



## **General Certificate of Education**

# **Psychology 5181**

## *Specification A*

### **Unit 3 (PYA3)**

## **Social Psychology and Research Methods**

# **Mark Scheme**

*2007 examination - June series*

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

Further copies of this Mark Scheme are available to download from the AQA Website: [www.aqa.org.uk](http://www.aqa.org.uk)

Copyright © 2007 AQA and its licensors. All rights reserved.

#### COPYRIGHT

AQA retains the copyright on all its publications. However, registered centres for AQA are permitted to copy material from this booklet for their own internal use, with the following important exception: AQA cannot give permission to centres to photocopy any material that is acknowledged to a third party even for internal use within the centre.

Set and published by the Assessment and Qualifications Alliance.

**UNIT 3 (PYA3)**  
**QUALITY OF WRITTEN COMMUNICATION (QoWC)**

<b>2 marks</b>	The work is characterised by some or all of the following: <ul style="list-style-type: none"> <li>• clear expression of ideas</li> <li>• good range of specialist terms</li> <li>• few errors in grammar, punctuation and spelling</li> <li>• errors do not detract from the clarity of the material.</li> </ul>
<b>1 mark</b>	The work is characterised by: <ul style="list-style-type: none"> <li>• reasonable expression of ideas</li> <li>• use of some specialist terms</li> <li>• errors of grammar, punctuation and spelling</li> <li>• errors detract from the clarity of the material.</li> </ul>
<b>0 marks</b>	The work is characterised by: <ul style="list-style-type: none"> <li>• poor expression of ideas</li> <li>• limited use of specialist terms</li> <li>• errors and poor grammar, punctuation and spelling</li> <li>• errors obscure the clarity of the material.</li> </ul>

**ASSESSMENT OBJECTIVES ONE, TWO AND THREE**

<b>AO1</b>	Assessment objective one = knowledge and understanding of psychological theories, terminology, concepts, studies and methods and communication of knowledge and understanding of psychology in a clear and effective manner.
<b>AO2</b>	Assessment objective two = analysis and evaluation of psychological theories, concepts, studies and methods and communication of knowledge and understanding of psychology in a clear and effective manner.
<b>AO3</b>	Assessment objective three = design, conduct and report psychological investigation(s) choosing from a range of methods, and taking into account the issues of reliability, validity and ethics, and collect and draw conclusions from the data.

**SECTION A: SOCIAL PSYCHOLOGY**

1 (a) (i) Name **three** ethical issues that have arisen in social influence research.

(3 marks)

<b>Marking Criteria</b>		<b>Performance Descriptions</b>
The ethical issues given on the specification are: <ul style="list-style-type: none"> <li>• deception</li> <li>• (informed) consent</li> <li>• (protection from) psychological harm.</li> </ul> However, other ethical issues are also creditworthy.	<b>3</b>	Candidate identifies three ethical issues.
	<b>2</b>	Candidate identifies two ethical issues.
	<b>1</b>	Candidate identifies one ethical issue.
	<b>0</b>	Candidate does not identify any ethical issues.

1 (a) (ii) Select **one** of these and explain why it is an ethical issue.

(3 marks)

Marking Criteria		Performance Descriptions
Ethical issues occur when there is a dilemma between what the researcher wants to do in order to conduct the research and the rights and dignity of the participants.	<b>3</b>	<p><b>Accurate and reasonably detailed</b></p> <p>The candidate provides an accurate and reasonably detailed explanation of why this is an ethical issue that demonstrates relevant knowledge and understanding. For example, deception is an issue because unless participants know all about the study they cannot give their informed consent and may find themselves taking part in a study against their wishes.</p>
Deception is an ethical issue because it prevents a participant from giving their informed consent. It is also an issue because the participants may start to become distrustful of psychologists in the future.	<b>2</b>	<p><b>Less detailed but generally accurate</b></p> <p>The candidate provides a less detailed but generally accurate explanation of why this is an ethical issue that demonstrates relevant knowledge and/or understanding. For example, protection from psychological harm is an issue because participants do not expect to be harmed when they volunteer to take part in a study; they expect to be treated fairly.</p>
Examiners should be alert to other ethical issues that are not specifically identified on the specification, since these may be creditworthy.	<b>1</b>	<p><b>Basic</b></p> <p>The candidate provides a basic explanation of why this is an ethical issue that demonstrates some relevant knowledge and/or understanding but lacks detail and may be muddled. For example, without informed consent, participants don't know what they are doing.</p>
Breaking the guideline can be credited as part of the explanation as to why it is an issue.	<b>0</b>	<p><b>Flawed or inappropriate</b></p> <p>The candidate provides an explanation that is flawed or an inappropriate explanation that fails to demonstrate any knowledge or understanding of why it is an ethical issue. For example, explaining how to deal with an issue or merely describing the issue.</p>

1 (b) Describe the findings and conclusions of **one** study of obedience to authority.

(6 marks)

Marking Criteria	Marks	Performance Descriptions
<p>The most likely study to be offered is Milgram's, but any study of obedience is creditworthy (eg Hofling <i>et al</i>; Bickman; Meeus &amp; Raaijmakers.) If Zimbardo is offered, both the findings and conclusions must be explicitly linked to obedience.</p> <p>Milgram <u>found</u>: all participants went up to 300 volts and 65% went all the way to 450 volts. Only 5 (12.5%) participants stopped at 300 volts. He also found that his participants showed signs of extreme stress such as sweating, biting fingernails, nervous laughter. He <u>concluded</u>: that given the right circumstances, ordinary people can be ordered to do things that go against their own morals. He suggested that evil deeds are committed due to situational factors and not dispositional factors; that the crimes committed by the Nazis were due to the considerable pressure to obey an authority figure and not because Germans were in any way different from other peoples. Milgram carried out several variations of his study and findings/conclusions from these can all be credited as if they were one study, since it is often difficult to separate the variations.</p>	6	<p><b>Accurate and reasonably detailed</b> The candidate provides an accurate and reasonably detailed description of the findings and conclusions of one study of obedience that demonstrates relevant knowledge and understanding. For example, the candidate provides a detailed account of both findings and conclusions (though not necessarily balanced).</p>
	5-4	<p><b>Less detailed but generally accurate</b> The candidate provides a less detailed but generally accurate description of the findings and conclusions of one study of obedience that demonstrates relevant knowledge and/or understanding. For example, the candidate provides a detailed account of findings, with only a brief mention of conclusions, or a balanced account of both in less detail. <i>Note: If only findings or conclusions are given, maximum mark is 4.</i></p>
	3-2	<p><b>Basic</b> The candidate provides a basic description of the findings and conclusions of one study of obedience that demonstrates some relevant knowledge and/or understanding, but lacks detail and may be muddled. For example, only a brief account of either findings or conclusions is given, or a very brief account of both.</p>
	1-0	<p><b>Very brief/flawed or inappropriate</b> For 1 mark, the candidate provides a description of the findings and conclusions of one study of obedience which is very brief/flawed and demonstrates very little knowledge and/or understanding. For 0 marks, the candidate provides an inappropriate description which fails to demonstrate any knowledge or understanding of one study of obedience.</p>

1 (c) 'Social influence research has identified strong pressures to conform in group situations.'

Outline and evaluate research into majority influence.

(18 marks)

**AO1** credit should be given for outline description of research into majority influence.

**AO2** credit should be given for an evaluation of this research.

There are several studies that candidates might outline, but the most likely ones are those mentioned on the specification: Asch; Perrin & Spencer. Asch carried out a series of experiments investigating the effect a group would have on the behaviour of a naïve participant. He varied the conditions, such as group size, task ambiguity and support of a colleague. Perrin & Spencer replicated Asch's experiment in the 1980s. They used different types of participants and found very little evidence of conformity with university students in the UK. Zimbardo's prison simulation study investigated the extent to which participants conformed to social roles.

Since the term *research* includes both studies and theories, any description of relevant theories would be acceptable: for example, an outline of normative and informational social influence as reasons why people conform.

The evaluation can consider the methodology used in the studies. For example, some studies were laboratory-based (may lack ecological validity, demand characteristics, gender bias – both Asch and Zimbardo only used males).

Ethical issues such as deception and psychological harm can be considered.

One of the main criticisms of Asch's study is that it was a 'child of its time'. The reason for the relatively high level of conformity was due to the time and the place in which the research was carried out (America in the 1950s).

'Positive criticisms' are also acceptable, for example the usefulness of this research.

## 1 (c)

Marks	Performance Descriptions	Marks	Performance Descriptions
	<b>AO1:</b> Outline of research into majority influence.		<b>AO2:</b> Evaluation of majority influence research.
<b>6</b>	<b>Accurate and reasonably detailed</b> The candidate provides an accurate and reasonably detailed description of research into majority influence that demonstrates relevant knowledge and understanding. For example, there is a detailed and accurate account of one study into majority influence, or a less detailed account of two or more.	<b>12-10</b>	<b>Informed commentary</b> <ul style="list-style-type: none"> <li>• Within the time constraints for this part of the question, there is effective use of material to address the question and provide an informed commentary.</li> <li>• Effective analysis and evaluation of material.</li> <li>• Broad range of issues and/or evidence in reasonable depth, or a narrower range in greater depth.</li> <li>• The structure is generally clear and coherent.</li> </ul>
<b>5-4</b>	<b>Less detailed but generally accurate</b> The candidate provides a less detailed but generally accurate description of research into majority influence that demonstrates relevant knowledge and/or understanding. For example, the candidate may outline two or more studies of majority influence, but with little detail.	<b>9-7</b>	<b>Reasonable commentary</b> <ul style="list-style-type: none"> <li>• There is appropriate selection of material to address the question, but this is not always used effectively to produce a reasonable commentary.</li> <li>• Reasonable analysis and evaluation of material.</li> <li>• A range of issues and/or evidence in limited depth, or a narrower range in greater depth.</li> </ul>
<b>3-2</b>	<b>Basic</b> The candidate provides a basic description of research into majority influence that demonstrates some relevant knowledge and/or understanding but lacks detail and may be muddled. For example, the candidate may outline just the procedures of one study of majority influence.	<b>6-4</b>	<b>Basic commentary</b> <ul style="list-style-type: none"> <li>• The selection and use of material provides only a basic commentary.</li> <li>• Basic analysis and evaluation of material.</li> <li>• Superficial consideration of a restricted range of issues and/or evidence.</li> </ul>
<b>1-0</b>	<b>Very brief/flawed or inappropriate</b> For 1 mark, the candidate provides an outline which is very brief/flawed. For 0 marks, the candidate provides an inappropriate outline that fails to demonstrate any knowledge or understanding of majority influence.	<b>3-0</b>	<b>Rudimentary/absent or irrelevant commentary</b> <ul style="list-style-type: none"> <li>• The selection and use of material provides only a rudimentary commentary, or commentary is absent or wholly irrelevant.</li> <li>• Analysis and evaluation just discernible or absent.</li> </ul>



2 (a) Describe the procedures and findings of **one** study of minority influence.

(6 marks)

Marking Criteria	Marks	Performance Descriptions
<p>The two studies given on the specification are Moscovici <i>et al</i> and Nemeth <i>et al</i>. The former is the most likely one to be offered.</p> <p>Moscovici's <u>procedures</u>: the participants were all female and were divided into groups of six. Each group had four naïve participants and two confederates. They were asked to state the colour of slides, which were in fact all blue, but the shades of each slide varied. In the consistent condition, the confederates said that the slides were green all the time, in the inconsistent condition they said that slides were green 24 times and that they were blue 12 times.</p> <p><u>Findings</u>: in the consistent group, the participants agreed with the minority and said that the slides were green on 8.4% of the trials. In the inconsistent condition, they agreed with the minority on 1.3% of the trials. In the consistent condition, 32% of the participants agreed with the minority at least once by saying that the slide was green.</p>	<p><b>6</b></p>	<p><b>Accurate and reasonably detailed</b> The candidate provides an accurate and reasonably detailed description of the procedures and findings of one study of minority influence that demonstrates relevant knowledge. For example, the candidate provides a detailed account of both procedures and findings (though not necessarily balanced).</p>
	<p><b>5-4</b></p>	<p><b>Less detailed but generally accurate</b> The candidate provides a less detailed but generally accurate description of the procedures and findings of one study of minority influence that demonstrates relevant knowledge. For example, the candidate provides a detailed account of procedures, with only a brief mention of findings, or a balanced account of both in less detail. <i>Note: If only procedures or findings are given, maximum mark is 4.</i></p>
	<p><b>3-2</b></p>	<p><b>Basic</b> The candidate provides a basic description of the procedures or findings of one study of minority influence that demonstrates some relevant knowledge, but lacks detail and may be muddled. For example, only a brief account of either procedures or findings is given, or a very brief account of both.</p>
	<p><b>1-0</b></p>	<p><b>Very brief/flawed or inappropriate</b> For 1 mark, the candidate provides a description of the procedures and findings of one study of minority influence which is very brief/flawed and demonstrates very little knowledge. For 0 marks, the candidate provides an inappropriate description which fails to demonstrate any knowledge of one study of minority influence.</p>

2 (b) Explain what is meant by the terms *internal validity* and *external validity*.

(3 marks + 3 marks)

Marking Criteria		Performance Descriptions
<p>Internal validity: the extent to which the findings were due to experimental manipulation rather than some other factor. An experiment would have internal validity if the observed effect could be said to be due to the manipulation of the IV on the DV.</p> <p>External validity: the extent to which the findings can be generalised to settings other than the research setting. This can include population validity (can the findings be generalised to other groups of people?) and ecological validity (eg generalised beyond the lab setting).</p> <p>Any psychological research can be used to illustrate these terms, but it is not essential.</p>	3	<p><b>Accurate and reasonably detailed</b></p> <p>The candidate provides an accurate and reasonably detailed explanation of internal/external validity that demonstrates relevant knowledge and understanding. For example, internal validity is whether the findings are really due to the experimenter manipulating the IV. Milgram's experiment can be said to have internal validity, because his participants were very stressed and clearly believed in the situation, so he really was measuring obedience.</p>
	2	<p><b>Less detailed but generally accurate</b></p> <p>The candidate provides a less detailed but generally accurate explanation of internal/external validity that demonstrates relevant knowledge and/or understanding. For example, external validity refers to the degree to which findings from research in a laboratory can be applied to the real world.</p>
	1	<p><b>Basic</b></p> <p>The candidate provides a basic explanation of internal/external validity that demonstrates some relevant knowledge and/or understanding but lacks detail and may be muddled. For example, external validity is whether the results work in the real world.</p>
	0	<p><b>Flawed or inappropriate</b></p> <p>The candidate provides a description, which is flawed, or an inappropriate explanation that fails to demonstrate any knowledge or understanding of the terms. For example, confusing validity with ethical issues.</p>

2 (c) Discuss ethical issues arising from studies of obedience to authority. Refer to **at least two** studies of obedience in your answer.

(18 marks)

### Marking Criteria

**AO1** for this question is an outline description of ethical issues that arise in studies of obedience.

**AO2** is a discussion of these ethical issues.

Partial performance (AO1) if only one study is referred to.

There are numerous ethical issues that candidates may describe: lack of informed consent, deception, psychological and/or physical harm, confidentiality, etc. There are also many studies that could be used eg Milgram, Hofling *et al*, Bickman, Meeus & Raaijmakers, and Zimbardo.

Milgram: deception and thus lack of informed consent, prevention of right to withdraw, psychological harm.

Hofling *et al*: deception and lack of informed consent.

Zimbardo: prevention from withdrawing, psychological harm.

The AO1 is for a description of the ethical issues. A description of, for example, Milgram's procedures can only be credited in so far as it highlights/illustrates ethical issues; the ethical issue could be embedded in the procedure.

For the AO2 credit, candidates need to discuss the ethical issues rather than simply describing them. This could be done by considering why it is an ethical issue: the value of the research (did the ends justify the means/cost-benefit analysis): whether or not the psychologists dealt with the issues: whether there were any long-term consequences for the participants.

Candidates are required to outline ethical issues in two studies, so partial performance operates if they only offer one study in their answer (AO1).

Candidates are required to refer to at least two studies so partial performance operates if they only refer to one study in their answer. However, simply referring to a study is sufficient.

## 2 (c)

Marks	Performance Descriptions	Marks	Performance Descriptions
	<b>AO1:</b> Outline of the ethical issues.		<b>AO2:</b> Discussion of the ethical issues.
<b>6</b>	<b>Accurate and reasonably detailed</b> The candidate provides an accurate and reasonably detailed outline of some ethical issues arising from studies of obedience that demonstrates knowledge and understanding. For example, deception and informed consent in one study and protection from harm in another.	<b>12-10</b>	<b>Informed commentary</b> <ul style="list-style-type: none"> <li>• Within the time constraints for this part of the question, there is effective use of material to address the question and provide an informed commentary.</li> <li>• Effective analysis and evaluation of material.</li> <li>• Broad range of issues and/or evidence in reasonable depth, or a narrower range in greater depth.</li> <li>• The structure is generally clear and coherent.</li> </ul>
<b>5-4</b>	<b>Less detailed but generally accurate</b> The candidate provides a less detailed but generally accurate outline of ethical issues arising from studies of obedience that demonstrates knowledge and/or understanding. For example, lack of informed consent in one study and right to withdraw in another. <i>If only one study of obedience is referred to, the ethical issues are accurate and reasonably detailed (max 4 marks).</i>	<b>9-7</b>	<b>Reasonable commentary</b> <ul style="list-style-type: none"> <li>• There is appropriate selection of material to address the question, but this is not always used effectively to produce a reasonable commentary.</li> <li>• Reasonable analysis and evaluation of material.</li> <li>• A range of issues and/or evidence in limited depth, or a narrower range in greater depth.</li> </ul>
<b>3-2</b>	<b>Basic</b> The candidate provides a basic outline of ethical issues arising from studies of obedience that demonstrates some knowledge and/or understanding but lacks detail and may be muddled. For example, lack of informed consent and deception in both studies.	<b>6-4</b>	<b>Basic commentary</b> <ul style="list-style-type: none"> <li>• The selection and use of material provides only a basic commentary.</li> <li>• Basic analysis and evaluation of material.</li> <li>• Superficial consideration of a restricted range of issues and/or evidence.</li> </ul>
<b>1-0</b>	<b>Very brief/flawed or inappropriate</b> For 1 mark, the candidate provides a very brief/flawed description of some ethical issues arising from studies of obedience that demonstrates very little knowledge or understanding of obedience to authority. For 0 marks, the candidate provides an inappropriate description that fails to demonstrate any knowledge or understanding of obedience to authority.	<b>3-0</b>	<b>Rudimentary/absent or irrelevant commentary</b> <ul style="list-style-type: none"> <li>• The selection and use of material provides only a rudimentary commentary, or commentary is absent or wholly irrelevant.</li> <li>• Analysis and evaluation absent or just discernible.</li> </ul>

**SECTION B: RESEARCH METHODS****Total for this question: 30 marks**

- 3 Researchers were interested to see what effect rewards have on learning. Twenty laboratory rats were tested on their ability to learn to run through a maze. To run through the maze, each rat had to make a series of turns to reach a reward at the end. Each rat ran the maze on its own. Ten of the rats received reward (a pellet of food) every time they completed the maze. The other ten rats received a reward (a pellet of food) every third time they completed the maze.

The researchers counted the number of attempts it needed for each rat to complete the maze without making any mistakes. A high score would indicate that more attempts were needed to learn the maze. The results are shown in **Table 1** on the next page.

**Table 1: Table to show the number of attempts needed to learn the maze**

	<b>Group 1 Rewarded every time</b>	<b>Group 2 Rewarded every third time</b>
	16	11
	13	9
	8	13
	12	26
	17	15
	17	17
	15	16
	11	10
	21	13
	17	13
<b>Mean</b>	14.70	14.30
<b>Standard Deviation</b>	3.55	4.58

- 3 (a) (i) The mean was used in **Table 1**. Give **one** other measure of central tendency that could have been used. Justify your answer. (3 marks)

Marking Criteria	Marks	Performance Descriptions for measure of central tendency.
<p><b>AO3</b> Median or mode are the other two measures of central tendency that could have been used.</p> <p><b>AO3</b> A case could be made for the use of either the median or the mode. Median is probably better than the mean in this case because it is not affected by an extreme value, eg 8 in Group 1.</p> <p>Mode could be better because it is always an actual value, ie results that were actually obtained, which may not be the case for other measures of central tendency.</p>	1	<p><b>Appropriate</b> Measure of central tendency is correct.</p>
	0	<p><b>Inappropriate/incorrect</b> Measure of central tendency is inappropriate or incorrect.</p>
		<p><b>Performance Descriptions for justification of measure of central tendency.</b></p>
	2	<p><b>Accurate and Detailed</b> The justification is accurate and detailed. For example, the median is not affected by outliers and is therefore safer to use than the mean.</p>
	1	<p><b>Basic</b> The justification is basic, lacking detail, and may be muddled and/or flawed. For example, the mode is an actual finding.</p>
0	<p><b>Inappropriate/incorrect</b> The justification is inappropriate or is incorrect.</p>	

3 (a) (ii) What do the standard deviations tell us about the data in **Table 1**?

(3 marks)

Marking Criteria	Marks	Performance Descriptions for standard deviation.
<p><b>AO3</b> Standard deviation tells us how much variance there is in a set of scores from their mean. It tells us how spread out a set of scores is around the mean; it is a measure of dispersion.</p> <p>In Group 1, the standard deviation is slightly smaller than in Group 2. This suggests that the scores in the first group are more closely clustered around the mean; all these rats needed a similar number of trials to learn the maze. In Group 2, the standard deviation is more spread out, suggesting a greater variation in the number of times it needed for these rats to learn the maze.</p> <p>Could also say that there is only a slight difference between the two SDs, suggesting that the variance of the two groups is quite similar.</p>	<p><b>3</b></p>	<p><b>Accurate and reasonably detailed</b> The account of standard deviation is both accurate and detailed. For example, it tells us about the variation of the two groups, that there is a greater spread of scores in Group 2, suggesting that these rats had a wider variation in the number of times it took them to learn the maze.</p>
	<p><b>2</b></p>	<p><b>Less detailed but generally accurate</b> The two groups differ in the amount the scores are spread around the mean. Group 1 is less spread than Group 2, so shows less variation.</p>
	<p><b>1</b></p>	<p><b>Basic</b> The account of what the standard deviations tell us about the data is basic, lacking detail, and may be muddled and/or flawed. For example, simply stating they show how spread out the data is.</p>
	<p><b>0</b></p>	<p><b>Very brief/flawed or inappropriate</b> The account of standard deviation is incorrect.</p>

3 (b) State the independent variable (IV) and dependent variable (DV) in this study.

(2 marks + 2 marks)

Marking Criteria	Marks	Performance Descriptions for each variable.
<p><b>AO3</b> The IV is the schedule of reinforcement (either a pellet of food consistently or every third trial).</p> <p>The DV is the number of trials it takes the rat to learn the maze.</p>	<b>2</b>	<p><b>Accurate and detailed</b> Identification of the variable is accurate, for example, as given in the marking criteria.</p>
	<b>1</b>	<p><b>Basic</b> For example, IV = food. DV = trials.</p>
	<b>0</b>	<p><b>Inappropriate/incorrect</b> Identification of the variable is inappropriate, for example, the candidate may identify the method used.</p>



3 (c) Write a non-directional hypothesis for this study.

(2 marks)

Marking Criteria	Marks	Performance Descriptions
<b>AO3</b> The schedule of reinforcement given affects the number of trials needed to learn the maze.	<b>2</b>	<b>Accurate and detailed</b> Statement of the hypothesis is both accurate and detailed: for example, as given in the marking criteria.
	<b>1</b>	<b>Basic</b> Statement of the hypothesis is basic, lacking detail and may be muddled and/or flawed. For example, food affects learning.
	<b>0</b>	<b>Inappropriate/incorrect</b> Statement of the hypothesis is inappropriate: for example, the candidate may give the aim of the study; or he/she states that there is a relationship between food and learning.

3 (d) Describe **one or more** conclusion(s) that could be drawn from the findings of this experiment.

(3 marks)

Marking Criteria	Marks	Performance Descriptions
<p><b>AO3</b> Possible conclusions:</p> <ul style="list-style-type: none"> <li>• There is very little difference between the two groups and so the type of reward does not seem to have an effect on learning</li> <li>• Could also conclude that as the SDs are quite similar, there is little variation between the two groups, so reward (constant vs 3<sup>rd</sup> time) does not have much effect.</li> <li>• Among all 20 rats, there is quite a range of trials needed to learn the maze, they could conclude that some rats clearly learn much more quickly than others!</li> <li>• They could conclude from looking at the means that rewards every time result in slightly slower learning than rewards less often.</li> </ul> <p>Examiners should be careful to credit conclusions and not findings. However, sometimes the findings may be given as a way of explaining/informing the conclusions. There is sometimes a fine distinction between the two.</p>	<p><b>3</b></p>	<p><b>Accurate and reasonably detailed</b> The conclusion(s) are accurate and reasonably detailed. For example, reward does not seem to have any effect on how many trials it takes a rat to learn a maze, but the partial reward produces more variation than the constant reward.</p>
	<p><b>2</b></p>	<p><b>Less detailed but generally accurate</b> The conclusion(s) are less detailed but generally accurate: for example, one conclusion in detail or two but in less detail.</p>
	<p><b>1</b></p>	<p><b>Basic</b> The conclusion(s) are basic but lack detail and are muddled.</p>
	<p><b>0</b></p>	<p><b>Very brief/flawed or inappropriate</b> The conclusion is incorrect, or the candidate has offered findings instead of conclusions.</p>

- 3 (e) (i) This experiment used an independent groups design. Outline **one** advantage and **one** disadvantage of using an independent groups design. (2 marks + 2 marks)

Marking Criteria	Marks	Performance Descriptions for the advantage/disadvantage
<b>AO2</b> <b>Note that the answers do not need to be in context for full marks.</b> Advantage <ul style="list-style-type: none"> <li>Order effects are not a problem as each participant only takes part in one condition</li> <li>The same stimulus material (or in this case, maze) can be used for all 'participants'</li> <li>Participants are unlikely to guess the aim/hypothesis.</li> </ul> Disadvantage <ul style="list-style-type: none"> <li>Individual differences may be a limitation; one group may be more intelligent than the other. (Some rats may learn faster than others!)</li> <li>Twice as many participants are needed in this design compared with a repeated measures design.</li> </ul>	<b>2</b>	<b>Accurate and detailed</b> Explanation of the advantage/disadvantage is both accurate and detailed. For example, there are no order effects since each 'participant' only does one part of the study.
	<b>1</b>	<b>Basic</b> Explanation of the advantage/disadvantage is basic, lacking detail and may be muddled and/or flawed. For example, individual differences is a disadvantage.
	<b>0</b>	<b>Inappropriate/incorrect</b> Explanation of the advantage/disadvantage is inappropriate: for example, the candidate may give an advantage/disadvantage that is incorrect.

- (ii) Explain how the disadvantage you outlined in part (e)(i) could be dealt with.

(2 marks)

Marking Criteria	Marks	Performance Descriptions
<b>AO2</b> The answer to this question must relate to the disadvantage offered in (i). For example, individual differences could have been overcome by randomly allocating the participants to each condition. This way, any participant variables would (it is hoped) be shared equally between the two groups.  One way of dealing with the disadvantages of this design is to use a repeated measures design.	<b>2</b>	<b>Accurate and detailed</b> Explanation of the way in which the disadvantage could be dealt with is accurate and detailed. For example, by randomly allocating the participants to each condition, any differences in their ability should be shared across the conditions.
	<b>1</b>	<b>Basic</b> Explanation of the way in which the disadvantage could be dealt with is basic, lacking in detail and may be muddled and/or flawed: for example, random allocation of participants.
	<b>0</b>	<b>Inappropriate/incorrect</b> Explanation of the way in which the disadvantage could be dealt with is inappropriate, or is incorrect.

- 3 (f) (i) What is meant by the term *reliability*? (1 mark)
- (ii) Outline **one** way of assessing reliability. (2 marks)

Marking Criteria	Marks	Performance Descriptions for reliability	
<p><b>AO1</b> Reliability refers to whether a measurement, or the findings from a study, can be repeated if conducted at a later date. It refers to whether something is consistent.</p> <p>One way of assessing reliability is the test-retest method. The same test is given to the same participants at different times. If the test (or measurement) is reliable, there should be a positive correlation between the two sets of scores.</p> <p>There is no need for candidates to contextualise their answers, thus any way of assessing reliability can be accepted, for example split-half method, inter-observer reliability etc.</p>	<b>1</b>	<b>Appropriate</b> The definition of reliability is correct.	
	<b>0</b>	<b>Inappropriate/incorrect</b> The definition of reliability is inappropriate or incorrect.	
			<b>Performance Descriptions for assessing reliability</b>
	<b>2</b>	<b>Accurate and detailed</b> Giving the same participants the same test a few weeks apart and then comparing their answers. If the test is reliable, their answers on both tests should be similar.	
	<b>1</b>	<b>Basic</b> Do the test again and see if you get similar results.	
<b>0</b>	<b>Inappropriate/incorrect</b> The outline of how to improve the reliability of this study is inappropriate or is incorrect.		

3 (g) This study was a laboratory experiment. Discuss **one** advantage and **one** weakness of using a laboratory experiment.

(3 marks + 3 marks)

Marking Criteria	Marks	Performance Descriptions
<b>AO3</b> Advantages: <ul style="list-style-type: none"> <li>• Can easily be repeated so that reliability can be assessed</li> <li>• Easier to control the variables</li> <li>• Easier to manipulate the IV and see its effect on the DV.</li> </ul> Weaknesses: <ul style="list-style-type: none"> <li>• Demand characteristics may affect the validity of the study</li> <li>• High levels of control may reduce the validity</li> <li>• Lacks ecological validity/artificial.</li> </ul> There is no need to contextualise the answers, but candidates may do so as elaboration.	<b>3</b>	<b>Accurate and reasonably detailed</b> For example, one weakness is the fact that participants may try to work out what is going on and act accordingly and change their behaviour. Because the participants do not behave as they would normally do, the laboratory experiment might lack validity.
	<b>2</b>	<b>Less detailed but generally accurate</b> For example, one strength is that you can control all the variables and then see if it is the IV that does affect the DV, and then determine cause and effect.
	<b>1</b>	<b>Basic</b> For example, one weakness is that they lack ecological validity.
	<b>0</b>	<b>Very brief/flawed or inappropriate</b> The strength/weakness is inappropriate or incorrect.

### Assessment Grid

Question	Part	AO1	AO2	AO3
1	(a)	6		
	(b)	6		
	(c)	6	12	
<b>Total for Question 1</b>		<b>18</b>	<b>12</b>	
2	(a)	6		
	(b)	6		
	(c)	6	12	
<b>Total for Question 2</b>		<b>18</b>	<b>12</b>	
3	(a)			6
	(b)			4
	(c)			2
	(d)			3
	(e)		6	
	(f)	3		
	(g)			6
<b>Total for Question 3</b>		<b>3</b>	<b>6</b>	<b>21</b>
QoWC		2		
<b>Total for unit</b>		<b>39</b>	<b>30</b>	<b>21</b>