



---

A-LEVEL

# Psychology (Specification A)

PSYA4 Psychopathology, Psychology in Action and Research Methods  
Mark scheme

---

2180  
June 2016

---

Version 1.0: Final Mark Scheme

---

---

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](http://aqa.org.uk).

---

**PSYA4 RM Assessor Annotations Key 2016**

<b>Annotation</b>	<b>Usage</b>
?	Unclear
^	Omission
BOD	Benefit of the doubt
Cross	Incorrect point
H Line	Text only, horizontal line that can be expanded
IRRL	Irrelevant
NAQ	Not answered question
REP	Repetition
SEEN	Page / material seen by examiner
Tick	Correct point
A01	A01 credit given
WA01	Weak A01
A02	A02/3 credit given
WA02	Weak / generic A02/3
ELAB	Elaboration
ENG	Engagement with stem
WENG	Weak / token engagement with stem
LF	Loses focus

---

## Section A Psychopathology

### Schizophrenia

#### Question 01

Outline and evaluate **one or more** biological therapies for schizophrenia.

[8 marks + 16 marks]

#### AO1 = 8 marks

AO1 credit is awarded for an outline of one or more biological therapies suitable for treating schizophrenia.

Note that:

- Examiners need to be alert to breadth-depth trade-offs depending on the number of therapies covered.
- Therapies can be interpreted broadly (e.g. drug treatment) or specifically (e.g. clozapine).
- Descriptions of psychological therapies such as cognitive-behavioural therapy and family interventions cannot receive credit.
- A maximum mark of 6 (top of reasonable band) can be awarded to answers that provide a generic description of a therapy without explicitly showing how it is used to treat schizophrenia.
- A maximum mark of 6 (top of reasonable band) can be awarded to answers which include no details of mode of action of the therapy.

Suitable therapies include:

- **Antipsychotic drugs** - used to reduce the effects of dopamine and work by blocking D2 receptors. Typical antipsychotics, e.g. chlorpromazine, block D2 receptors in several brain areas. Less typical antipsychotics, e.g. pimozide are often used as a last resort when other drugs have failed. Atypical antipsychotics, e.g. risperidone have less action on D2 receptors but also reduce serotonin activity.
- **ECT** – the use of ECT is not recommended by NICE in the UK except in very particular cases (mainly for catatonic schizophrenia). Electrodes, placed on the same or both sides of the head, deliver a brief electrical stimulus to an anaesthetised patient causing a seizure. The therapeutic mechanism is unknown, but decreased blood flow and decreased metabolism in the temporal lobes affect immediate responses. The therapy alters neurochemical levels (including dopamine) and also reduces the severity of any underlying affective symptoms.
- **Psychosurgery** – techniques such as leucotomies have been used historically. These involved cutting most of the neural connections to the frontal cortex, causing emotional blunting and reducing spontaneity and responsiveness. Answers in the effective band should show awareness of the fact that these techniques are no longer generally considered suitable.

**AO1 8 marks Knowledge and understanding**

<p><b>8-7 marks - Sound</b>  Knowledge and understanding are accurate and well detailed.  A good range of relevant material has been selected.  There is substantial evidence of breadth and/or depth.  Organisation and structure of the answer are coherent.</p>
<p><b>6-5 marks - Reasonable</b>  Knowledge and understanding are generally accurate and reasonably detailed.  A range of relevant material has been selected.  There is evidence of breadth and/or depth.  Organisation and structure of the answer are reasonably coherent.</p>
<p><b>4-3 marks - Basic</b>  Knowledge and understanding are basic/relatively superficial.  A restricted range of relevant material has been presented.  Organisation and structure of the answer are basic.</p>
<p><b>2-1 marks - Rudimentary</b>  Knowledge and understanding are rudimentary and may be muddled and/or inaccurate.  The material presented may be very brief or largely irrelevant.  Answer lacks organisation and structure.</p>
<p><b>0 marks</b>  No creditworthy material</p>

**AO2/AO3 = 16 marks**

Students achieve AO2/AO3 credit by evaluating the therapy (therapies) outlined. Students are likely to evaluate therapies in terms of effectiveness and appropriateness as these are mentioned in the specification.

Note that:

- Material on psychological therapies is only creditworthy if it is used explicitly to offer sustained critical commentary of a biological therapy.
- Methodological evaluation of research studies is only creditworthy if the implications for the therapy are made explicit.
- Undeveloped generic evaluations (e.g. more scientific, supports the nature side of the nature-nurture hypothesis, determinist, reductionist) should receive rudimentary credit.

Evaluation might include some of the following:

**Drug therapies**

- Outcome studies.
- Problems of measuring effectiveness e.g. when to measure, how to measure, what criteria to choose, appropriate comparison groups.
- Wide range of symptoms and sub-types – treatments might be effective for some but not others.
- Placebo effects.
- Factors affecting the choice of treatment e.g. accuracy of original diagnosis.
- Reliability and validity of research evidence.
- The extent to which generalisations can be made/issues concerning the allocation of patients to treatment groups.

- Antipsychotics have long been established as a relatively cheap, effective treatment, which rapidly reduce symptoms and enable many people to live relatively normal lives (May, 1981).
- The atypical group appear to be the most effective, targeting a broader range of symptoms including negative symptoms such as apathy.
- Antipsychotics produce a range of side effects including tardive dyskinesia (TD) and weight gain. These lead a proportion of patients to discontinue treatment.
- Typical antipsychotics are associated with higher levels of side effects than atypical antipsychotics.
- About 30% of patients appear to be drug resistant.
- Drug treatments are generally more effective for positive symptoms than negative symptoms.
- Relapse is likely when drugs are discontinued.
- Drugs treat symptoms rather than causes.
- Ethical issues including informed consent, and the dehumanizing effects of some treatments.

#### ECT

- Outcome studies.
- Its more recent use in conjunction with antipsychotics for drug resistant patients.
- Side effects such as memory loss.
- Issues associated with informed consent.

#### Psychosurgery

- Outcome studies.
- Side effects such as permanent loss of function.
- Psychosurgery has scarcely been used as a treatment for schizophrenia since the early 1970's when it was replaced by drug treatment.

**AO2/3**

**16 marks**

**Evaluation/commentary**

#### **16-13 marks - Effective**

Evaluation/commentary demonstrate sound analysis, understanding and interpretation. The answer is well focused and shows coherent elaboration and/or a clear line of argument. Ideas are well structured and expressed clearly and fluently. Consistently effective use of psychological terminology. Appropriate use of grammar, punctuation and spelling.

#### **12-9 marks - Reasonable**

Evaluation/commentary demonstrate reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident. Most ideas are appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.

#### **8-5 marks - Basic**

Evaluation/commentary demonstrate basic, superficial understanding. The answer is sometimes focused and shows some evidence of elaboration. Expression of ideas lacks clarity. Limited use of psychological terminology. Errors of grammar, punctuation and spelling are intrusive.

**4-1 marks - Rudimentary**

Evaluation/commentary are rudimentary, demonstrating a very limited understanding.

The answer is weak, muddled and incomplete.

Material is not used effectively and may be mainly irrelevant.

Deficiency in expression of ideas results in confusion and ambiguity.

The answer lacks structure, often merely a series of unconnected assertions.

Errors of grammar, punctuation and spelling are frequent and intrusive.

**0 marks**

No creditworthy material is presented.

**Depression**

**Question 02**

Outline and evaluate **one or more** psychological explanations for depression.

**[8 marks + 16 marks]**

**AO1= 8 marks**

AO1 credit is awarded for an outline of one or more psychological explanations of depression.

Note that:

- An explanation can be interpreted broadly (e.g. psychodynamic) or specifically (e.g. anger turned inwards on the self).
- Examiners need to be alert to breadth-depth trade-offs depending on the number of explanations covered.

The main psychological explanations of depression are:

- Cognitive - Beck's (1967) cognitive triad (negative thoughts about the self, the world and the future); cognitive distortions (overgeneralization and magnification of the significance of events).
- Cognitive-behavioural - Abramson (1978) maladaptive attribution style, self-blaming and hopelessness as a result of failure.
- Behavioural - Lewinsohn (1974) lack of positive reinforcement leading to social withdrawal and self-perpetuating cycle.
- Socio-cultural – Brown and Harris (1989) stressful life events as a trigger for depression.
- Psychodynamic – importance of unconscious forces and early experience in oral stage. Loss leading to anger which is turned inwards and the introjections of hostility, loss and dependency.
- Learned helplessness (Seligman, 1975) may be presented as a behavioural or cognitive explanation or as part of a combined cognitive-behavioural explanation.

**AO1    8 marks                    Knowledge and understanding**

<p><b>8-7 marks - Sound</b>                  Knowledge and understanding are accurate and well detailed.                  A good range of relevant material has been selected.                  There is substantial evidence of breadth and/or depth.                  Organisation and structure of the answer are coherent.</p>
<p><b>6-5 marks - Reasonable</b>                  Knowledge and understanding are generally accurate and reasonably detailed.                  A range of relevant material has been selected.                  There is evidence of breadth and/or depth.                  Organisation and structure of the answer are reasonably coherent.</p>
<p><b>4-3 marks - Basic</b>                  Knowledge and understanding are basic/relatively superficial.                  A restricted range of relevant material has been presented.                  Organisation and structure of the answer are basic.</p>

<p><b>2-1 marks - Rudimentary</b>                  Knowledge and understanding are rudimentary and may be muddled and/or inaccurate.                  The material presented may be very brief or largely irrelevant.                  Answer lacks organisation and structure.</p>
<p><b>0 marks</b>                  No creditworthy material</p>

**AO2/3 = 16 marks**

Students achieve AO2/AO3 credit by evaluating the psychological explanation (explanations) of depression outlined.

Note that:

- Material on biological explanations is only creditworthy if it is used explicitly to offer sustained critical commentary of a psychological explanation.
- Methodological evaluation of research studies is only creditworthy if the implications for the explanation are made explicit.
- Undeveloped generic evaluations (e.g. determinist, reductionist) should receive rudimentary credit.

Potential material includes:

- Consideration of research evidence that supports or challenges an explanation (e.g. Hiroto and Seligman, 1974 - students exposed to uncontrollable events were more likely to fail subsequent cognitive tasks; Bates et al., 1999, - cognitive; Brown and Harris, 1989 and Kendler et al., 1995 - sociocultural; Bifulco et al., 1992 - psychodynamic (higher rates of depression in women who had suffered maternal loss in childhood).
- Issues specific to each explanation, e.g. the cognitive explanation is better at explaining the maintenance of the disorder rather than the initial cause; limited evidence for the psychodynamic concepts such as introjection of hostility; legitimacy of Seligman's evidence on LH in relation to human depression.
- Debate about the relative importance of different causal factors.
- The usefulness of a combined approach to explaining depression.
- Appropriate use of relevant debates such as reductionism - holism and free will - determinism.
- Although the question is concerned with explanations, the effectiveness of therapies could be used as a means of evaluation. Better students will be aware of the treatment aetiology fallacy.
- Sustained comparison with alternative explanations.
- The possibility of multiple contributory factors, for example, a discussion of the diathesis-stress model as a way of combining psychological and biological factors.

**AO2/3                      16 marks                      Evaluation/commentary****16-13 marks - Effective**

Evaluation/commentary demonstrate sound analysis, understanding and interpretation.  
 The answer is well focused and shows coherent elaboration and/or a clear line of argument.  
 Ideas are well structured and expressed clearly and fluently.  
 Consistently effective use of psychological terminology.  
 Appropriate use of grammar, punctuation and spelling.

**12-9 marks - Reasonable**

Evaluation/commentary demonstrate reasonable analysis and understanding.  
 The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident.  
 Most ideas are appropriately structured and expressed clearly.  
 Appropriate use of psychological terminology.  
 Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.

**8-5 marks - Basic**

Evaluation/commentary demonstrate basic, superficial understanding.  
 The answer is sometimes focused and shows some evidence of elaboration.  
 Expression of ideas lacks clarity.  
 Limited use of psychological terminology.  
 Errors of grammar, punctuation and spelling are intrusive.

**4-1 marks - Rudimentary**

Evaluation/commentary are rudimentary, demonstrating a very limited understanding.  
 The answer is weak, muddled and incomplete.  
 Material is not used effectively and may be mainly irrelevant.  
 Deficiency in expression of ideas results in confusion and ambiguity.  
 The answer lacks structure, often merely a series of unconnected assertions.  
 Errors of grammar, punctuation and spelling are frequent and intrusive.

**0 marks**

No creditworthy material is presented.

---

## Phobic disorders

### Question 03

Outline and evaluate **two** explanations for phobia.

**[8 marks + 16 marks]**

#### AO1 = 8 marks

AO1 credit is awarded for an outline of **two** explanations of phobic disorders.

Note that:

- It is up to the student to identify the 2 explanations being presented.
- As two explanations are required, examiners should be mindful of the amount of depth/detail which can be reasonably expected.
- Where more than two explanations are presented all should be considered and the best two credited.
- Partial performance criteria apply if only one explanation is provided.
- Explanations can be interpreted broadly (e.g. behaviourist) or specifically (e.g. classical conditioning).
- It is acceptable for both explanations to be drawn from the same model.
- Description of a case study such as Little Hans or Albert B can be treated as AO1 material if presented as an explanation of phobia.

Likely explanations include:

- Genetics - reactive autonomic nervous system/autonomic liability (Lacey, 1967); genetic trait of inhibition /shyness (Kagan, 1997) and genes regulating serotonin (Lesch et al., 1996). Given the difficulty of describing genetic explanations, straightforward description of family history / twin studies) can receive AO1 credit. Phobias are more common in relatives of phobics than in the general population (Solyom et al., 1974; Fyer, 2006). Twin studies (e.g. Torgerson, 1983; Skre, 2000 and Kendler et al., 2001) demonstrate higher concordance rates in MZ than DZ twins. The CR for specific phobias is highest of all (e.g. Ost, 1992 - 64% of blood-injection phobics had at least one first degree relative with the same phobia).
- Biochemical / endocrine explanations - low levels of GABA lead to increased arousal/over activity of sympathetic nervous system (noradrenaline) or under activity of parasympathetic system (GABA): Stein (1996) argues that abnormal levels of serotonin and dopamine are also implicated. Also changes in ACTH levels.
- Neuroanatomy - increased blood flow in the limbic system, particularly the amygdala.
- Evolutionary - preparedness, prepotency, e.g. benefits to survival to have a fear of certain potentially dangerous situations.
- Behavioural - classical conditioning (conditioned reflex), operant conditioning (positive/negative reinforcement) and social learning (observation/modelling).
- Psychodynamic - phobias arise to defend the ego against repressed anxiety. Anxiety is displaced onto a phobic object which symbolises the original conflict.
- Cognitive-behavioural - irrational thoughts and beliefs underlie phobia.

<b>AO1</b>	<b>8 marks</b>	<b>Knowledge and understanding</b>
<b>8-7 marks - Sound</b>		
Knowledge and understanding are accurate and well detailed. A good range of relevant material has been selected. There is substantial evidence of breadth and depth. Organisation and structure of the answer are coherent.		
<b>6-5 marks - Reasonable</b>		
Knowledge and understanding are generally accurate and reasonably detailed. A range of relevant material has been selected. There is evidence of breadth and/or depth. Organisation and structure of the answer are reasonably coherent. <i>Partial performance: Coverage of one explanation is sound (maximum 5 marks).</i>		
<b>4-3 marks - Basic</b>		
Knowledge and understanding are basic/relatively superficial. A restricted range of relevant material has been presented. Organisation and structure of the answer are basic. <i>Partial performance: Coverage of one explanation is reasonable.</i>		
<b>2-1 marks - Rudimentary</b>		
Knowledge and understanding are rudimentary and may be muddled and/or inaccurate. The material presented may be very brief or largely irrelevant. Answer lacks organisation and structure. <i>Partial performance: Coverage of one explanation is basic.</i>		
<b>0 marks</b>		
No creditworthy material		

**AO2/3 = 16 marks**

Students achieve AO2/3 credit for evaluation of the two explanations presented as AO1.

Note that:

- Because evaluation can be generic, partial performance criteria do not apply.
- Material on further explanations is only creditworthy if it is used explicitly to offer sustained critical commentary on the two explanations offered.
- Methodological evaluation of research studies is only creditworthy if the implications for the explanation are made explicit.
- Undeveloped generic evaluations (e.g. more scientific, supports the nature side of the nature-nurture hypothesis, determinist, reductionist) should receive rudimentary credit.

Evaluation will depend on the explanations offered, but is likely to include supporting / contradictory research evidence.

Likely routes to AO2/3 credit include:

- Genetic explanation: Limitations of family / twin studies
- Biochemical / endocrine explanations: Merckelbach et al. (1996) found higher levels of ACTH in a sample of phobics. Van der Wee (2008) found abnormal levels of dopamine and serotonin. Cryan et al. (2005) found that increasing GABA reduced anxiety in primates and humans. Stein (1996) argues that abnormal levels of serotonin and dopamine are also implicated.

- Neuroanatomical explanations: Scanning studies: Rauch (1995) found increased blood flow in the limbic systems of phobics using PET & Ahs et al. (2009) found a relationship between ratings of distress and amygdala activity in spider/snake phobics using PET.
- Evolutionary explanations: Preparedness in fear conditioning (Ohman).
- Behavioural explanations: Conditioned fear response in Albert B (Watson and Rayner); Mineka et al. (1984) study of rhesus monkeys.
- Psychodynamic explanations: Case study of Little Hans.
- Cognitive-behavioural explanations: These support the role of cognition, notably the over-estimation of danger/distorted thinking in phobics (Tomarken, 1989).

Other sources of AO2/3 credit include:

- The effectiveness of therapies (e.g. drug treatments, systematic desensitisation) – stronger students will be aware of the treatment aetiology fallacy.
- Implications of explanations (for example responsibility / blame).
- Different types of phobia e.g. agoraphobia, social phobia which may have different causal factors.
- The possibility of multiple contributory factors, for example, a discussion of combining behavioural and evolutionary explanations.
- Comparison with alternative explanations of phobias.
- Appropriate use of relevant debates, such as reductionism – holism, free-will – determinism.

**AO2/3                      16 marks                      Evaluation/commentary**

<p><b>16-13 marks - Effective</b>                  Evaluation/commentary demonstrate sound analysis, understanding and interpretation.                  The answer is well focused and shows coherent elaboration and/or a clear line of argument.                  Ideas are well structured and expressed clearly and fluently.                  Consistently effective use of psychological terminology.                  Appropriate use of grammar, punctuation and spelling.</p>
<p><b>12-9 marks - Reasonable</b>                  Evaluation/commentary demonstrate reasonable analysis and understanding.                  The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident.                  Most ideas are appropriately structured and expressed clearly.                  Appropriate use of psychological terminology.                  Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.</p>
<p><b>8-5 marks - Basic</b>                  Evaluation/commentary demonstrate basic, superficial understanding.                  The answer is sometimes focused and shows some evidence of elaboration.                  Expression of ideas lacks clarity.                  Limited use of psychological terminology.                  Errors of grammar, punctuation and spelling are intrusive.</p>
<p><b>4-1 marks - Rudimentary</b>                  Evaluation/commentary are rudimentary, demonstrating a very limited understanding.                  The answer is weak, muddled and incomplete.                  Material is not used effectively and may be mainly irrelevant.                  Deficiency in expression of ideas results in confusion and ambiguity.                  The answer lacks structure, often merely a series of unconnected assertions.                  Errors of grammar, punctuation and spelling are frequent and intrusive.</p>

**0 marks**

No creditworthy material is presented.

## Obsessive Compulsive Disorder

### Question 04

Outline and evaluate **two** explanations for obsessive compulsive disorder.

**[8 marks + 16 marks]**

#### AO1 = 8 marks

AO1 credit is awarded for an outline of **two** explanations of OCD.

Note that:

- It is up to the student to identify the 2 explanations being presented.
- As two explanations are required, examiners should be mindful of the amount of depth/detail which can be reasonably expected.
- Where more than two explanations are presented all should be considered and the best two credited.
- Partial performance criteria apply if only one explanation is provided.
- Explanations can be interpreted broadly (e.g. behaviourist) or specifically (e.g. social learning).
- It is acceptable for both explanations to be drawn from the same model.

Likely explanations include:

- **Genetics:** There is some evidence of a tendency to inherit OCD. Genes implicated in OCD include sapap3 gene (Feng et al., 2007), a gene which regulates the production of COMT and a glutamate transporter gene (SLC1A1). Given the difficulty of describing genetic explanations, straightforward description of family history / twin studies) can receive AO1 credit. Arbor (2006) found OCD is 9 x more frequent in first degree relatives than the general population. There are higher concordance rates in MZ twin pairs (between 68 - 88 %) than in DZ twin pairs (28 - 47 %) - Carey and Gottesman, 1981; Rasmussen and Tsuang, 1986; Billett et al., 1998.
- **Biochemistry:** Serotonin deficiency and high levels of dopamine.
- **Neuroanatomy:** Overactivity/damage to basal ganglia and caudate nucleus (Rapoport, 1990); dysfunction within the orbitofrontal cortex or 'worry circuit'.
- **Evolutionary explanations:** Focus on the adaptive advantages of hoarding, grooming, etc.
- **Psychodynamic:** Conflict at the anal stage.
- **Behavioural:** Classical conditioning, negative reinforcement, Mowrer's two process theory.
- **Cognitive:** Faulty thinking, cognitive triad.

**AO1 8 marks Knowledge and understanding**

<p><b>8-7 marks - Sound</b>  Knowledge and understanding are accurate and well detailed.  A good range of relevant material has been selected.  There is substantial evidence of breadth and depth.  Organisation and structure of the answer are coherent.</p>
<p><b>6-5 marks - Reasonable</b>  Knowledge and understanding are generally accurate and reasonably detailed.  A range of relevant material has been selected.  There is evidence of breadth and/or depth.  Organisation and structure of the answer are reasonably coherent.  <i>Partial performance: Coverage of one explanation is sound (maximum 5 marks).</i></p>
<p><b>4-3 marks - Basic</b>  Knowledge and understanding are basic/relatively superficial.  A restricted range of relevant material has been presented.  Organisation and structure of the answer are basic.  <i>Partial performance: Coverage of one explanation is reasonable.</i></p>
<p><b>2-1 marks - Rudimentary</b>  Knowledge and understanding are rudimentary and may be muddled and/or inaccurate.  The material presented may be very brief or largely irrelevant.  Answer lacks organisation and structure.  <i>Partial performance: Coverage of one explanation is basic.</i></p>
<p><b>0 marks</b>  No creditworthy material</p>

**AO2/3 = 16 marks**

Students achieve AO2/3 credit for evaluation of the two explanations presented as AO1.

Note that:

- Because evaluation can be generic, partial performance criteria do not apply.
- Material on further explanations is only creditworthy if it is used explicitly to offer sustained critical commentary on the two explanations offered.
- Methodological evaluation of research studies is only creditworthy if the implications for the explanation are made explicit.
- Undeveloped generic evaluations (e.g. more scientific, supports the nature side of the nature-nurture hypothesis, determinist, reductionist) should receive rudimentary credit.

Evaluation will depend on the explanations offered, but is likely to include supporting / contradictory research evidence.

Likely routes to AO2/3 credit include:

- Support for the genetic explanation: Animal studies (e.g. Feng, 2007) have shown that mice bred to lack the sapap3 gene spend excessive amounts of time grooming and show higher signs of anxiety.
- Difficulties disentangling genetic and environmental influences.

- Effectiveness of treatments based on the approach can also be a way of gaining credit. SSRI's inhibit over activity in the OFC and provide an effective treatment for about 50% of OCD sufferers (e.g. Murphy et al., 1996). However, some studies have indicated that increasing serotonin can worsen symptoms (Hollander et al., 1992).
- There is some support for the role played by basal ganglia. Characteristics of OCD are also found in sufferers of Parkinson's disease and Tourettes syndrome, both of which involve changes to basal ganglia (Rapoport, 1990). PET scans demonstrated increased activity in the basal ganglia of compulsion sufferers compared with control participants (Rauch et al., 1994). However, other neuroimaging studies have shown less support.
- OCD patients have less grey matter in OFC and the right frontal regions of the brain (Menses, 2007).
- Difficulties in establishing cause and effect in neuroanatomical/neurochemical explanations.
- Support for Mowrer's 2 process theory (eg Rachman and Hodgson, 1980).
- Rat-man case study (Freud, 1909).
- The possibility of multiple contributory factors, for example, a discussion of the diathesis-stress model as a way of combining psychological and biological factors.

**AO2/3                      16 marks                      Evaluation/commentary**

<p><b>16-13 marks - Effective</b>                  Evaluation/commentary demonstrate sound analysis, understanding and interpretation. The answer is well focused and shows coherent elaboration and/or a clear line of argument. Ideas are well structured and expressed clearly and fluently. Consistently effective use of psychological terminology. Appropriate use of grammar, punctuation and spelling.</p>
<p><b>12-9 marks - Reasonable</b>                  Evaluation/commentary demonstrate reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident. Most ideas are appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.</p>
<p><b>8-5 marks - Basic</b>                  Evaluation/commentary demonstrate basic, superficial understanding. The answer is sometimes focused and shows some evidence of elaboration. Expression of ideas lacks clarity. Limited use of psychological terminology. Errors of grammar, punctuation and spelling are intrusive.</p>
<p><b>4-1 marks - Rudimentary</b>                  Evaluation/commentary are rudimentary, demonstrating a very limited understanding. The answer is weak, muddled and incomplete. Material is not used effectively and may be mainly irrelevant. Deficiency in expression of ideas results in confusion and ambiguity. The answer lacks structure, often merely a series of unconnected assertions. Errors of grammar, punctuation and spelling are frequent and intrusive.</p>
<p><b>0 marks</b>                  No creditworthy material is presented.</p>

---

## Section B Psychology in Action

### Media Psychology

#### Question 05

Using your knowledge of psychological research into media influences on pro-social behaviour, what advice would you offer this television company to help them produce their children's programmes?

[10 marks]

#### AO2/3 = 10 marks

AO2/3 credit is awarded for advice to the television company based on the effective use of relevant psychological research/explanations of pro-social behaviour.

Note that:

- **Answers that do not engage with the scenario can receive a maximum of 4 marks.**
- Material on antisocial behaviour cannot receive credit (e.g. Bandura's bobo dolls) unless explicitly shaped towards pro-social behaviour in television programmes.
- Material from other areas of the media can receive credit only if shaped towards television.
- Evaluation of research (e.g. control / contradictory findings/correlation and causality/sampling issues) can only receive credit if used to shape the advice offered to the TV company.

For AO2/3 credit students may suggest advice based on the relevant use of explanations of pro-social behaviour such as:

- providing positive role models who can be observed / imitated / reinforced (social learning). The design of the TV programmes might be linked to specific features of social learning theory (e.g. children observing and imitating role models who are similar to themselves in terms of age, gender and ethnicity).
- producing programmes which result in pro-social mental routines being stored in memory as schemas / scripts and used to guide behaviour (cognitive priming).

Appropriate research support might include:

- Watching a helpful model is likely to result in developing a social norm that encourages pro-social behaviour and which will be socially reinforced (Sprafkin et al., 1975 – Lassie).
- Providing pro-social cues in programmes designed for a parent and child to watch together so that parents might discuss/clarify the content (Austin, 1993 – Watch with Mother).
- Linking with a follow-up lesson can demonstrate gains in pro-social behaviour (Singer and Singer, 1998 – Barney and Friends).
- Designing programmes to challenge stereotypes (Johnston and Ettema, 1986 – Freestyle study and gender stereotypes).
- Taking the age group targeted by the programme into account. Older children are better able to understand moral messages (McKenna and Ossoff, 1998 – Power Rangers) but may be more set in their ways. Younger children are more affected by the media than older children (Mares, 1996).

- Increasing the number of positive interactions in programmes can lead to increased helpfulness and cooperation (Friedrich and Stein, - Mister Rogers' Neighborhood).
- Setting pro-social goals against antisocial acts in the same programme can have benefits (Lovelace and Huston, 1983).
- Making the moral message clear (Rosenkoetter, 1999 - pro-social television only influences children if they understand the moral message behind it).

Commentary might also mention that the effects of pro-social media have often been reported as short term. However long term effects have been reported – e.g. O'Connor, 1980 found that children who avoided playing with other children showed a long term change in their behaviour after watching a programme that modelled this behaviour.

**AO2/AO3            10 marks            Explanation/application**

<p><b>9-10 marks - Effective</b>                  Explanation/application demonstrates sound analysis and understanding.                  Application of knowledge is well focused and effective.                  Ideas are well structured and expressed clearly and fluently.</p>
<p><b>6-8 marks - Reasonable</b>                  Explanation/application demonstrates reasonable analysis and understanding.                  Application of knowledge is generally focused.                  Most ideas are appropriately structured and expressed clearly.</p>
<p><b>3-5 marks - Basic</b>                  Explanation/application demonstrates basic analysis and superficial understanding.                  Application is sometimes focused.                  Expression of ideas lacks clarity.</p>
<p><b>1-2 marks - Rudimentary</b>                  Explanation/application is rudimentary demonstrating very limited understanding.                  The answer is weak, muddled and may be largely irrelevant.                  Deficiency in expression of ideas results in confusion and ambiguity.</p>
<p><b>0 marks</b>                  No creditworthy material.</p>

**Question 06**

Outline how the Hovland-Yale Model explains the persuasive effects of television advertising.

**[4 marks]**

**AO1 = 4 marks**

AO1 credit is awarded for application of the Hovland-Yale Model to explaining the persuasive effects of television advertising.

Note that:

- Sound answers will make reference to all three components of the model.
- The material presented should apply to the persuasive effects of television advertising.
- No credit can be awarded for evaluative material.

The Model has 3 main components which can all influence attitude change in an audience through a persuasive communication:

- The source of the communication in the television advert – e.g. the communicator’s credibility, expertise, attractiveness, celebrity status.
- The nature of the communication in the television advert – e.g. the quality and sincerity of the message, the medium, use of fear, one- and two-sided messages.
- The nature of the audience for the television advert – e.g. intelligence, self-esteem, culture and age.

**AO1 4 marks Knowledge and understanding**

<p><b>4 marks - Sound</b>                  Knowledge and understanding are accurate and well detailed.                  Organisation and structure of the answer are coherent.</p>
<p><b>3 marks - Reasonable</b>                  Knowledge and understanding are generally accurate and reasonably detailed.                  Organisation and structure of the answer are reasonably coherent.</p>
<p><b>2 marks - Basic</b>                  Knowledge and understanding are basic/relatively superficial.                  Organisation and structure of the answer are basic.</p>
<p><b>1 mark - Rudimentary</b>                  Knowledge and understanding are rudimentary and may be very brief, muddled and/or inaccurate.                  Answer lacks organisation and structure.</p>
<p><b>0 marks</b>                  No creditworthy material</p>

**Question 07**

Discuss **one or more** evolutionary explanations of the attraction of celebrity.

**[4 marks + 6 marks]**

**AO1 = 4 marks**

AO1 credit is awarded for an outline of one or more evolutionary explanations of the attraction of celebrity.

Note that:

- Where more than one explanation is provided examiners should be sensitive to breadth/depth trade-offs.
- As only four marks are available examiners should be mindful of the amount of depth/detail which can be reasonably expected.
- Other explanations (e.g. entertainment as play theory and leisure time theory) can be used as long as links are made to attraction to celebrity.
- Social psychological explanations cannot receive credit.

Evolutionary explanations emphasize the potential benefits to survival/reproduction through the mechanisms of natural and sexual selection. Likely explanations include:

- The prestige hypothesis: Individuals with superior skills and knowledge (leaders/celebrities) are identified and copied leading to increased chances of reproduction. It is difficult to work out which specific behaviours lead to success, therefore general imitation of successful individuals (clothing etc.) is a good strategy.
- Ornamental mind theory/creativity – creativity was linked to superior problem solving therefore an indicator of fitness in the past. Music, art and humour were valued attributes in mate choice and make modern celebrities attractive. Neophilia (the love of novelty) may also be related to creativity.
- Potential for education - close observation of successful people provides useful education about what to wear, consequences of cheating on partner etc.
- Gossip theory: Talking about high status individuals could help individuals be more like them which might improve their attractiveness and chance of finding a mate.

**AO1    4 marks                    Knowledge and understanding**

<p><b>4 marks - Sound</b>                  Knowledge and understanding are accurate and well detailed.                  Organisation and structure of the answer are coherent.</p>
<p><b>3 marks - Reasonable</b>                  Knowledge and understanding are generally accurate and reasonably detailed.                  Organisation and structure of the answer are reasonably coherent.</p>
<p><b>2 marks - Basic</b>                  Knowledge and understanding are basic/relatively superficial.                  Organisation and structure of the answer are basic.</p>
<p><b>1 mark - Rudimentary</b>                  Knowledge and understanding are rudimentary and may be very brief, muddled and/or inaccurate.                  Answer lacks organisation and structure.</p>

**0 marks**  
No creditworthy material

**AO2/3 = 6 marks**

AO2/AO3 credit is awarded for discussion and commentary on the evolutionary explanation of attraction to celebrity provided.

Note that:

- There is no partial performance penalty for AO2/3 if the student presents more than one explanation as AO1.
- Comparison with alternative explanations can receive credit but only if the links made with the explanation under discussion are sustained.

Commentary can be focused on the explanation presented and/or the evolutionary approach more generally:

- Archaeological evidence demonstrates the existence of art forms (cave painting etc.) from prehistory suggesting that creativity may well have been selected for.
- The assumption that all behaviours have survival value is disputed by some evolutionary psychologists.
- Evolutionary explanations are ‘post hoc’ and are almost impossible to test scientifically.
- There is considerable support for psychological explanations of attraction to celebrity, notably those rooted in attachment theory and also links to low self-esteem. These can gain credit when used as critical commentary on evolutionary explanations.

**AO2/3                      6 marks Commentary/evaluation**

<p><b>6 marks - Effective</b> Commentary/evaluation demonstrates sound analysis and understanding. Application of knowledge is well focused and effective. Ideas are well structured and expressed clearly and fluently.</p>
<p><b>5-4 marks - Reasonable</b> Commentary/evaluation demonstrates reasonable analysis and understanding. Application of knowledge is generally focused. Most ideas are appropriately structured and expressed clearly.</p>
<p><b>3-2 marks - Basic</b> Commentary/evaluation demonstrates basic analysis and superficial understanding. Application of knowledge is sometimes focused. Expression of ideas lacks clarity.</p>
<p><b>1 mark - Rudimentary</b> Commentary/evaluation is rudimentary demonstrating very limited understanding. The answer is weak, muddled and may be largely irrelevant. Deficiency in expression of ideas results in confusion and ambiguity.</p>
<p><b>0 marks</b> No creditworthy material is presented.</p>

## The Psychology of Addictive Behaviour

### Question 08

Using your knowledge of media influences in addiction, explain how the media may have influenced the initiation, maintenance and/or reduction of Tony's addictive behaviours.

[10 marks]

#### AO2/AO3 = 10 marks

AO2/3 credit is awarded for an explanation of how the media may have influenced the initiation, maintenance and/or reduction of Tony's addictive behaviours.

Note that:

- There is no partial performance in this question and examiners need to be aware of breadth-depth trade-offs when marking students' answers.
- **Answers that do not engage with the scenario can receive a maximum of 4 marks.**
- Speculative material on media influences that are not raised in the stem cannot receive credit.

We are told that:

- Tony has a longstanding major interest in films and television from his teens.
- with regard to smoking he has a preference for well-known brands.
- he has made progress with giving up smoking.
- he has made little progress with his gambling addiction.

Ways in which the media may have helped to initiate and/or maintain Tony's addictive behaviour include:

- adverts promoting smoking/gambling (e.g. National Lottery).
- portrayal of smoking in films (e.g. Hazan, 1994; Sargent, 2007; Waylen, 2011).
- role models (e.g. celebrities) glamourizing substance use or gambling.

Ways in which media may have helped to reduce Tony's smoking behaviour include:

- regulations restricting the advertising of tobacco.
- advertising bans (differences here between smoking and gambling).
- use of media (e.g. television) to deliver public health campaigns targeted at smoking - TV is an ideal medium for getting a message across regarding the dangers of addiction.

Ways in which media may have contributed to the maintenance of Tony's gambling behaviour include:

- relaxation of restrictions on gambling advertising (e.g. Gambling Act 2005 in Britain).
- The broadcasting of adverts which make maintenance of an existing gambling habit more likely (e.g. Deverensky et al., 2010).

Students may also earn AO2/3 credit for demonstrating an understanding of how methodological difficulties may have explicitly affected the conclusions presented concerning Tony's addictive behaviour. E.g. changes in attitudes to smoking, drinking and gambling which make comparisons over time difficult.

**AO2/AO3            10 marks            Explanation/application**

<p><b>9-10 marks - Effective</b>  Explanation/application demonstrates sound analysis and understanding.  Application of knowledge is well focused and effective.  Ideas are well structured and expressed clearly and fluently.</p>
<p><b>6-8 marks - Reasonable</b>  Explanation/application demonstrates reasonable analysis and understanding.  Application of knowledge is generally focused.  Most ideas are appropriately structured and expressed clearly.</p>
<p><b>3-5 marks - Basic</b>  Explanation/application demonstrates basic analysis and superficial understanding.  Application is sometimes focused.  Expression of ideas lacks clarity.</p>
<p><b>1-2 marks - Rudimentary</b>  Explanation/application is rudimentary demonstrating very limited understanding.  The answer is weak, muddled and may be largely irrelevant.  Deficiency in expression of ideas results in confusion and ambiguity.</p>
<p><b>0 marks</b>  No creditworthy material.</p>

**Question 09**

Outline the biological approach to explaining the initiation of a smoking addiction. **[4 marks]**

**AO1= 4 marks**

AO1 credit is awarded for an outline of the biological approach to explaining the initiation of a smoking addiction.

Note that:

- No credit can be awarded for material on maintenance or relapse unless linked specifically to how an addiction to smoking is initiated.
- No credit can be awarded for evaluative material.
- The biological approach may be presented generically or students may focus on a single biological explanation e.g. genetic or neurochemical. Examiners need to be aware of a breadth / depth trade off when a generic approach has been taken.

Likely content includes:

- The processes of physical dependency and tolerance in the development of a smoking addiction.
- Genetic factors. The findings of research studies can be credited here.
- Neurochemistry and the dopamine reward system.
- The endogenous opioid system (enkephalin and endorphins).
- Nicotine regulation model (Schachter 1977).

**AO1 4 marks Knowledge and understanding**

<p><b>4 marks - Sound</b>          Knowledge and understanding are accurate and well detailed.          Organisation and structure of the answer are coherent.</p>
<p><b>3 marks - Reasonable</b>          Knowledge and understanding are generally accurate and reasonably detailed.          Organisation and structure of the answer are reasonably coherent.</p>
<p><b>2 marks - Basic</b>          Knowledge and understanding are basic/relatively superficial.          Organisation and structure of the answer are basic.</p>
<p><b>1 mark - Rudimentary</b>          Knowledge and understanding are rudimentary and may be very brief, muddled and/or inaccurate.          Answer lacks organisation and structure.</p>
<p><b>0 marks</b>          No creditworthy material</p>

**Question 10**

Outline **one** psychological intervention for reducing addictive behaviour. Evaluate the effectiveness of this intervention for reducing addictive behaviour. **[4 marks + 6 marks]**

**AO1 = 4 marks**

AO1 credit is awarded for an outline of any one relevant psychological intervention that is used for the reduction of any form of addictive behaviour. This may be in the form of a study describing a psychological intervention.

Note that:

- As only four marks are available examiners should be mindful of the amount of depth/detail which can be reasonably expected.
- Biological interventions cannot be credited.
- Public health interventions can only be credited if the student clearly addresses a psychological component within the intervention (e.g. banning advertising must be explicitly linked to social learning theory).
- A maximum mark of 2 can be awarded if material is not shaped towards the reduction of addictive behaviour.
- Where more than one psychological intervention is provided the best should be credited.

Likely interventions include:

- Cognitive behaviour therapy.
- CBT based approaches such as relapse prevention.
- Behavioural approaches including aversion therapy, contingency contracting and cue exposure.
- Motivational enhancement therapy.
- Eclectic approaches such as the matrix model.
- Those based on the theory of planned behaviour.

**AO1    4 marks                    Knowledge and understanding**

<p><b>4 marks - Sound</b>                  Knowledge and understanding are accurate and well detailed.                  Organisation and structure of the answer are coherent.</p>
<p><b>3 marks - Reasonable</b>                  Knowledge and understanding are generally accurate and reasonably detailed.                  Organisation and structure of the answer are reasonably coherent.</p>
<p><b>2 marks - Basic</b>                  Knowledge and understanding are basic/relatively superficial.                  Organisation and structure of the answer are basic.</p>
<p><b>1 mark - Rudimentary</b>                  Knowledge and understanding are rudimentary and may be very brief, muddled and/or inaccurate.                  Answer lacks organisation and structure.</p>
<p><b>0 marks</b>                  No creditworthy material</p>

**AO2/3 = 6 marks**

AO2/3 credit is awarded for evaluating the effectiveness of the psychological intervention that has been outlined as AO1.

Note that:

- Evaluation of research studies is only creditworthy if the implications for the effectiveness of the intervention are made clear.

Likely avenues for commentary include:

- Outcome research.
- Comparison of success with other interventions (note that links to the intervention being evaluated must be sustained for credit to be awarded).
- Short vs. long term effectiveness.
- Whether an intervention tackles the underlying cause of an addiction.
- Client compliance with the requirements of the intervention.

**AO2/3                      6 marks Evaluation/commentary**

<p><b>6 marks - Effective</b>                  Evaluation/commentary demonstrates sound analysis and understanding.                  Application of knowledge is well focused and effective.                  Ideas are well structured and expressed clearly and fluently.</p>
<p><b>5-4 marks - Reasonable</b>                  Evaluation/commentary demonstrates reasonable analysis and understanding.                  Application of knowledge is generally focused.                  Most ideas are appropriately structured and expressed clearly.</p>
<p><b>3-2 marks - Basic</b>                  Evaluation/commentary demonstrates basic analysis and superficial understanding.                  Application of knowledge is sometimes focused.                  Expression of ideas lacks clarity.</p>
<p><b>1 mark - Rudimentary</b>                  Evaluation/commentary is rudimentary demonstrating very limited understanding.                  The answer is weak, muddled and may be largely irrelevant.                  Deficiency in expression of ideas results in confusion and ambiguity.</p>
<p><b>0 marks</b>                  No creditworthy material is presented.</p>

## Anomalistic Psychology

### Question 11

Use your knowledge of methodological problems in paranormal cognition to explain why the researchers' conclusion might not be justified. Explain how a researcher might address these problems. **[10 marks]**

#### **AO2/3 (Application) = 10 marks**

AO2/3 credit is awarded for explanations of methodological problems raised by the experiment described and of how these methodological problems might be addressed.

Note that:

- There is no partial performance in this question with regard to the number of problems a student identifies. Examiners need to be aware of breadth-depth trade-offs when marking answers.
- If a student explains one or more methodological problems without suggesting how the problem(s) concerned might be addressed the maximum mark achievable is 5 (top of the basic band).
- **Answers that do not engage with the scenario can receive a maximum of 4 marks.**
- Speculative problems/improvements which are not linked to the stimulus material cannot achieve credit.

The stem above is an outline of a Ganzfeld ESP procedure. This involves the sensory deprivation of Margaret (the receiver) by using headphones and halved ping pong balls over her eyes. The sender randomly selects one of four images to send telepathically to Margaret, who then attempts to identify the image by selecting it from a set of images. If she is able to read the thoughts of others, she should be able to pick the target at greater than chance level over several trials.

The above procedure raises methodological problems:

- Sensory leakage. Margaret and the sender are in adjoining rooms, so information could be transmitted by, for example, overhearing comments from next door.
- Ineffective randomisation: the selection of the target image is done by the sender rather than randomly.
- Experimenter influences – the experimenter is in direct contact with both the sender and Margaret and may have provided unintended cues.
- Handling cues. The images are passed to Margaret by hand. Therefore the target images could have a bent corner or mark on the picture that acts as a cue for the receiver.
- Forced choice.

The methodological problems might be addressed by the improvements to the technique such as those brought by the auto-Ganzfeld procedure.

Improvements might include:

- Fully sound-proofing the receiver, e.g. by playing white noise into the headphones.
- Having the sender and receiver kept in separate rooms which are unconnected and electro magnetically shielded.

- Preventing direct interaction between the experimenter / sender / Margaret, e.g. by instructing Margaret to select the target image from a computer screen rather than from images handed to her.
- Computerised selection of images - the target image should be randomly selected from the set of images and the sender told which image to transmit.
- Free choice

Research used appropriately as support for the above can achieve credit.

**AO2/AO3            10 marks            Explanation/application**

<p><b>9-10 marks - Effective</b>                  Explanation/application demonstrates sound analysis and understanding.                  Application of knowledge is well focused and effective.                  Ideas are well structured and expressed clearly and fluently.</p>
<p><b>6-8 marks - Reasonable</b>                  Explanation/application demonstrates reasonable analysis and understanding.                  Application of knowledge is generally focused.                  Most ideas are appropriately structured and expressed clearly.</p>
<p><b>3-5 marks - Basic</b>                  Explanation/application demonstrates basic analysis and superficial understanding.                  Application is sometimes focused.                  Expression of ideas lacks clarity.</p>
<p><b>1-2 marks - Rudimentary</b>                  Explanation/application is rudimentary demonstrating very limited understanding.                  The answer is weak, muddled and may be largely irrelevant.                  Deficiency in expression of ideas results in confusion and ambiguity.</p>
<p><b>0 marks</b>                  No creditworthy material.</p>

**Question 12**

Outline and evaluate **one** explanation for superstitious behaviour. **[4 marks + 6 marks]**

**AO1 = 4 marks**

AO1 credit is awarded for an outline of one explanation of superstitious behaviour.

Note that:

- As only four marks are available examiners should be mindful of the amount of depth/detail which can be reasonably expected.
- Where more than one explanation is provided the best should be credited.
- Descriptions of superstitious behaviours and anecdotal material cannot receive credit.
- Material that is not related to an *explanation* of superstition cannot receive credit.

Relevant explanations include:

- Behavioural (operant conditioning): Accidental pairing of a random behaviour with a positive reinforcer leads to a link between the two which persists as a ritualistic behaviour (Skinner, 1948).
- Evolutionary: The need for control/illusion of control of one's environment in stressful situations (Malinowski, 1948; Watson et al., 2007). It is preferable to assume two unrelated events are linked (type 1 error) than to miss a genuine link (type 2 error). An occasional type 1 error is tolerated to avoid type 2 errors.
- Cultural - provide a sense of control.

Magical thinking is acceptable as an explanation - it can lead to people dealing more confidently with their environment as they expect good things to happen.

**AO1 4 marks Knowledge and understanding**

<p><b>4 marks - Sound</b>                  Knowledge and understanding are accurate and well detailed.                  Organisation and structure of the answer are coherent.</p>
<p><b>3 marks - Reasonable</b>                  Knowledge and understanding are generally accurate and reasonably detailed.                  Organisation and structure of the answer are reasonably coherent.</p>
<p><b>2 marks - Basic</b>                  Knowledge and understanding are basic/relatively superficial.                  Organisation and structure of the answer are basic.</p>
<p><b>1 mark - Rudimentary</b>                  Knowledge and understanding are rudimentary and may be very brief, muddled and/or inaccurate.                  Answer lacks organisation and structure.</p>
<p><b>0 marks</b>                  No creditworthy material</p>

**AO2/3 = 6 marks**

AO2/3 credit is awarded for evaluation/commentary on the explanation of superstitious behaviour provided as AO1.

Note that:

- Material from alternative explanations can be used as commentary provided that links with the explanation under discussion are sustained.
- Evaluation of research studies is only creditworthy if the implications for the explanation are made clear.

Evaluation/commentary might include:

- Skinner’s research with pigeons and challenges to this, e.g. Staddon and Simmelhag, 1971 (the behavioural approach).
- The adaptive advantage of a superstitious behaviour persists as long as the occasional superstitious response has an adaptive advantage - Foster and Kokko, 2009 (the evolutionary approach).
- People given a reduced sense of control are more likely to develop superstitions - Whitson and Galinsky, 2008 (the cultural approach).

**AO2/3                      6 marks Evaluation/commentary**

<p><b>6 marks - Effective</b>                  Evaluation/commentary demonstrates sound analysis and understanding.                  Application of knowledge is well focused and effective.                  Ideas are well structured and expressed clearly and fluently.</p>
<p><b>5-4 marks - Reasonable</b>                  Evaluation/commentary demonstrates reasonable analysis and understanding.                  Application of knowledge is generally focused.                  Most ideas are appropriately structured and expressed clearly.</p>
<p><b>3-2 marks - Basic</b>                  Evaluation/commentary demonstrates basic analysis and superficial understanding.                  Application of knowledge is sometimes focused.                  Expression of ideas lacks clarity.</p>
<p><b>1 mark - Rudimentary</b>                  Evaluation/commentary is rudimentary demonstrating very limited understanding.                  The answer is weak, muddled and may be largely irrelevant.                  Deficiency in expression of ideas results in confusion and ambiguity.</p>
<p><b>0 marks</b>                  No creditworthy material is presented.</p>

**Question 13**

Outline findings of research into near death experiences.

**[4 marks]**

**AO1 = 4 marks**

Note that:

- No credit is available for material which is unrecognisable as a research finding.
- No credit is available for description of the procedure of studies or for evaluative material.
- No credit can be given to research findings on out of body experiences unless *explicitly* in the context of NDE.

AO1 credit is awarded for an outline of the findings of research into near death experiences.

Possible research findings include:

- Ring, 1980 - identified a NDE 'core experience': feelings of deep peace and well-being, sense of separation from the body, entering darkness/passing through a tunnel, seeing 'the light', entering the light/beautiful garden.
- Jansen, 1997 - ketamine, a drug which acts on the temporal and frontal lobes produces symptoms of NDE's including the 'tunnel' and mystical experiences.
- van Lommel et al., 2001 - 18% of 344 cardiac arrest survivors described a near death core experience.
- van Lommel et al., 2001 - ten elements of NDE, these are awareness of being dead, positive emotions, out of body experience, moving through a tunnel, communication with light, observation of colours, observation of a celestial landscape, meeting with deceased persons, life review, presence of border.
- Schwaninger et al., 2002 - 23% of a sample of 30 cardiac arrest patients reported an NDE, a further 13% reported experiencing an NDE associated with a previous life-threatening illness.
- Greyson, 2003 - NDEs were reported by 10% of cardiac arrest patients and 1% of other cardiac patients.

**AO1 4 marks Knowledge and understanding**

<p><b>4 marks – Sound</b>                  Knowledge and understanding of findings are accurate and well detailed.                  Organisation and structure of the answer are coherent.</p>
<p><b>3 marks – Reasonable</b>                  Knowledge and understanding of findings are generally accurate and reasonably detailed.                  Organisation and structure of the answer are reasonably coherent.</p>
<p><b>2 marks – Basic</b>                  Knowledge and understanding of findings are basic/relatively superficial.                  Organisation and structure of the answer are basic.</p>
<p><b>1 mark – Rudimentary</b>                  Knowledge and understanding of findings are rudimentary and may be very brief, muddled and/or inaccurate.                  Answer lacks organisation and structure.</p>
<p><b>0 marks</b>                  No creditworthy material</p>

### Section C Psychological Research and Scientific Method

#### Question 14

State a directional hypothesis for this small scale investigation.

**[2 marks]**

#### **AO3 = 2 marks**

2 marks: Direction of difference clear with full operationalisation (i.e. anxiety scores).  
Students taking part in an anxiety reduction programme show a reduction in anxiety scores.

1 mark: Direction of difference clear with partial evidence for operationalisation.  
Students taking part in an anxiety reduction programme show a reduction in anxiety.  
Anxiety reduction programmes reduce anxiety.

OR

1 mark where the required elements are present but the hypothesis presented is not concise.

0 marks: Incorrect answer, including answers presented in the form of:

- questions
- non-directional hypotheses
- null hypotheses
- hypotheses proposing an inappropriate direction.

Correlational hypotheses receive no credit.

#### Question 15

The researchers needed consent from parents/guardians for their children to take part in the investigation. Design a consent form that might have been given to parents/guardians asking for permission for their child to take part.

**[5 marks]**

#### **AO3 = 5 marks**

AO3 credit is awarded for the production of a parent/guardian consent form for this small scale investigation. To be effective this must:

- be addressed to parents/guardians in an appropriate tone/style.
- contain sufficient detail on the purpose of the investigation and the procedures for informed consent to be given.
- Specifically request consent from the parent/guardian.

It might also address gaining consent from the child, confidentiality, protection from harm, the right to withdraw and how results would be used.

Students who do not address the purpose of the investigation and the procedures cannot gain more than 2 marks.

No credit can be gained for:

- a consent form designed for the participants rather than their parents/guardians.
- a narrative description of what such a form might include rather than a consent form per se.

**AO3 5 marks Devising a consent form**

<p><b>5 marks – Effective</b>  The consent form demonstrates sound understanding.  Explicitly relevant information is given in a clear and concise form.  The form includes sufficient information for a parent/guardian to make a fully informed decision about their child taking part.</p>
<p><b>4-3 marks – Reasonable</b>  The consent form demonstrates reasonable understanding.  Information is given in a reasonably clear and concise form and is mainly relevant.  The form includes sufficient information for a parent/guardian to make an informed decision about their child taking part.</p>
<p><b>2 marks – Basic</b>  The consent form demonstrates basic understanding.  There is some lack of clarity/conciseness and material is not always relevant.  The form has some omissions such that a parent/guardian would find it difficult to make an informed decision about their child taking part.</p>
<p><b>1 mark – Rudimentary</b>  The consent form is rudimentary and demonstrates very little understanding.  Information is not given in a clear/concise form.  The form has significant omissions such that a parent/guardian would find it impossible to make an informed decision about their child taking part.</p>
<p><b>0 mark</b>  No creditworthy material.</p>

**Question 16**

The researchers wanted to establish the reliability and internal validity of their questionnaire. What is meant by the terms **reliability** and **internal validity**? **[2 marks]**

**AO1 = 2 marks**

Reliability concerns the consistency of a measure or procedure. Internal validity concerns whether a measuring instrument measures what it sets out to measure.

2 marks: Accurate answers for both. Note that detail is not expected as only one mark is available for each.

1 mark: Correct definition of either reliability or internal validity, or a weak attempt at both.

0 mark: No correct material.

No credit can be awarded for naming a method of checking reliability or validity.

---

**Question 17**

How might the researchers have checked the internal validity of their questionnaire?

**[3 marks]**

**AO3 = 3 marks**

Internal validity of the questionnaire can be checked by one or more of the following:

**Content validity** – is the content of the questionnaire appropriate? A simple way of establishing this is **face validity** - does the questionnaire look right and appear to test what it aims to test? This could be established by using a rating scale to assess the suitability of the questionnaire. Those asked to rate the suitability could be the participants themselves or others in a position to offer judgement (perhaps teachers, parents, school counsellors). A high suitability rating might suggest a valid test.

**Criterion validity** - is a measure of the extent to which questionnaire items are actually measuring the topics that they are intended to measure. This may be established through **concurrent validity** how well the scores relate to those from a currently existing similar measure that is known to have good validity. A high positive correlation between the two measures would indicate concurrent validity. Another way is through **predictive validity** - how well do questionnaire scores relate to later performance on a related measure. Similar performance on the two measures would be predicted and again a high positive correlation between them would indicate validity.

External/ecological validity cannot receive credit.

Up to 3 marks for explaining how the internal validity of the questionnaire might be established. One mark for knowledge of an appropriate method, plus one mark for the process involved and one mark for how validity is established. For example: Internal validity of the questionnaire can be established by concurrent validity (1 mark) by comparing questionnaire scores to those from another similar established measure (1 mark). A high positive correlation would indicate validity (1 mark).

2 marks can be awarded for a less detailed answer. For example: Internal validity of the questionnaire can be established by concurrent validity (1 mark) by finding a correlation with scores from another similar questionnaire (1 mark).

Merely naming one or more methods – Maximum 1 mark.

**Question 18**

The researchers chose to use a one-tailed test to analyse their data. Give **one** reason for this choice. **[1 mark]**

**AO3 = 1 mark**

1 mark - Because the researchers had used a directional hypothesis. Accept the researchers hypothesised that anxiety levels would decrease.

Reference to previous research is not creditworthy.

A Wilcoxon Matched Pairs Signed Ranks Test was used to test for the significance of the difference between the anxiety scores at the start of the programme and after the programme had ended. No student's score remained the same. The calculated value of T was found to be 63.

**Table 1:** Critical (table) values of T

Level of significance for a one-tailed test			
N	0.05	0.01	0.005
21	67	58	42
22	75	65	48
23	83	73	54
24	91	81	61
25	100	89	68

Values of T that are equal to or less than the tabled value are significant at or beyond the level indicated.

**Question 19**

Using **Table 1** above, explain whether or not the results of the study are significant at the 5% level. **[3 marks]**

**AO3 = 3 marks**

The results of the study are significant (1 mark).

If results are stated to be significant, up to 2 further marks can be awarded:

...because the observed value of T is less than the table value (+ 1 mark).

Full marks if both the value of N and the critical value are quoted ...because the observed value of T is less than the critical value of T for N=23 which is 83 (+ 2 marks).

A max of one further mark can be awarded for an answer quoting the correct values but with muddled terminology (e.g. muddling the terms observed value, critical value and/or significance level).

0 mark for "not significant".

**Question 20**

Explain why a control group of students was necessary for the main study described above. **[3 marks]**

**AO3 = 3 marks**

1 mark for identifying that a control group acts as a comparator for the treatment group who receive the anxiety management programme.

Up to 2 additional marks for further explanation. If a control group was not used there would be no way of knowing whether students' anxiety levels may have changed over the period of the study, irrespective of whether they were in the programme or not. Therefore whether or not the programme was effective.

**Question 21**

Explain why participants were allocated randomly to the two conditions. How might the students have been allocated randomly to the two conditions? **[2 marks + 2 marks]**

**AO3 = 4 marks**

1 mark for a reason why participants were allocated randomly. For example, eliminates any researcher bias in participant allocation to conditions.

1 further mark for appropriate elaboration, e.g. this means that participant characteristics that might affect the research are not distributed systematically.

Note that definitions of random allocation receive no credit. Examiners need to be alert to students confusing random allocation with random sampling.

Up to 2 marks for an appropriate suggestion as to how the students might have been allocated randomly to the two conditions.

Names (numbers) of all the 40 students taking part may have been placed into a hat / computer programme designed for this purpose (1 mark).

+1 mark for 'what then', e.g. names are drawn from the hat and allocated alternately to each condition.

**Table 2.** Median reduction in anxiety scores and ranges for all participants

	<b>Median reduction in anxiety score</b>	<b>Range</b>
<b>Experimental group</b>	12	16
<b>Control group</b>	2	5

### Question 22

Sketch a suitably labelled graph to illustrate how the data for both groups of students might be presented. **[4 marks]**

#### AO3 = 4 marks

One mark for selecting an appropriate type of graph (e.g. bar chart). Note that a scatter graph would be inappropriate.

One further mark – appropriate title and labelling of axes. Note the amount of information given in the title may impact on the labelling of axes.

Two further marks - appropriate depiction of data from the 2 conditions. Examiners need to bear in mind that students only know the median scores and ranges. Reference to both of these is required for full marks.

Note that no credit can be awarded for labelling / depiction of data on an inappropriate type of graph.

### Question 23

What statistical test would you use to analyse the results from the main study? Give **three** reasons for your choice of test. **[4 marks]**

#### AO3 = 4 marks

An appropriate statistical test would be the Mann-Whitney U Test. (1 mark).

Reasons for using Mann-Whitney U Test - test of difference, independent samples, data can be treated as being at an ordinal level of measurement (+1 mark for each correct reason).

Note that:

No marks can be awarded for test reasons unless the choice of test is correct.  
'Interval' or 'Not nominal' are not creditworthy as test reasons.

Examiners need to be alert to a case being made for other tests, such as chi square which can be credited if (and only if) the candidate suggests that data for each group of students might be categorised into (for example) numbers of students with anxiety change scores between x and y, y and z or numbers of students with increased/same/reduced anxiety scores.

**Question 24**

The researchers had considered using a matched pairs design in their study. What is meant by the term ‘matched pairs design’? How might a matched pairs design have been implemented for this investigation? **[2 marks + 2 marks]**

**AO1 = 2 marks**

Matched pairs is an experimental design in which pairs of participants are matched on criteria/attributes relevant to the investigation being undertaken (1 mark). Within each pair one participant is assigned to each condition (1 mark).

**AO3 = 2 marks**

Up to 2 further marks:

In this research pairs of participants would be matched on their anxiety scores to ascertain their anxiety levels at the start of the investigation. Members of each pair would be allocated (randomly) to the anxiety reduction programme or the control group.

## Assessment Objectives

Question	AO1	AO2/3	Total
<b>Section A</b>			
1	8	16	24
2	8	16	24
3	8	16	24
4	8	16	24
<b>Section B</b>			
5		10	
6	4		
7	4	6	24
8		10	
9	4		
10	4	6	24
11		10	
12	4	6	
13	4		24
<b>Section C</b>			
14		2	
15		5	
16	2		
17		3	
18		1	
19		3	
20		3	
21		4	
22		4	
23		4	
24	2	2	35

UMS conversion calculator [www.aqa.org.uk/umsconversion](http://www.aqa.org.uk/umsconversion)