pavlov (1929) showed. • When a stimulus is presented alongside the unconditioned stimulus, that stimulus can lead to the same response but is now a conditioned response. And the original/unconditioned stimulus is no longer needed. • Social learning theory holds that people learn through observation. There is imitation of role models (e.g. Bandura et al., 1961 and 1963). • There are stages of observational learning, including there being motivation to learn and attention to the behaviour that will be copied. • Vicarious reinforcement occurs when role models are seen to be gaining the reward desired by the young person. • Role models will be people like them in some way, people they admire and look up to, or of the same gender. <p>AO2</p> <ul style="list-style-type: none"> • Advertisers use classical conditioning to associate products with pleasurable feelings, e.g. thinness/fashion with fame and popularity, and operant conditioning may also have an effect as there are rewards in terms of peer approval for following fashion. Young people can be affected by such associations, as can other people. • Companies use operant conditioning to increase magazine sales by special offers, e.g. free lipstick (positive reinforcement). Young people are affected by what they see as a reward; it has to appeal to them. 	(8)

Question Number	Indicative content	Marks
13 cont.	<ul style="list-style-type: none"> • Celebrities are used to advertise products such as fashionable clothing. Social learning theory suggests that consumers will imitate these role models. Young people will imitate those they see as role models/someone like them/someone they want to be like. • If the models in the media are seen to be rewarded, the consumer will be vicariously reinforced to buy the product. This will apply to young people, such as when they see someone they see as like them or someone they want to be like. • Bandura (1963, 1965) provides strong evidence for the imitation of role models and for the effect of vicarious reinforcement. • Media programmes can present role models that young people might imitate, such as the X Factor showing 'ordinary' people getting rewards from being in the limelight. • Anderson and Dill (2000) show how boys are affected by video game playing and become aggressive towards others if playing violent games. • Becker et al. (2002) carried out a study in Fiji, looking at before and after TV to see if levels of anorexia grew, and they found a link between the introduction of TV and girls focusing more on diet. • Bastian et al. (2011) found that playing violent video games made people show less humanity. <p>Look for other reasonable marking points.</p>	

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Level 0	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	<p style="text-align: center;">AO1 (4 marks), AO3 (4 marks)</p> <p>AO1</p> <ul style="list-style-type: none"> • Scientific method is where there is a theory, a hypothesis is generated, the statement is tested empirically, and then the theory amended or accepted – and then tested again perhaps in a different way to build a body of knowledge. • Sherif et al. (1954/1961) studied prejudice and both the acquisition of prejudice and the reduction of prejudice, using a field experiment. • Two groups of boys in a summer camp were kept separate, then put together with competitive tasks to undertake in their two groups. • Then they had to cooperate to succeed in the tasks that both groups needed to achieve (superordinate goals). • The researchers found that the boys were hostile even when they had not met. • They were prejudiced when in competition. • However, they worked together when faced with superordinate goals and prejudice was reduced. • Baddeley (1966b) carried out a laboratory experiment to look at long-term memory and whether it was affected by acoustic or semantic similarity. • Baddeley in previous studies, and considering previous studies of others, had found that short-term memory was acoustic, and he wondered (1966b) whether long-term memory was the same. • He had a control list as well as an 'acoustic' list and a 'semantic' list, so there were controls in his experiment, as well as standardised instructions. • He did three experiments within his 1966b study and found similar results, showing that there was semantic memory in long-term memory and that short-term memory and long-term memory did not share the same processing. 	(8)

Question Number	Indicative content	Mark
14 cont.	<p>AO3</p> <ul style="list-style-type: none"> • Sherif et al. used a field experiment with careful controls up to a point but using the natural environment, so less controlled as the setting was natural. This means the experimental aspect of the study is scientific but the natural situation (uncontrolled) is not so scientific. There are elements of science in the study. • Ecological validity: the Sherif et al. study utilises a real life summer camp so has high ecological validity. By adding ecological validity, Sherif et al.'s study moves away from science as it moves away from controls to an extent. • Mundane validity: Sherif et al.'s study used everyday activities, such as competitions and cooperative tasks, that we would undertake in an everyday situation. • Sherif et al.'s study by moving into everyday tasks moves away from scientific study. • Controls: Sherif et al.'s research was carried out at a number of summer camps, which were uncontrolled situations, so showed an element of lack of science. • Replication: Sherif et al.'s studies were replicated. So reliability could be demonstrated, and reliability is a scientific requirement. • Reductionism: Sherif et al. reduced prejudice to a) separating groups, b) setting groups up to compete, c) putting groups back together to work on a superordinate goal, which shows a scientific element to their work. • Sherif et al. did aim to study the boys' whole behaviour in the situations they set up, so it is a field experiment. This makes it less scientific and holism is valued more. • Baddeley (1966b) uses more controls than Sherif et al because he uses a lab set up, and the setting of the study is controlled as well as other features. Science requires studies to be carried out in a controlled environment because cause and effect conclusions are then more readily drawn. 	

Question Number	Indicative content	Mark
14 cont.	<ul style="list-style-type: none"> • Baddeley (1966b) reduces memory to short-term and long-term memory and reduces acoustic and semantic memory to lists of words. By using a reductionist approach he can draw cause and effect conclusions, which is scientific. • However, memory is more than recall of lists of words and a holistic approach to studying memory might be less scientific but more valid. <p>Look for other reasonable answers.</p> <p>Scientific status refers to concepts such as replicability, reliability, validity, reductionism, falsification, empiricism, hypothesis testing and use of controls.</p>	

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.		
Level 0	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)

Question Number	Indicative content	Mark
15	<p style="text-align: center;">AO1 (6 marks), AO3 (6 marks)</p> <p>AO1</p> <ul style="list-style-type: none"> • Reductionism refers to studying something by looking at parts rather than the whole. • Social learning theory studies parts of learning by looking at motivation, attention, and reproduction and so on. • Learning theories include classical and operant conditioning and social learning theory. • A scientific study of biological psychology is to take one element, such as how the brain works chemically (neurotransmitters) and to study it in detail. • Biological psychology covers brain functioning and structure, genes, hormones and issues like evolution. • Biological psychology links very closely to biology, chemistry and science and, like them, involves studying aspects of a person not the whole. • Reductionism applies when studying learning because of the scientific way it is studied, using experiments and controls. To do this, parts must be focused on. • Reductionism applies to biological psychology when neurotransmitter functioning is studied because the brain is a lot more complex than that, so this is about looking at one specific part of the working of the brain. • Reductionism also applies to learning theories because they look only at behaviour and not the 'black box' in between, which is where information processing takes place. • Reductionism applies to biological theories in that they study aspects such as biochemistry, genetics and neuro-anatomy. Reductionism also applies to learning theories in that they take aspects of behaviour and study them separately, such as in classical conditioning where just stimulus and response (including reflexes) are studied. 	(12)

Question Number	Indicative content	Mark
15 cont.	<p>AO3 Learning</p> <ul style="list-style-type: none"> • Bandura (e.g. 1961, 1963, 1965) showed how aggression can be modelled through observation and used experimental method, so this is evidence that learning theories are reductionist in how they study behaviour. • This ignores the complexity of human behaviour acquisition, such as the role of emotions and thinking. • Behaviourism ignores the role of cognition in human behaviour acquisition, which means that what makes up a whole person is not touched by reducing learning to parts. • However, if it is learning that is studied, that is in itself just part of human behaviour, and so it might be acceptable to use a reductionist approach. Separating material for study, as learning theories do, is in itself reductionist. • Becker et al. (2002) in Fiji used questionnaires and self-report data before and after TV was introduced, then drew conclusions about the girls' focus on weight issues and dieting. This is reductionist as other factors might also be there as it was years between their two sets of data and there would be changes other than the introduction of TV in that time. Reductionism can give useful data by isolating areas for study but can miss a wider view of human behaviour. <p>Biological</p> <ul style="list-style-type: none"> • The biological explanation is reductionist in the sense that all human behaviour is fragmented and explained in the simplest sense by our biology. The biological approach, for example, sees behaviour as arising from neurological/neuroanatomical factors. As this is about science, then it is not surprising that a scientific approach to study is used. Also, as humans are complex, perhaps studying in a reductionist way is a strength as it enables the study of aspects of humans that would otherwise not be reachable. The study of how lower serotonin levels, which is linked to greater aggression is carried out using animals and human studies. These studies support each other. 	

Question Number	Indicative content	Mark
15 cont.	<ul style="list-style-type: none"> • For example, behaviour such as depression is a result of a lack of the neurotransmitter serotonin. This helps society and so it is perhaps not 'wrong' to be reductionist, although the word does imply bias. • Pharmacological drug effectiveness offers some support for the biological explanations of mental health issues. However, it cannot be the whole explanation as many patients are drug resistant. This shows that a reductionist approach can miss out valuable issues. <p>Other arguments</p> <ul style="list-style-type: none"> • Reductionist explanations can be useful as they isolate variables to investigate, and causal relationships can be assumed. • Holists would argue that reductionist views ignore the complexity of human behaviour and the understanding of the whole individual. • Humanists argue that reductionist approaches dehumanise us and result in ignoring the 'self' as the most important factor in psychology. Reductionism ultimately ignores the unique qualities of humanness that collectively contribute to human behaviour and mind. • However, reductionist approaches are consistent with the prevailing scientific ideology – the hypothesis testing method and the emphasis on isolation of variables. In fact, it would be very difficult to investigate human behaviour without first isolating variables and establishing control over 'other factors'. <p>Look for other reasonable answers.</p>	

Level	Mark	Descriptor
AO1 (6 marks), AO3 (6 marks)		
Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer.		
Level 1	0	No rewardable material.
Level 1	1–3 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	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 superficial conclusion being made. (AO3)
Level 3	7–9 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	10–12 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)

