Mark schemes are prepared by the Lead Assessment Writer and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all associates participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the students’ responses to questions and that every associate understands and applies it in the same correct way. As preparation for standardisation each associate analyses a number of students’ scripts. Alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, associates encounter unusual answers which have not been raised they are required to refer these to the Lead Assessment Writer.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of students’ 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 from aqa.org.uk
Level of response marking instructions

Level of response mark schemes are broken down into levels, each of which has a descriptor. The descriptor for the level shows the average performance for the level. There are marks in each level.

Before you apply the mark scheme to a student's answer read through the answer and annotate it (as instructed) to show the qualities that are being looked for. You can then apply the mark scheme.

Step 1 Determine a level

Start at the lowest level of the mark scheme and use it as a ladder to see whether the answer meets the descriptor for that level. The descriptor for the level indicates the different qualities that might be seen in the student’s answer for that level. If it meets the lowest level then go to the next one and decide if it meets this level, and so on, until you have a match between the level descriptor and the answer. With practice and familiarity you will find that for better answers you will be able to quickly skip through the lower levels of the mark scheme.

When assigning a level you should look at the overall quality of the answer and not look to pick holes in small and specific parts of the answer where the student has not performed quite as well as the rest. If the answer covers different aspects of different levels of the mark scheme you should use a best fit approach for defining the level and then use the variability of the response to help decide the mark within the level, ie if the response is predominantly level 3 with a small amount of level 4 material it would be placed in level 3 but be awarded a mark near the top of the level because of the level 4 content.

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. There will be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student’s answer with the example to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner’s mark on the example.

You may well need to read back through the answer as you apply the mark scheme to clarify points and assure yourself that the level and the mark are appropriate.

Indicative content in the mark scheme is provided as a guide for examiners. It is not intended to be exhaustive and you must credit other valid points. Students do not have to cover all of the points mentioned in the Indicative content to reach the highest level of the mark scheme.

An answer which contains nothing of relevance to the question must be awarded no marks.

Examiners are required to assign each of the students' responses to the most appropriate level according to its overall quality, then allocate a single mark within the level. When deciding upon a mark in a level examiners should bear in mind the relative weightings of the assessment objectives and be careful not to over/under credit a particular skill. This will be exemplified and reinforced as part of examiner training.
Section A
Social Influence

<table>
<thead>
<tr>
<th>01</th>
<th>Which <strong>two</strong> factors are known to affect both obedience <strong>and</strong> collective behaviour? Shade <strong>two</strong> boxes.</th>
</tr>
</thead>
</table>

Marks for this question: **AO1 = 2 marks**

B and D

<table>
<thead>
<tr>
<th>2.1</th>
<th>What is meant by conformity? Give an example.</th>
</tr>
</thead>
</table>

Marks for this question: **AO1 = 1 mark and AO2 = 1 mark**

**AO1**

1 mark for a correct definition.

When perceived group pressure leads to people changing their opinions or behaviours in order to fit in with socially accepted conventions and norms.

**PLUS**

**AO2**

1 mark for an appropriate example.

Examples:
- Stopping wearing your favourite jeans and starting to wear another style of jeans because that’s what all of your friends are wearing.
- Changing the football team you support after you were laughed at by someone you want to be like
- An example of conformity is shown in Asch’s conformity experiment

**NOTE:** Examples need to show a change of behaviour/opinion and not just doing the same as others. Credit other relevant examples.
2.2 Name one social factor that affects conformity. Explain how this factor affects conformity.

[2 marks]

Marks for this question: AO1 = 2 marks

1 mark for any of the following.

- Group size
- Anonymity
- Task difficulty

PLUS

1 mark for an explanation of how the identified factor affects conformity.

Indicative content:

- Group size – people are more likely to conform in groups of 3 or more people who are behaving in a similar way.
- Anonymity – people are more likely to conform if they face ridicule from others. If they can give an opinion privately, they will be less likely to conform and more likely to be honest.
- Task difficulty – people are more likely to conform when they are doing a difficult task. This is because when we are unsure about what we are doing, we look to others to help us make decisions.

Credit other relevant content.

2.3 In order for studies into conformity to be carried out, participants are often not fully informed when they are asked to give consent to take part. Explain why this happens.

[2 marks]

Marks for this question: AO2 = 2 marks

- In some studies, getting informed consent would probably mean that the participants would be less likely to behave naturally. Once participants know what the real aim of the study is, they could try to help or prevent the researcher getting the results they want. Participants might also change their natural behaviour to be more socially desirable.

- In studies carried out in a natural environment, such as field experiments like Piliavin’s subway study, it would be physically impossible to personally speak to every person to inform them and ask for their consent.
2.4 Describe one way researchers deal with this deception after the study has finished.

[2 marks]

Marks for this question: AO2 = 2 marks

Indicative content:
- Participants must be debriefed as quickly as possible afterwards. They must be told the real aim and be asked for their consent to use their results as part of the research findings.
- If participants do not / are unable to give their consent after the study, their results should be withdrawn.

Credit other relevant content.

3.0 Evaluate Milgram’s Agency theory of factors affecting obedience. In your answer, refer to the behaviour of both Gareth and Harry.

[6 marks]

Marks for this question: AO2 = 2 marks and AO3 = 4 marks

<table>
<thead>
<tr>
<th>Level</th>
<th>Marks</th>
<th>Description</th>
</tr>
</thead>
</table>
| 3 Detailed | 5 - 6 | AO2: Clear application of knowledge and understanding of Milgram’s Agency theory to the behaviour of both boys.  
AO3: Analysis and evaluation of Milgram’s Agency theory is effective. Any conclusions drawn are sound and fully expressed.  
Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning is clear, coherent and focused. |
| 2 Clear | 3 - 4 | AO2: Reasonable application of knowledge and understanding of Milgram’s Agency theory to the behaviour of at least one of the boys.  
AO3: There may be some effective evaluation of Milgram’s Agency theory. There may be an attempt to draw conclusions.  
Relevant terminology is used. The answer frequently demonstrates substantiated reasoning, and is clear, generally coherent and focused although structure may lack some logic. |
| 1 Basic | 1 - 2 | AO2: Limited application of knowledge and understanding of Milgram’s Agency theory to the behaviour of boys.  
AO3: Analysis and evaluation of Milgram’s Agency theory is of limited effectiveness or may be absent. Any attempts to draw conclusions are not always successful or present.  
Relevant terminology is occasionally used. The answer lacks clarity, coherence, focus and logical structure. |
| 0       |       | No relevant content. |
Examiners are reminded that AO2 and AO3 are regarded as interdependent. When deciding on a mark in instances where there is an attempt at more than one assessment objective all attempts should be considered together using the best fit approach. In doing so, examiners should bear in mind the relative weightings of the assessment objectives.

When an answer only contains content related to one of the skills (AO2/AO3), then the levels descriptors for the award of marks for the skill attempted should be applied to the answer, up to the maximum mark available.

Indicative content:

AO2

• In the item above, Gareth started picking up litter straight away when he was given an order by someone in authority. However, Harry did not follow the order to pick up litter.

• Milgram’s theory does not explain why Gareth obeyed the orders but Harry, despite being given orders by the same authority figure, did not.

AO3

• There is evidence from real-life situations (e.g. Nazi guards at concentration camps) that supports Milgram’s theory.

• In an experiment carried out by Milgram, he found that 65% of participants were prepared to do something that would have potentially led to another person’s death, just because someone they believed to be an authoritative figure told them to.

• Although 65% did follow orders in Milgram’s study, his theory does not explain why 35% of participants did not fully follow the orders that they were given.

• Milgram’s theory focuses on social factors that affect obedience but others have suggested that dispositional factors, such as personality, are more important in determining how obedient people will be.

Credit other relevant content.
Describe Piliavin’s subway study and evaluate the research method used in this study. [9 marks]

Marks for this question: AO1 = 4 marks and AO3 = 5 marks

<table>
<thead>
<tr>
<th>Level</th>
<th>Marks</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Detailed</td>
<td>7 - 9</td>
<td>AO1: Relevant knowledge and understanding of Piliavin’s subway study is accurate with detail. AO3: Analysis and evaluation of the research method used in Piliavin’s subway study is effective. Any conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, is clear, coherent and focused.</td>
</tr>
<tr>
<td>2 Clear</td>
<td>4 - 6</td>
<td>AO1: Relevant knowledge and understanding of Piliavin’s subway study is present but there are occasional inaccuracies/omissions. AO3: There may be some effective analysis and evaluation of the research method used in Piliavin’s subway study. There may be an attempt to draw conclusions. Relevant terminology is usually used. The answer frequently demonstrates substantiated reasoning and is clear, generally coherent and focused although structure may lack some logic.</td>
</tr>
<tr>
<td>1 Basic</td>
<td>1 - 3</td>
<td>AO1: Knowledge and understanding of Piliavin’s subway study is present but limited. AO3: Analysis and evaluation/discussion of the research method used in Piliavin’s subway study is of limited effectiveness or may be absent. Any attempts to draw conclusions are not always successful or present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>No relevant content.</td>
</tr>
</tbody>
</table>

Examiners are reminded that AO1 and AO3 are regarded as interdependent. When deciding on a mark in instances where there is an attempt at more than one assessment objective all attempts should be considered together using the best fit approach. In doing so, examiners should bear in mind the relative weightings of the assessment objectives.

When an answer only contains content related to one of the skills (AO1/AO3), then the levels descriptors for the award of marks for the skill attempted should be applied to the answer, up to the maximum mark available.
Indicative content:

AO1
- Piliavin’s aim was to investigate the effect that a victim’s appearance would have on helping behaviour.
- His study was a field experiment carried out on a subway train in New York City. On a number of different journeys, an actor pretended to collapse in a train carriage. Each time, the actor’s appearance was changed. In some of the trials he appeared to be drunk, in others he appeared to be sober and carried a walking stick.
- Observers recorded how often and how quickly the actor/victim was helped.
- When the actor/victim was carrying a walking stick, he was helped within 70 seconds, 95% of the time. When he appeared to be drunk, he had help within 70 seconds, 50% of the time.
- Piliavin concluded that a person’s appearance will affect whether or not they receive help and how quickly that help is given.

AO3
- Piliavin’s study was a field experiment which means that there was very little control of possible extraneous variables. This means that it is not possible to know for sure if the independent variables were the only things affecting the dependent variable.
- This study was carried out in a natural setting and the participants were passengers on the subway who were just doing what they did every day. They did not know they were taking part in a study. This is positive because it meant they did not show demand characteristics but acted as they usually would. This means it has high ecological validity and can be applied to explain bystander behaviour in real life situations.
- Because the participants were unaware they were taking part in a psychological study, they were not able to give any consent. Because they were on a subway carriage and left at different points and carried on with their day – they were not debriefed or asked for permission to use their results. This makes the ethics somewhat questionable.

Credit other relevant content.
Section B
Language, thought and communication

5.1 Identify the type of relationship shown in the results in Table 1. Shade one box. [1 mark]

Marks for this question: AO2 = 1 mark

A

5.2 In the conversation of pair number three, 75% of the five minutes were flowing conversation. Which is the correct ratio of non-flowing to flowing conversation for this pair? Shade one box. [1 mark]

Marks for this question: AO2 = 1 mark

B

5.3 When researchers use people who are pretending to be real participants, which of the following ethical issues is not being dealt with properly? Shade one box. [1 mark]

Marks for this question: AO2 = 1 mark

C

5.4 Outline one strength and one weakness of correlations. [4 marks]

Marks for this question: AO1 = 4 marks

2 marks: a clear outline of a strength.
1 mark: a limited or muddled strength.

Indicative content:
- They are a good starting point for psychological research because they allow researchers to see if two variables are connected in some way. If a relationship is found, further research using a different method can take place in order to find the cause of the results.
- Can be used when it would be impossible or unethical to do an experiment, such as studying the relationship between drug addiction and life expectancy.
PLUS

2 marks: a clear outline of a weakness.
1 mark: a limited or muddled weakness.

Indicative content:

- If a correlation is found, it does not show which of the two variables measured actually caused the relationship to occur. Sometimes it is another variable altogether that is the reason for the correlation.
- Although finding a correlation may show that variables are related, it does not why the relationship exists. This inability to be able to show cause and effect, limits the conclusions that can be drawn from the results of correlation studies.
- Correlations based on small samples are not very reliable. There needs to be a large amount of data for each variable for a pattern to be seen and the findings to be informative. This can be time consuming to collect.

5.5 Give one conclusion that the researcher could draw about the effect of eye contact on the flow of a conversation. Use the results in Table 1 to explain your answer. [3 marks]

Marks for this question: AO3 = 3 marks

3 marks: a correct conclusion and a clear and detailed explanation.
2 marks: a correct conclusion and a limited explanation.
1 mark: a correct conclusion and/or a muddled explanation OR a muddled conclusion and a clear explanation.

Examples:

- The results in the table show that as the percentage of eye contact increases, the percentage of non-flowing conversation decreases. Therefore, the researcher could conclude that when there is more eye contact made in a conversation, then there is also more smooth flowing conversation (3 marks).
- The results show that as the percentage of eye contact increases, the percentage of non-flowing conversation decreases. The researcher could conclude that eye contact affects how smoothly the conversation flows (2 marks).
5.6 Other than regulating the flow of conversation, name one function of eye contact. [1 mark]

Marks for this question: AO1 = 1 mark

1 mark for any of the following.

- Signalling attraction
- Expressing emotion

Credit other relevant answers.

06 Outline Piaget’s theory that language depends on thought. [4 marks]

Marks for this question: AO1 = 4 marks

<table>
<thead>
<tr>
<th>Level</th>
<th>Marks</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Clear</td>
<td>3 – 4</td>
<td>Clear and accurate knowledge of Piaget’s theory with some detail. Relevant terminology is used consistently throughout. The answer is clear, coherent and focused.</td>
</tr>
<tr>
<td>1 Basic</td>
<td>1 – 2</td>
<td>Limited or muddled knowledge of Piaget’s theory is present. Relevant terminology is occasionally used. The answer may lack clarity, coherence, focus and logical structure.</td>
</tr>
<tr>
<td>0</td>
<td>No relevant content</td>
<td></td>
</tr>
</tbody>
</table>

Indicative content:

- Piaget’s theory says that children develop language by matching the correct words to their existing knowledge of the world. The child’s understanding of the concept comes first and then they learn how to express their understanding of it – hence his theory is that language depends on thought.
- Piaget believed that cognitive development leads to the growth of language and this means that we can only use language at a level that matches our cognitive development. A child may copy a word when they hear others use it, but until they understand the concept, they will not actually be able to use the word to communicate.
- Piaget’s theory is that children develop their ability to use language in stages. In the sensorimotor stage, babies are learning what their bodies can do, and this includes making vocal sounds. Babies begin to copy the sounds that they hear others making. In the preoperational stage, children are able to voice their internal thoughts but there is limited use of language for communicating with other people. In the concrete operational stage, language has developed a lot but it is only used to talk about actual, concrete things. In the formal operational stage, language can be used to talk about abstract, theoretical ideas.
- Piaget believed that while all children move through these stages, some people do not get to the formal operational stage.
Credit other relevant content.

<table>
<thead>
<tr>
<th>Score</th>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5 - 6</td>
<td><strong>Detailed</strong>&lt;br&gt;AO2: Clear application of knowledge and understanding of the human and animal communication being talked about in the conversation. AO3: Analysis and evaluation of similarities and differences of human and animal communication is effective. Any conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, is clear, coherent and focused.</td>
</tr>
<tr>
<td>2</td>
<td>3 - 4</td>
<td><strong>Clear</strong>&lt;br&gt;AO2: Reasonable application of knowledge and understanding of the human and/or animal communication being talked about in the conversation. AO3: There may be some effective analysis and evaluation of similarities and differences of human and animal communication. There may be an attempt to draw conclusions. Relevant terminology is usually used. The answer frequently demonstrates substantiated reasoning, and is clear, generally coherent and focused although structure may lack some logic.</td>
</tr>
<tr>
<td>1</td>
<td>1 - 2</td>
<td><strong>Basic</strong>&lt;br&gt;AO2: Limited application of knowledge and/or understanding of human and animal communication being talked about in the conversation. AO3: Analysis and evaluation of similarities and differences of human and animal communication is of limited effectiveness or may be absent. Any attempts to draw conclusions are not always successful or present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>

Examiners are reminded that AO2 and AO3 are regarded as interdependent. When deciding on a mark in instances where there is an attempt at more than one assessment objective all attempts should be considered together using the best fit approach. In doing so, examiners should bear in mind the relative weightings of the assessment objectives.

When an answer only contains content related to one of the skills (AO2/AO3), then the levels descriptors for the award of marks for the skill attempted should be applied to the answer, up to the maximum mark available.
Indicative content:

AO2
• Chimpanzees try to attract a mate (for reproduction) by taking small bites of leaves.
• Humans can plan/discuss events in the future - like where to go on a date.

AO3
• Animal communication has limited functions in comparison to human communication. Animals are not able to use communication to plan ahead and discuss future events.
• Both humans and animals communicate to ensure survival and reproduction, to protect territory and to gather food.
• Because animals are more limited in their use of vocal sounds than humans, they use their bodies to communicate in ways that humans generally do not.

Credit other relevant content.

08 | Explain why some psychologists believe that non-verbal behaviour is innate. |

Marks for this question: AO1 = 4 marks

<table>
<thead>
<tr>
<th>Level</th>
<th>Marks</th>
<th>Description</th>
</tr>
</thead>
</table>
| 2 Clear | 3 – 4 | Clear and accurate knowledge of why some psychologists believe that non-verbal behaviour is innate.  
Relevant terminology is used consistently throughout. The answer is clear, coherent and focused. |
| 1 Basic | 1 – 2 | Limited or muddled knowledge of why some psychologists believe that non-verbal behaviour is innate.  
Relevant terminology is occasionally used. The answer may lack clarity, coherence, focus and logical structure. |
| 0 | No relevant content |

Indicative content:

• Neonates use a pre-cry expression that suggests sadness, as well as smiles and facial expressions that show disgust, pain, and surprise. This suggests that these expressions are genetic or innate, because newborn babies have not had time to learn them by observing others.
• Babies who are born blind have smiling behaviours that are similar to that found in babies with normal vision. This suggests that smiling is genetic or innate because the information we receive through our different senses helps us to learn, therefore if non-verbal behaviours are learned, people who are sensory deprived should not be able to use them in the same way as people who can use all of their senses.
Section C
Development

9.1 Identify from Table 2 which participant showed the most improvement. Shade one box. [1 mark]

Marks for this question: AO2 = 1 mark

C

9.2 Identify the modes for the time taken before and after practicing. [2 marks]

Marks for this question: AO2 = 2 marks

1 mark for each correctly identified mode.

Before = 6
After = 4

9.3 Use your knowledge of Hebb’s theory of learning and neuronal growth to explain these results. [4 marks]

Marks for this question: AO1 = 2 marks and AO2 = 2 marks

<table>
<thead>
<tr>
<th>Level</th>
<th>Marks</th>
<th>Description</th>
</tr>
</thead>
</table>
| 2 Clear | 3 – 4 | AO1: Clear and accurate knowledge of Hebb’s theory with some detail. 
AO2: Clear and accurate application of knowledge and understanding of Hebb’s theory to the results. 
Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, is clear, coherent and focused. |
| 1 Basic | 1 – 2 | AO1: Limited or muddled knowledge of Hebb’s theory is present. 
AO2: Limited or muddled application of knowledge and understanding of Hebb’s theory to the results. 
Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure. |
| 0 | | No relevant content |
Examiners are reminded that AO1 and AO2 are regarded as interdependent. When deciding on a mark in instances where there is an attempt at more than one assessment objective all attempts should be considered together using the best fit approach. In doing so, examiners should bear in mind the relative weightings of the assessment objectives.

When an answer only contains content related to one of the skills (AO1/AO2), then the levels descriptors for the award of marks for the skill attempted should be applied to the answer, up to the maximum mark available.

**Indicative content:**

**AO1**
- Hebb’s theory is that when neurons repeatedly excite another neuron, neuronal growth will happen. This results in the formation of neural pathways.
- Hebb said that the more we use these cell assemblies, the stronger, more efficient the neural pathways/synaptic connections become and the stronger the learning is.

**AO2**
- The results show that all of the participants became faster after spending a week practising.
- This seems to suggest that the neural pathways that were being used when carrying out the eye-hand coordination skills, were getting more efficient because the cell assemblies were firing together at least 15 times every day.

Credit other relevant content.

**10.1 Using your knowledge of localisation function in the brain and the information in the conversation above, identify two areas of the brain that were not affected by the metal rod. Explain your answer.**

[3 marks]

**Marks for this question: AO2 = 3 marks**

1 mark for identifying any of the following (MAX 2 marks).

- Motor area
- Language area
- Broca’s area

1 mark for the explanation.

Example: The injured man can still walk and speak.
A neuropsychologist wants to investigate the damage the metal rod caused to the brain of the man in the case study using scanning techniques. Referring to the case study above, choose two scanning techniques and identify the damage that those scans could show. Evaluate both scanning techniques.

Marks for this question: AO2 = 3 marks and AO3 = 3 marks

<table>
<thead>
<tr>
<th>Level</th>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Detailed</td>
<td>5 - 6</td>
<td>AO2: Clear application of knowledge and understanding of scanning techniques to the man in the case study. AO3: Analysis and evaluation of both scanning techniques is effective. Any conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, is clear, coherent and focused.</td>
</tr>
<tr>
<td>2 Clear</td>
<td>3 - 4</td>
<td>AO2: Reasonable application of knowledge and understanding of scanning techniques to the man in the case study. AO3: There may be some effective analysis and evaluation of both scanning techniques. There may be an attempt to draw conclusions. OR Analysis and evaluation of one scanning technique is effective. Any conclusions drawn are sound and fully expressed. Relevant terminology is usually used. The answer frequently demonstrates substantiated reasoning, and is clear, generally coherent and focused although structure may lack some logic.</td>
</tr>
<tr>
<td>1 Basic</td>
<td>1 - 2</td>
<td>AO2: Limited application of knowledge and understanding of scanning techniques to the case study. AO3: Analysis and evaluation of the suitability of scanning techniques is of limited effectiveness or may be absent. Any attempts to draw conclusions are not always successful or present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.</td>
</tr>
<tr>
<td>0</td>
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When an answer only contains content related to one of the skills (AO2/AO3), then the levels descriptors for the award of marks for the skill attempted should be applied to the answer, up to the maximum mark available.

**Indicative content:**

**AO2**
- **CT** – the man is described as having ‘a metal rod go through the top of his skull’. This suggests that the bone has been damaged and could show up on a CT scan
- **PET** – the man’s personality is described as changed, so they would be able to detect whether the man’s lobes are still active as perhaps the frontal lobe that is involved in social behaviours may show different activity to normal
- **fMRI** - the man’s personality and emotions have changed so they could get him to respond to pictures that produce different emotions to see which parts of his brain are active to look for abnormalities.

**AO3**
- **CT scans** would be appropriate because they show the difference between bone and grey matter. However, CT scans require more radiation than normal X-rays and a complex and detailed scan may be needed to see the extent of the damage. This would involve exposure to more radiation.
- **PET scans** can highlight brain pathways as well as specific areas of activity, so they could show if there are any areas where there is no blood flow around the brain. However, PET scans have a slight risk from radioactivity and they are very expensive.
- **An fMRI scan** is accurate and clear and there are no X-rays or radioactive substances involved. However, they are expensive and the patient must stay completely still.

Credit other relevant content.
11. Describe and evaluate Tulving’s ‘gold’ memory study.  [9 marks]

Marks for this question: AO1 = 4, AO3 = 5

<table>
<thead>
<tr>
<th>Level</th>
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<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Detailed</td>
<td>7-9</td>
<td>AO1: Relevant knowledge and understanding of Tulving’s ‘gold’ memory study is accurate with detail.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AO3: Analysis and evaluation of Tulving’s ‘gold’ memory study is effective. Any conclusions drawn are sound and fully expressed.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning is clear, coherent and focused.</td>
</tr>
<tr>
<td>2 Clear</td>
<td>4-6</td>
<td>AO1: Relevant knowledge and understanding of Tulving’s ‘gold’ memory study is present but there are occasional inaccuracies/omissions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AO3: There may be some effective analysis and evaluation of Tulving’s ‘gold’ memory study. There may be an attempt to draw conclusions.</td>
</tr>
<tr>
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<td>Relevant terminology is usually used. The answer frequently demonstrates substantiated reasoning, and is clear, generally coherent and focused,</td>
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<td>although structure may lack some logic.</td>
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<tr>
<td>1 Basic</td>
<td>1-3</td>
<td>AO1: Knowledge and understanding of Tulving’s ‘gold’ memory study is present but limited.</td>
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<td>AO3: Analysis and evaluation of Tulving’s ‘gold’ memory study is of limited effectiveness or may be absent. Any attempts to draw conclusions are</td>
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<td>not always successful or present.</td>
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<tr>
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<td>Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus</td>
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<td></td>
<td>and logical structure.</td>
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<td>No relevant content.</td>
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</tbody>
</table>

Examiners are reminded that AO1 and AO3 are regarded as interdependent. When deciding on a mark in instances where there is an attempt at more than one assessment objective all attempts should be considered together using the best fit approach. In doing so, examiners should bear in mind the relative weightings of the assessment objectives.

When an answer only contains content related to one of the skills (AO1/AO3), then the levels descriptors for the award of marks for the skill attempted should be applied to the answer, up to the maximum mark available.
Indicative content

AO1
- Tulving’s aim was to explore connections between types of memory and brain activity. Six people were injected with a mildly radioactive gold isotope, which spread through the bloodstream and into the brain. The movement of these particles was measured using a PET scan that measures blood flow in different parts of the brain. The study compared two kinds of memory (episodic and semantic), and two time periods for the memories (recent or remote). Each participant lay on a couch with eyes closed and began thinking about the topic. After 60 seconds, the gold isotope was injected, and after 7–8 seconds a reading was taken.
- Three of the participants were dropped from the analysis because their results were inconsistent. However, the remaining three showed clear differences in blood flow patterns between episodic and semantic memories. This difference was the same regardless of whether what they were remembering was recent or had taken place a long time ago. Episodic recollection produced more activation of the frontal and temporal lobes. Semantic recollection produced more activity in the parietal and occipital lobes of the cerebral cortex.
- Tulving concluded that semantic and episodic memories produce activity in different parts of the brain.

AO3
- The study provided objective and scientific evidence that is less likely to have been affected by the behaviour of the participants or extraneous variables than other research methods - such as lab experiments or observations.
- There were only six participants and Tulving and his wife were two of them. Only three participants showed the effects, so they may not apply to everyone. This means that the sample is not large enough or varied enough to be very representative and that the results were not very conclusive.
- There was no way of controlling what people were actually thinking about at the exact moment of the scan. While the participants were fully informed volunteers who may have tried very hard to get the procedure to work, they may have been distracted or could deliberately have thought about something else.

Credit other relevant content.
Section D
Research Methods

12.1 Which of the following is a cost to society that the government spokesperson in the article may have been referring to? Shade one box. [1 mark]

Marks for this question: AO2 = 1 mark

A

12.2 Give two examples of the effects of mental health problems on an individual. [2 marks]

Marks for this question: AO1 = 2 marks

1 mark for any of the following (MAX 2 marks).

- Negative impact on physical well-being
- Harm to body because of using things like drugs or food to try and feel better
- Difficulties coping with day to day life
- Not able to get to work or school on a regular basis
- Damage to relationships
- More arguments between partners and/or parents and children

Credit other relevant examples.

NOTE: Examples may be general or more specific (as in the list above)
NOTE: Do not accept examples that are just symptoms of depression or addiction

13 Explain one difference between unipolar depression and bipolar depression. [1 mark]

Marks for this question: AO1 = 1 mark

People with bipolar have low moods and high moods (known as mania), with increased energy and feelings of extreme excitement, whereas people with unipolar depression just have low moods.
Imagine that you are a doctor who has concerns about a patient. Use your knowledge of unipolar depression to complete the following letter asking for a place for Patient A on a cognitive behaviour therapy course (CBT).

Marks for this question: AO1 = 3 marks

1 mark for any of the following (MAX 3 marks)

- Low mood
- Reduced energy/activity levels
- Changes in sleep patterns
- Changes in appetite levels
- Decrease in self-confidence
- Lack of interest/enjoyment
- Reduced concentration/focus
- Feelings of worthlessness
- Negative thoughts about the future
- Suicidal thoughts

You have been asked to conduct a study to investigate the effects of cognitive behaviour therapy (CBT) on people who have been diagnosed with depression.

You need to include:

- a description of the conditions in the study
- the sampling method you would use
- an example of one standardised procedure that you will use

Explain your answer.

Marks for this question: AO2 = 6 marks

Up to 2 marks for a description of the two conditions.

2 marks: a clear description
1 mark: a limited/muddled description

PLUS

Up to 2 marks for naming and justifying an appropriate sampling method.

Examples:

- Opportunity sampling. Because I can choose people who I know and who are available. This will make it quicker to find my participants (2 marks).
- Random sampling (1 mark).
PLUS

Up to 2 marks for identifying and explaining an appropriate standardised procedure.

Examples:
- Standardised instructions. Because then I can be sure that all the participants know what they need to do and will do the same thing (2 marks).
- To prevent the instructions becoming an extraneous variable (1 mark).

<table>
<thead>
<tr>
<th>15.1</th>
<th>According to the International Classification of Diseases, which symptoms of Dependence Syndrome is Alice experiencing?</th>
</tr>
</thead>
</table>

Marks for this question: AO2 = 3 marks

1 mark for any of the following (MAX 3 marks).

- A strong desire to use substance/ difficulty controlling use
- A higher priority given to the substance
- Difficulty controlling use of substance

<table>
<thead>
<tr>
<th>15.2</th>
<th>Identify one intervention or therapy that the doctor might recommend for Alice if she is diagnosed with Dependence Syndrome. Justify your choice by referring to the conversation above.</th>
</tr>
</thead>
</table>

Marks for this question: AO1 = 1 mark, AO2 = 1 mark

1 mark for correctly identifying the appropriate therapy for Alice

- Aversion therapy

PLUS

1 mark for justification of the therapy with reference to Alice’s situation

- Because Alice says that she does not ‘have the motivation or the time to address my drinking problem’ so self-management programmes would not be appropriate.

Do not credit self-management as this would not be appropriate in Alice’s situation.
15.3 Outline one weakness of the intervention/therapy you have recommended in question 15.2. [2 marks]

Marks for this question: AO3 = 2 marks

Examples
- the benefits of aversion therapy may only be effective in the short-term, so it may not be a long-term solution and other support may be needed
- as it is an unpleasant treatment this means that there is often a high drop-out rate, so the treatment is often not effective
- the unpleasant nature of the treatment raises ethical concerns, so it is important that the process is fully explained to the client and gain informed consent

NOTE: If answer to 15.2 is incorrect then credit can be given to one weakness of another intervention/therapy as long as it is an appropriate intervention or therapy for addiction.

16 Evaluate Kaij’s twin study of alcohol abuse. [5 marks]

Marks for this question: AO3 = 5

<table>
<thead>
<tr>
<th>Level</th>
<th>Marks</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Detailed</td>
<td>4-5</td>
<td>Analysis and evaluation of Kaij’s twin study of alcohol abuse is effective. Any conclusions drawn are sound and fully expressed. Relevant terminology is used consistently throughout. The answer demonstrates a high level of substantiated reasoning, is clear, coherent and focused.</td>
</tr>
<tr>
<td>2 Clear</td>
<td>2 – 3</td>
<td>There may be some effective analysis and evaluation of Kaij’s twin study of alcohol abuse. There may be an attempt to draw conclusions. Relevant terminology is usually used. The answer frequently demonstrates substantiated reasoning, and is clear, generally coherent and focused although structure may lack some logic.</td>
</tr>
<tr>
<td>1 Basic</td>
<td>1</td>
<td>Analysis and evaluation of Kaij’s twin study of alcohol abuse is of limited effectiveness. Any attempts to draw conclusions are not always successful or present. Relevant terminology is occasionally used. The answer occasionally demonstrates substantiated reasoning, but may lack clarity, coherence, focus and logical structure.</td>
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<td>0</td>
<td>No relevant content.</td>
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</tbody>
</table>
Indicative content:

- The information on alcohol use came from the participant and other family members. This type of self-report method is subjective and there are many reasons why the information provided may not be correct. These include lying about the amount of alcohol consumed in order to give a sociably desirable answer.
- The sample is limited because all of the participants were twins, male, and Swedish. This means that the findings are not representative of people who are female, or who are not twins or Swedish.
- The sample is also limited because the participants were twins, where at least one of them was publicly known to abuse alcohol. Therefore, the results are not representative of those who abused alcohol but did so in private.
- Identical twins are often brought up in the same ways and so it may be environment (nurture) and not genetics (nature) that was the cause of the comparable rates of alcohol use.
- Although Kaij found that 54% of the identical twins were in the same category as their co-twin for alcohol use, that also means that 46% were not in the same category and that suggests there are not just genetic factors involved in alcohol use.

Credit other relevant content