

A-LEVEL

Psychology A

PSYA4: Psychopathology, Psychology in Action and Research Methods
Mark scheme

2180
June 2015

Version 1: 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.

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Section A Psychopathology

Schizophrenia

Question 01

Outline the clinical characteristics of schizophrenia.

(4 marks)

AO1 = 4 marks

AO1 credit is awarded for an outline of the clinical characteristics of schizophrenia. With regard to DSM, students may refer to characteristics described in DSM IV or DSM V. Schizophrenia is characterized by positive symptoms (eg hallucinations, delusions and disorganized speech) and negative symptoms (eg withdrawal from social interaction and apathy).

According to DSM IV, two of the following Criterion A symptoms should be present during a one month period, along with reduced social functioning:

- Delusions : hallucinations : disorganized speech: disorganized or catatonic behaviour; negative symptoms (emotional flattening).

One criterion A symptom only is required if the delusions are bizarre or the hallucinations consist of a running commentary on the person or two voices conversing.

DSM V removes the ‘one symptom reference’ and requires at least one of three ‘positive’ symptoms of schizophrenia:

- Hallucinations, delusions or disorganized speech.

Students can also cover the distinction between Type 1 and Type 2 schizophrenia or the existence of sub types (eg paranoid, catatonic). Details of prevalence and age of onset can also receive credit. Examiners should be mindful of the time constraints when awarding credit.

Students may bullet point their answer. If the content is accurate and detailed, this is acceptable for top band marks.

AO1 4 marks knowledge and understanding

4 marks Sound Knowledge and understanding are accurate and well detailed.
3 marks Reasonable Knowledge and understanding are generally accurate and reasonably detailed.
2 marks Basic Knowledge and understanding are basic/relatively superficial.
1 mark Rudimentary Knowledge and understanding are rudimentary and may be very brief, muddled and/or inaccurate.
0 marks No creditworthy material.

Question 02

Outline **one** biological therapy for schizophrenia.

(4 marks)

AO1 = 4 marks

AO1 credit is awarded for an outline of one biological therapy which is suitable for schizophrenia. The most likely therapy to be described is the use of antipsychotic drugs, which work by blocking d2 (dopamine) receptors. Students can tackle this by outlining the action of a specific drug group / drug or by considering drugs generically. There are different generations of antipsychotics:

- typical antipsychotics - eg chlorpromazine, block d2 receptors in several brain areas
- less typical antipsychotics - eg pimozide, often used as a last resort when other drugs have failed
- atypical antipsychotics - eg risperidone and clozapine. Some atypicals also block serotonin receptors.

Biological therapies such as ECT and psychosurgery can gain AO1 credit but for marks above rudimentary the description must be tailored to treatment of schizophrenia. Descriptions of psychological therapies are not creditworthy.

AO1 4 marks knowledge and understanding

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

Question 03

Evaluate biological therapies for schizophrenia.

(16 marks)

AO2/3 = 16 marks

AO2/3 credit is awarded for an evaluation of the biological therapies in general for schizophrenia.

Description of therapies cannot gain credit. Although the question refers to therapies in the plural, partial performance criteria do not apply here as evaluative points, for example about drugs, can refer to different kinds of drugs.

Students are likely to consider effectiveness and appropriateness of biological therapies given the focus of the Specification. Better answers are likely to refer to the findings of outcome studies demonstrating effectiveness and issues around measuring effectiveness:

- 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, with the fewest side effects
- typical antipsychotics are associated with higher levels of side effects
- 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.

Issues of appropriateness with drug treatment could include:

- drugs treat symptoms rather than causes
- antipsychotics produce a range of side effects including motor tremors and weight gain.
- these lead a proportion of patients to discontinue treatment
- ethical issues including informed consent, and the dehumanizing effects of some treatments.

Treatments other than drug therapy will need to be read carefully to assess the effectiveness of evaluation. Students who cover ECT should make it clear that this treatment was used historically but has not been widely used for schizophrenia or deemed appropriate in recent years. However, its more recent use in conjunction with antipsychotics for drug resistant patients could provide effective evaluation. Similarly, psychosurgery has scarcely been used as a treatment for schizophrenia since the early 1970's when it was replaced by drug treatment.

Reference to psychological therapies may gain AO2/3 credit but only where it is used to provide a sustained commentary on biological therapies.

Undeveloped generic evaluations (eg more scientific / supports nature side of nature nurture hypothesis / determinist / reductionist should receive rudimentary credit.

Methodological evaluation of research studies can only be awarded credit if the implications for the therapy are made explicit

AO2/3 16 marks evaluation**16-13 marks Effective**

Evaluation demonstrates 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 demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident. Most ideas 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 demonstrates 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 is 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.

Depression

Question 04

Discuss psychological explanations for depression.

(8 marks + 16 marks)

AO1= 8 marks

AO1 credit is awarded for an outline of psychological explanations for depression requiring two or more to be covered. Students can gain A01 credit using:

- explanations drawn from different models eg one cognitive, one behavioural
- explanations drawn from the same model eg two cognitive explanations
- an approach presented as an explanation, eg the psychodynamic approach.

Explanations do not need to be equally balanced for top band marks and examiners should be mindful of depth/breadth issues where more than two explanations are covered.

The main psychological explanations of depression are:

- behavioural – Lewinsohn (1974) lack of positive reinforcement leading to social withdrawal and self-perpetuating cycle
- cognitive – Beck's (1967) cognitive triad emphasises negative thoughts about the self, the world and the future. Other cognitive distortions include overgeneralization and magnification
- attributional style (Abramson, 1978) focuses on attribution of success and failure. Depressed people attribute failure internally and see circumstances as global and stable, leading to self-blame and hopelessness
- socio-cultural – adverse/stressful life events as a trigger to depression
- psychodynamic – importance of unconscious forces and early experiences in oral stage. Loss leads to anger which is turned inwards. Bowlby emphasised the importance of attachment experiences and separation from primary caregiver.

Learned helplessness (Seligman, 1975) may be presented as a behavioural or cognitive explanation or as part of a combined cognitive-behavioural explanation. Learned helplessness is creditworthy but description should be shaped towards the psychological elements of the model.

If only one explanation is covered, partial performance criteria apply with a maximum mark of 5.

AO1 8 marks Knowledge and understanding

<p>8-7 marks Sound 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>6-5 marks Reasonable 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 maximum 5 marks: Coverage of one explanation is sound.</i></p>
<p>4-3 marks Basic Knowledge and understanding are basic/relatively superficial. A restricted range of material has been presented. Organisation and structure of the answer are basic. <i>Partial performance: Coverage of one explanation is reasonable.</i></p>
<p>2-1 mark Rudimentary Knowledge and understanding are rudimentary and may be muddled and/or inaccurate. The material presented may be very brief or largely irrelevant. Lacks organization and structure. <i>Partial performance: Coverage of one explanation is basic.</i></p>
<p>0 marks No creditworthy material.</p>

AO2/3 = 16 marks

AO2/AO3 credit is awarded for commentary on psychological explanations of depression. Likely routes to AO2 /AO3 credit include research that supports or challenges the explanation eg

- behavioural/ learned helplessness – Hiroto and Seligman (1974) demonstrated that students exposed to uncontrollable events were more likely to fail subsequent cognitive tasks
- cognitive - explanations have received considerable support (eg Seligman 1974, Bates et al, 1999) and provide the basis of cognitive therapies which are highly effective in treating depression
- socio-cultural – supported by Brown and Harris (1978/1989) Kendler et al. (1995)
- psychodynamic – eg Bifulco et al. (1992) identified higher rates of depression in women who had suffered maternal loss in childhood.

Methodological evaluation of research studies can only be awarded credit if the implications for the explanation are made clear.

As the question asks for discussion, wider commentary is also likely to form part of A02/3. The effectiveness of therapies can be used as a means of evaluation as can issues specific to each explanation eg cognitive explanation 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 in relation to human depression.

Consideration of biological explanations of depression can receive credit when used as sustained critical commentary on psychological explanations.

Undeveloped generic evaluations eg determinist / reductionist should receive rudimentary credit.

Because evaluation can be generic to explanations, partial performance criteria do not apply.

AO2/3 16 marks commentary

16-13 marks Effective

Commentary demonstrates 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

Commentary demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident. Most ideas 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

Commentary demonstrates 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

Commentary is 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.

Phobic disorders**Question 05**

Outline and evaluate **one** psychological explanation for phobic disorders. **(4 marks + 8 marks)**

AO1 = 4 marks

AO1 credit is awarded for an outline of one psychological explanation for phobic disorders. Students may present, for example, an overview of the behaviourist approach to phobia as their explanation or may focus on a single element of this such as classical conditioning.

Psychological explanations:

- behavioural – eg classical / operant conditioning, Mowrer's two stage model, modelling (SLT)
- psychodynamic – phobias arise to defend the ego against repressed anxiety. Anxiety is displaced onto phobic object which symbolises the original conflict
- cognitive-behavioural – irrational thoughts and beliefs underlie phobias.

AO1 4 marks knowledge and understanding

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

AO2/3 = 8 marks

AO2/3 credit is awarded for an evaluation of the psychological explanation for phobic disorders offered as AO1. Likely routes to AO2/AO3 credit include:

- research that supports/challenges the explanation eg behavioural – case study of Little Albert (Watson and Raynor, 1920), Bandura and Rosenthal (1966) and Mineka (1989) demonstrate the importance of learning; psychodynamic – case study of Little Hans (Freud)
- the effectiveness of therapies eg the effectiveness of CBT demonstrates how irrational thoughts and beliefs underlie phobias (Davey, 1999)
- different causal factors for different types of phobia eg agoraphobia, social phobia
- the possibility of multiple contributory factors, for example, a discussion of the diathesis–stress model as a way of combining psychological and biological factors.

Note that detailed description of research studies (eg Little Hans, Little Albert) may contain material that is more appropriately credited as AO1. Such material must not be double credited as AO2.

Reference to biological explanations may gain AO2/3 credit but only where it is used to provide a sustained commentary on psychological explanations.

Undeveloped generic evaluations (eg determinist / reductionist) should receive rudimentary credit.

Methodological evaluation of research studies can only be awarded credit if the implications for the explanation are made explicit

AO2/3 8 marks evaluation

<p>8-7 marks Effective Evaluation demonstrates 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>6-5 marks Reasonable Evaluation demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident. Most ideas appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.</p>
<p>4-3 marks Basic Evaluation demonstrates 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>2-1 marks Rudimentary Evaluation is 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>0 marks No creditworthy material.</p>

Question 06

Outline and evaluate **one** psychological therapy for phobic disorders. **(4 marks + 8 marks)**

AO1 = 4 marks

AO1 credit is awarded for an outline of one psychological therapy which must be explicitly related to phobic disorders. Likely material includes:

- behavioural therapies – systematic desensitisation (Wolpe 1958) is based on counter-conditioning and involves relaxation techniques, establishment of a hierarchy of fears and graded exposure: may be carried out in vivo or in vitro; exposure therapy (flooding) and modelling
- cognitive-behavioural therapies – RET (Ellis 1957) involves challenging irrational beliefs through confrontation and dispute; Meichenbaum's SIT (1977) involves the use of positive self-statements to eradicate faulty internal dialogue; Davey (1999) involves downplaying fears by threat devaluation, denial and cognitive disengagement
- psychoanalytic therapies – focus on dealing with childhood causes of inner conflict.

Students may present, for example, an overview of behaviourist therapies for phobia or may focus on a single behaviourist therapy such as systematic desensitisation.

Appropriate psychological therapies which are not explicitly shaped to phobias (for example a straightforward description of psychoanalysis) cannot gain more than one mark.

AO1 4 marks knowledge and understanding

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

AO2/3 = 8 marks

AO2/3 credit is awarded for an evaluation of the psychological therapy presented as A01. Students are likely to consider effectiveness and appropriateness of the therapy given the focus of the Specification.

Better answers are likely to refer to the findings of outcome studies demonstrating effectiveness and issues around measuring effectiveness:

- systematic desensitization/ exposure therapies have shown success rates of around 75% - 80 % (McGrath et al 1990, Marks 1990) but dropout rates are high. In vivo tends to be more effective than covert desensitization
- CBT : produces the most long term improvement (Clark et al. 1994) and is more effective than relaxation and drugs for agoraphobia (Beck 1994) Threat devaluation is more effective for agoraphobia and social phobias than for specific phobias
- psychoanalytic therapy is time consuming and there is limited evidence of effectiveness. More recent studies (Knijnik et al. 2004) have suggested some improvements over placebo.
- Therapies may not address the underlying cause of the phobia.

Reference to biological therapies may gain AO2/3 credit but only where it is used to provide a sustained commentary on psychological therapies.

Undeveloped generic evaluations (eg more supports nurture side of nature nurture hypothesis / reductionist) should receive rudimentary credit.

Methodological evaluation of research studies can only be awarded credit if the implications for the therapy are made explicit.

AO2/3 8 marks evaluation

<p>8-7 marks Effective Evaluation demonstrates 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>6-5 marks Reasonable Evaluation demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident. Most ideas appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling only occasionally compromise meaning.</p>
<p>4-3 marks Basic Evaluation demonstrates 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>2-1 marks Rudimentary Evaluation is 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>0 marks No creditworthy material.</p>

Obsessive Compulsive Disorder

Question 07

Outline the clinical characteristics of obsessive compulsive disorder (OCD).
(4 marks)

AO1 = 4

AO1 credit is awarded for an outline of the clinical characteristics of OCD. With regard to DSM, students may refer to characteristics described in DSM IV where OCD is listed as an anxiety disorder or DSM V in which OCD has its own chapter. Either is creditworthy.

The main diagnostic criteria include:

- the presence of obsessions (recurrent, persistent thoughts, impulses or images) and/or compulsions (repetitive behaviours that the person feels driven to perform) on most days for a period of two weeks or more
- obsessions and compulsions are repetitive, unpleasant, cause anxiety and interfere with daily life.

For 4 marks, students should refer to both obsessions and compulsions. Examiners should be mindful of the time constraints when awarding credit.

Students may bullet point their answer. If the content is accurate and detailed, this is acceptable for top band marks.

AO1 4 marks knowledge and understanding

4 marks Sound Knowledge and understanding are accurate and well detailed.
3 marks Reasonable Knowledge and understanding are generally accurate and reasonably detailed.
2 marks Basic Knowledge and understanding are basic/relatively superficial.
1 mark Rudimentary Knowledge and understanding are rudimentary and may be very brief, muddled and/or inaccurate.
0 marks No creditworthy material.

Question 08Outline **one** biological therapy for OCD.**(4 marks)****AO1 = 4 marks**

AO1 credit is awarded for an outline of one biological therapy for OCD. Likely material includes:

- drug therapy: antidepressant drugs particularly those affecting serotonin such as SSRIs (eg clomipramine) and tricyclics.
- psychosurgery: technologies such as anterior cingulotomy are used on the cortico–striatal circuit
- transcranial magnetic stimulation (TMS) of supplementary motor area.

Students may present, for example, an overview of drug therapy or may focus on a single drug.

AO1 4 marks knowledge and understanding

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

Question 09

Evaluate biological therapies for obsessive compulsive disorder (OCD).
(16 marks)

AO2/3 = 16 marks

AO2 credit is awarded for an evaluation of biological therapies for OCD. Description of therapies cannot gain credit. Although the question refers to therapies in the plural, partial performance criteria do not apply here as evaluative points (eg about drugs) can refer to different kinds of drugs.

Students are likely to consider effectiveness and appropriateness of biological therapies given the focus of the specification. Better answers are likely to refer to the findings of outcome studies and problems of measuring effectiveness (eg when to measure, how to measure, what criteria to choose, placebo effects).

Effectiveness:

- SSRI's are effective (see Soomro et al., 2008's review of 13 studies). Clomipramine is effective but relapse is likely when medication is stopped (Thoren et al., 1980, Maina et al., 2001).
- Cingulotomy is used as a last resort: it is safer than most other surgery procedures but there are side effects such as memory deficits/ incontinence. Effectiveness figures start at around 25% (eg Dougerty et al 2002 – 32% improvement in sample of 44) It is irreversible
- TMS : is a relatively new treatment but is providing promising results.

Appropriateness:

- Factors affecting the choice of treatment eg financial constraints, accuracy of original diagnosis
- Ethical issues eg informed consent, possible harmful side effects
- Drugs treat symptoms rather than causes and side effects may lead a proportion of patients to discontinue treatment.

Reference to psychological therapies may gain AO2/3 credit but only where it is used to provide a sustained commentary on biological therapies. For example, psychological therapies such as Exposure and Response Prevention (ERP) are more effective generally than drug treatments (Foa et al., 2005).

Undeveloped generic evaluations (eg more scientific / supports nature side of nature nurture hypothesis / determinist / reductionist should receive rudimentary credit.

Methodological evaluation of research studies can only be awarded credit if the implications for the therapy are made explicit.

AO2/3 16 marks evaluation**16-13 marks Effective**

Evaluation demonstrates 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 demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident. Most ideas 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 demonstrates 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 is 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.

Section B Psychology in Action

Media Psychology

Question 10

Describe findings of **one or more** studies into the negative effects of video games on behaviour.
(4 marks)

AO1= 4

AO1 credit is awarded for the findings of one or more studies into the negative effects of video games on behaviour. This could be interpreted as detailed findings of one study or less detailed findings of several. Credit should not be awarded for description of the aims/procedures of research studies or for findings of research studies from other forms of media.

Likely material includes:

- experiments (eg Anderson et al 2007) have shown that children who play a violent game deliver stronger punishments to others than control groups
- meta analyses (eg Anderson and Bushman, 2001) indicate that gaming has a stronger effect on cognitions followed by aggressive thoughts and physiological arousal
- violent games which are sexually explicit can lead to objectification of women and acceptance of interpersonal violence (eg Dill et al 2008) and games with elements of racial stereotypes can promote racist thinking (Burgess et al., 2007)
- individual differences research (eg Peng et al., 2008, Markey and Markey 2010) demonstrates an interaction between personality type (eg high neuroticism) and responsiveness to violent games. Many studies have found that boys are more influenced by violent games than girls.

AO1 mark bands knowledge and understanding

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

Question 11

Obesity is a serious public health concern and the government wishes to encourage people to become more physically active. The government decides to use a TV advertising campaign to encourage adults to be more physically active, such as walking to work.

Use your knowledge of the Elaboration Likelihood Model of persuasion to suggest features of a successful TV advertising campaign to encourage adults to become more active. **(10 marks)**

AO2 = 10 marks

AO2 credit is awarded for application of the Elaboration Likelihood Model to suggest features of a TV advertising campaign which will successfully encourage physical activity in adults:

- the central route to persuasion requires cognitive effort; adverts are designed to capture attention & persuade rationally with the use of facts and figures. Central route adverts to promote walking should refer to health benefits and include factual or possibly scientific information (eg effects of exercise on reduction of heart disease)
- the peripheral route to persuasion; adverts using this route require little cognitive effort and superficial cues (eg images) are processed by the recipient. Attractiveness and likeability of the message source are important features. Adverts are unlikely to include factual information. These kinds of adverts may be targeted at adults with a lower need for cognition.

Effective answers are likely to refer to both routes but students who provide accurate and detailed application of one route can achieve full marks.

As the question refers to a successful advertising campaign, students could include reference to research studies which have demonstrated success of either/both routes. This material can receive credit but marks should be awarded on the basis of how material is used to justify suggestions.

Students who select potentially relevant material but do not apply it to the scenario should be awarded a maximum of 4 marks.

AO2/3 10 marks application**9-10 marks Effective**

Explanation /application demonstrate sound analysis and understanding.
Application of knowledge is well focused and effective.
Ideas are well structured and expressed clearly and fluently.

6-8 marks Reasonable

Explanation /application demonstrate reasonable analysis and understanding.
Application of knowledge is generally focused.
Most ideas are appropriately structured and expressed clearly.

3-5 marks Basic

Explanation /application demonstrate basic analysis and superficial understanding.
Application is sometimes focused.
Expression of ideas lacks clarity.

<p>1-2 marks Rudimentary Explanation /application are rudimentary demonstrating very limited understanding. The answer is weak, muddled and may be mainly largely irrelevant. Deficiency in expression of ideas results in confusion and ambiguity.</p>
<p>0 marks No creditworthy material.</p>

Question 12

Outline **one** evolutionary explanation of attraction to celebrity **(4 marks)**

AO1 = 4 marks

AO1 credit is awarded for an outline of one evolutionary explanation of attraction to celebrity. 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.

Other explanations (eg entertainment as play theory and leisure time theory) could be used as long as links are made to attraction to celebrity.

Social psychological explanations cannot receive credit.

AO1 4 marks knowledge and understanding

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

Question 13

Evaluate evolutionary explanations of attraction to celebrity.

(6 marks)

AO2/3 = 6 marks

AO2 3 credit is awarded for discussion and commentary on evolutionary explanations of attraction to celebrity in general. Commentary can be focused on the explanation presented in question 12 and / or the evolutionary approach more generally:

- archeological 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 links to low self-esteem. These can gain credit when used as critical commentary on evolutionary explanations.

A02/3 mark bands Evaluation

<p>6 marks Effective Evaluation demonstrates sound analysis, understanding and interpretation. The answer is well focused and shows coherent elaboration and / or a clear line or 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>5-4 marks Reasonable Evaluation demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration. Most ideas are appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling occasionally compromise meaning.</p>
<p>3-2 marks Basic Evaluation demonstrates 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>1 mark Rudimentary Evaluation is 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>0 marks No creditworthy material.</p>

The Psychology of Addictive Behaviour

Many smokers make repeated attempts to give up, but start smoking again. A health psychologist attended a 'Stop smoking' group at a medical centre and recorded the reasons given by smokers for previous relapses. The most common reason was unpleasant withdrawal symptoms such as physically craving a cigarette. Other reasons were socializing with smokers and thinking that smoking would relieve stress.

Question 14

Use your knowledge of models of addiction to explain **two** of the reasons for relapse in the above scenario. **(10 marks)**

AO2 = 10 marks

AO2 credit is awarded for application of knowledge about models of addiction to two of the three reasons for relapse given in the scenario. These are:

- unpleasant withdrawal symptoms such as physically craving for a cigarette: explained by the biological model. Over time, repeated use of a substance leads to tolerance. The body adapts to the substance and is in equilibrium during its use (neuroadaptation). Withdrawal of the substance leads to disequilibrium which is experienced as unpleasant withdrawal symptoms or cravings for a cigarette. Students could refer to the sensitivity of the mesolimbic dopamine pathway
- socialising with smokers: classical conditioning (behavioural model) focuses on the conditioned associations which lead smokers to relapse. Socialising with other smokers provides smoking cues which can trigger relapse. Social learning theory emphasises the importance of observational learning from role models
- thinking that smoking would relieve stress: the cognitive model emphasises the importance of beliefs and internal dialogue in relapse.

Students who refer to one reason for relapse only, can be awarded a maximum of 6 marks. Students who select potentially relevant material but do not apply it to the scenario should be awarded a maximum of 4 marks.

AO2/3 10 marks application**9-10 marks Effective**

Explanation /application demonstrate sound analysis and understanding.
 Application of knowledge is well focused and effective.
 Ideas are well structured and expressed clearly and fluently.

6-8 marks Reasonable

Explanation /application demonstrate reasonable analysis and understanding.
 Application of knowledge is generally focused.
 Most ideas are appropriately structured and expressed clearly.
 Or partial performance - application of knowledge to one reason for relapse is effective (maximum 6 marks).

3-5 marks Basic

Explanation /application demonstrate basic analysis and superficial understanding.
 Application is sometimes focused.
 Expression of ideas lacks clarity.
 Or partial performance - application of knowledge to one reason for relapse is reasonable.

1-2 marks Rudimentary

Explanation /application are rudimentary demonstrating very limited understanding.
 The answer is weak, muddled and may be mainly largely irrelevant.
 Deficiency in expression of ideas results in confusion and ambiguity.
 Or partial performance - application of knowledge to one reason for relapse is basic.

0 marks

No creditworthy material is presented.

Question 15

Discuss the influence of media on addictive behaviour.

(4 marks + 6 marks)

AO1= 4 marks

AO1 credit is awarded for a description of the influence of media on addictive behaviour. This is a broad question and there is a wealth of relevant material available on both positive and negative influences of media on addiction, so answers should be read carefully. Students can focus on the processes by which the media influences and/ or the nature or impact of the influence (evidence that it does/doesn't affect etc).

Likely material on media influences includes:

- regulations restricting advertising of alcohol and smoking and subsequent decreases in smoking rates: Advertising bans (smoking)
- use of media (eg television) to deliver public health campaigns targeted at drinking and smoking
- adverts promoting gambling (eg National Lottery)
- portrayal of smoking in films (eg Hazan 1994, Sargent 2007, Waylen 2011)
- role models (eg celebrities) glamourizing substance use.

Students who focus on process eg social learning theory (modeling) must apply this material to the learning of addictive behaviour. General descriptions of social learning (eg Bandura's bobo dolls) which are not shaped to addictive behaviour cannot receive credit.

Answers comprised only of examples of media influence eg alcohol adverts during sporting events will receive a maximum of one mark.

AO1 4 marks knowledge and understanding

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

AO2 = 6 marks

The question requires a discussion of media influence, so wider commentary should be rewarded. This could involve:

- the difficulties in establishing cause and effect relationships in media research which is predominantly correlational
- interactions between media influence and other influences (eg parents/peers)
- comparison of the relative strength of different influences
- the importance of the wider social context on addictive behaviours (eg prevailing attitudes to smoking, drinking & gambling).

Methodological evaluation of research studies presented as AO1 is only creditworthy if it is used to comment on media influence.

AO2/3 6 marks commentary

<p>6 marks Effective. Commentary demonstrates sound analysis, understanding and interpretation. The answer is well focused and shows coherent elaboration and / or a clear line or 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>5-4 marks Reasonable Commentary demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration. Most ideas are appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling occasionally compromise meaning.</p>
<p>3-2 marks Basic Commentary demonstrates 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>1 mark Rudimentary Commentary is 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>0 marks No creditworthy material.</p>

Question 16

Outline **one** biological intervention for treating addictive behaviour. **(4 marks)**

AO1 = 4 marks

AO1 credit is awarded for an outline of one biological intervention for the treatment of addictive behaviour. One intervention could be defined specifically (eg nicotine replacement therapy) or generically (drugs) Better answers are likely to be shaped around a specific addiction; no AO1 marks are awarded for identifying the addiction.

Main treatments include:

- nicotine replacement therapy (NRT) aimed at preventing withdrawal symptoms through decreasing supply of nicotine via gums or patches.

Drugs:

- varenicline: a nicotine receptor partial agonist which reduces cravings and decreases the pleasurable effects of smoking
- bupropion (brand name Zyban) is a widely used anti-depressant. It increases brain levels of dopamine via prevention of reuptake and may also act on other neurotransmitters
- methadone (heroin substitute) is a synthetic opioid used as a less dangerous replacement for heroin and other opiates.

For reasonable marks the outline should include some reference to mode of action. Other creditworthy material could include timescale, dosage etc. Evaluation is not required but description of side effects can gain credit.

AO1 4 marks knowledge and understanding

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

Anomalistic Psychology

Question 17

Outline **two** methodological issues in the study of psychokinesis. **(2 marks + 2 marks)**

AO1 = 2 + 2 marks

AO1 credit is awarded for an outline of two methodological issues in the study of psychokinesis (the supposed ability to move an object by mental intention alone). Methodological issues could relate to macro PK or micro PK. Award 1 mark for basic identification of a methodological issue and a second mark for accurate elaboration.

Methodological issues in macro PK

- The 'risk of artefacts' eg natural biases in the manufacture of dice that may emerge statistically after many rolls, natural weighting of dice - sides are unequal due to number of 'slots'.

Methodological issues in micro PK

- In micro PK, results are discernible only via statistical analysis: deviation from chance does not necessarily mean that psychic powers are involved in significant results.

Methodological issues in both

- Lack of consistent results when replicated by skeptics
- Lack of ecological validity in experimental studies especially in micro PK.

Students may also refer to deliberate fraud. This can be awarded 1 mark as it occurs in demonstrations of PK rather than scientific studies.

Definitions of PK and descriptions of ESP (Ganzfeld) are not creditworthy.

Question 18

Sam and Zara share a flat which Sam thinks may be haunted. Sam occasionally feels a 'presence' in the kitchen and doors seem to open mysteriously during the night. Sam loves risky sports and friends describe him as outgoing and willing to try anything new. Zara, on the other hand, does not believe the flat is haunted. She prefers more sedate activities, and friends describe her as cautious and reserved.

Use your knowledge of personality factors underlying anomalous experience to explain the differences between Sam and Zara. **(10 marks)**

AO2 = 10 marks

AO2 credit is awarded for application of knowledge about personality factors to the two characters in the scenario. The personality factors identified in the scenario are sensation seeking, extroversion and openness to experience. Sam is identified as an extrovert, risk taker (sensation seeker) who will try anything new (open to experience) hence should be more likely to be prone to anomalous experiences than Zara who is unwilling to try new things (cautious) and reserved (introverted).

There is a wealth of material (some contradictory) on personality factors and anomaly proneness. Relevant material could include:

- Studies on extroversion: extroversion is associated with the reporting of anomalous experiences (eg seeing ghosts) Honorton et al., (1998) extroverts score more highly on ESP than introverts
- Risk taking/sensation seeking: significant correlations between SS and anomaly proneness (Gallagher et al 1994), belief in paranormal associated with seeking novel, thrilling experiences (Kumar et al (1993)
- Openness to experience is a robust predictor of anomaly proneness (Eudell and Campbell 2007).

To achieve top band marks, students should provide relevant explanations for both Sam and Zara. The marks awarded will depend on how effectively knowledge is applied to the scenario. Students who refer to one of the characters in the scenario only, can be awarded a maximum of 6 marks.

Students who select material on appropriate personality factors but do not apply it to the scenario should be awarded a maximum of 4 marks.

AO2/3 10 marks application

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

Question 19

‘Research has revealed a number of scientific explanations for near death experiences’. Outline **one** such explanation for near death experiences and evaluate this explanation using research evidence. **(4 marks + 6 marks)**

AO1 = 4 marks

AO1 credit is awarded for an outline of one explanation for NDE’s. Students could choose to cover one explanation in detail or take a meta approach and present the ‘biological or cognitive explanation’. Both of these approaches to the question are creditworthy.

Neurological explanations of NDE’s include:

- the release of endorphins (naturally produced pain killers) may bring about the reported feelings of euphoria and peace
- cortical anoxia (depletion of oxygen): may explain ‘light at the end of the tunnel’
- abnormal temporal lobe activity / stimulation - could produce body distortions
- ketamine model (Jansen 1997): ketamine, a drug which acts on the temporal and frontal lobes produces symptoms of NDE’s including the ‘tunnel’ and mystical experiences.

Psychological explanations:

- Holden et al (2010) explain NDE's as a type of dissociative experience/depersonalization which emerges to protect the self from the threat of death
- Sagan (1979) argues that NDE's involve the reliving of a birth memory (thus having psychodynamic elements) and the tunnel represents memory of the birth canal
- Expectation and culture (eg religious beliefs) influence the type of NDE reported.

The quote cues students towards scientific explanations. Since they are not rooted in research, spiritual and philosophical explanations cannot gain credit. Explanations of OBE's cannot receive credit.

AO1 4 marks knowledge and understanding

4 marks Sound Knowledge and understanding are accurate and well detailed. Organization and structure of the answer are coherent.
3 marks Reasonable Knowledge and understanding are generally accurate and reasonably detailed. Organization and structure of the answer are reasonably coherent.
2 marks Basic Knowledge and understanding are basic/relatively superficial. Organization and structure of the answer are basic.
1 mark Rudimentary Knowledge and understanding are rudimentary and may be very brief, muddled and/or inaccurate. Lacks organization and structure.
0 marks No creditworthy material.

AO2/3 = 6 marks

AO2/ 3 credit is awarded for evaluation of the explanation presented as A01 in terms of research evidence This is likely to take the form of research evidence which supports or contradicts the explanation.

Relevant evidence could include:

- people with temporal lobe epilepsy sometimes report experiences which mirror NDE's (Britton and Bootzin 2004) supporting the importance of temporal lobe in NDE
- NDE's are more common in those who experienced childhood trauma (Holden et al., 2010) supporting the link with dissociation
- NDE's and tunnel experiences appear equally common in those born by caesarean section contradicting Sagan's explanation (Blackmore, 1982).

Methodological evaluation of research evidence is only creditworthy if the implications for the explanation are made explicit.

AO2/3 6 marks Evaluation

<p>6 marks Effective. Commentary demonstrates sound analysis, understanding and interpretation. The answer is well focused and shows coherent elaboration and / or a clear line or 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>5-4 marks Reasonable Commentary demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration. Most ideas are appropriately structured and expressed clearly. Appropriate use of psychological terminology. Minor errors of grammar, punctuation and spelling occasionally compromise meaning.</p>
<p>3-2 marks Basic Commentary demonstrates 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>1 mark Rudimentary Commentary is 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>0 marks No creditworthy material.</p>

Section C Psychological Research and Scientific Method**Question 20**

Write a fully operationalised non-directional hypothesis for the above experiment. **(3 marks)**

AO3 = 3 marks

AO3 credit is awarded for writing a non-directional operationalised hypothesis for the experiment.

Award one mark for non-directional ('There is a difference') plus up to two further marks for an increasingly operationalised non-directional hypothesis.

For example, 'there is a difference in the number of names recalled from the audio recording between participants who doodle whilst listening and those who listen without distractions' – operationalised, 3 marks. 'There is a difference in the number of names recalled from the audio recording between the groups') – partially operationalised, 2 marks.

Award no marks for a null hypothesis or directional hypothesis.

Question 21

Identify the sampling strategy used by the teacher and explain implications of using this sample in this experiment. **(1 mark + 4 marks)**

AO3 = 5 marks

Award one mark for identification of the sampling strategy used by the teacher as an opportunity sample (the teacher uses two of his classes of AS students). Award no marks for random sample, volunteer sample or describing an opportunity sample.

4 marks are awarded for explaining implications of using this sample within the context of the experiment. The main implication of using an opportunity sample of AS level psychology students is a limited ability to generalise beyond this group:

- They may have studied memory / cognitive psychology, hence may not be naive to memory research.
- They may be susceptible to demand characteristics or attempt to provide data which pleases their teacher.
- The students may be aged 16-18, hence may be younger than the student population in general.
- They may be more intelligent than the general population. This limits the ability to generalise to a wider student/ adult population, reducing population validity
- This is a relatively small sample hence is unlikely to be representative.

AO3 4 marks

4 marks Sound Implications of the sampling strategy are explained in detail and are accurate.
2-3 marks Reasonable Implications of the sampling strategy are identified and the answer is generally accurate.
1 mark basic There is basic identification of an implication of the sampling strategy (eg ‘ students so can’t generalize ’) or a very brief answer (biased sample).
0 marks No creditworthy material.

Question 22

Identify one control which was implemented in this experiment and explain why this control was important. **(1 mark + 2 marks)**

A03 = 3 marks

Two controls are mentioned in the stem:

- the use of the same 2 minute audio recording: this is important as both conditions are exposed to the same information and the same number of names. If different messages were used one might be more or less difficult than the other
- the use of standardised instructions: important as they ensure that all participants are given the same information about what they are required to do. Lack of standardized instructions could mean more or less information is provided to participants.

Award one mark for identifying a control and a further two marks for explanation of why the control was important. Where more than one control is covered, award credit for the best answer.

Question 23

Explain how the teacher might have dealt with the ethical issue of deception in this experiment.
(4 marks)

AO3 = 4 marks

AO3 credit is awarded for an explanation of how the teacher could deal with the deception involved in the experiment.

The experiment involves deliberate deception. This contradicts the BPS Principles/Code of Ethics which distinguishes between withholding details of a hypothesis and deliberately providing false information about the purpose of research. Possible answers include:

- Debriefing. At the end of the experiment, the teacher should provide clear & detailed information about the purpose of the experiment and the reason for deception. This debriefing should identify any unforeseen harm or discomfort and make arrangements to deal with these as necessary.
- The teacher should have presented his idea to an ethics panel / committee and gained prior approval for the deception. This should also involve the identification of explicit procedures to remove any potential harm.
- presumptive consent: a group of people who are similar to the participants are asked their opinion on the proposed deception in the experiment. If they see the deception as acceptable and would have consented on knowing the purpose, it is assumed that the participants will feel the same
- prior general consent: the teacher may have asked his students to consent to taking part in a range of experiments in class, some of which might involve deception, with debriefing to follow.

AO3 4 marks**4 marks Sound**

An appropriate method of dealing with deception is identified and explained in detail. Material is accurate. Or several methods are identified and discussed accurately in less detail.

2-3 marks Reasonable

One or more methods for dealing with deception are identified and discussed. The answer is generally accurate.

1 mark basic

Basic identification of a method of dealing with deception (eg 'debriefing') or very brief answers ('Telling them about the experiment at the end').

0 marks

No creditworthy material.

Question 24

What level of measurement is required when carrying out the Mann–Whitney U test? **(1 mark)**

AO3 = 1 marks

AO3 credit is awarded for identifying that the Mann–Whitney U test treats data as being at an ordinal level of measurement.

Award one mark for ordinal data or 'at least ordinal data'.

Award no marks for nominal data, interval / ratio data or a list of answers.

Question 25

Using Table 1, state whether the value of $U = 124$ was significant. Explain your answer. **(3 marks)**

AO3 = 3 marks

Award:

One mark for stating that the result is significant.

If the decision is incorrect or no decision provided no marks can be awarded for the explanation.

Two further marks for explaining the decision in relation to the table.

- One mark for an explanation that makes an appropriate reference to the table, eg the calculated value of U is less than the table value.
- Two marks for a detailed explanation, eg the calculated value of U (124) is significant at $p=0.05$ as it is less than the critical value of 127 for $n_1=20$, $n_2=20$.

Question 26

What is a theory? **(2 marks)**

AO1 = 2 marks

AO1 credit is awarded for a definition of what is meant by the term 'theory'. A theory is a framework / explanation for describing a phenomenon. It may be based on observations about the world or on empirical data derived from hypothesis testing.

This question is challenging for students and definition may well be embedded within the explanation of the part played by theories in the scientific process.

Award one mark for a basic definition (eg 'a theory is an idea or concept about how something works'). Award one further mark for appropriate elaboration.

No credit can be awarded for defining / outlining a hypothesis.

Question 27

Why is theory construction a major feature of how science works? **(4 marks)**

AO3 = 4 marks

Theory construction is a major element of how science works. Science progresses through a cycle in which ideas (theories) are tested by empirical methods and refined in the light of evidence.

- Theory construction enables predictions to be made which can be translated into hypotheses and tested empirically.
- The data obtained from using empirical methods can be used to support / reject / refine the original theory.
- This knowledge allows theory construction and testing to progress through the scientific cycle of enquiry.

AO3 mark bands

4 marks Sound Accurate and detailed coverage of the role played by theories in the scientific process covering some of the above bullet points.
2-3 marks Reasonable Reasonable coverage of the role played by theories in the scientific process covering some of the above bullet points.
1 mark basic Very brief or muddled discussion of the role of theories in science.
0 marks No creditworthy material.

Question 28

A colleague of the teacher noticed that there were large individual differences in the scores. He suggested that the teacher should have used a repeated measures design.

Design an experiment to test whether doodling affects recall, using a repeated measures design. As part of your answer you should explain how you would control extraneous variables associated with the repeated measures design, and the materials you would use.

You are not required to explain how you would deal with ethical issues or sampling in your experiment. **(10 marks)**

No marks can be awarded for an experiment which does not have a repeated measures design or for an investigation that does not predict a difference.

AO3 = 10 marks

AO3 credit is awarded for designing a repeated measures experiment with explicit coverage of controls and materials. No marks can be awarded for discussion of ethical issues or sampling.

Answers should include reference to the following:

- the same group of participants perform in both conditions of the experiment (doodling and not doodling).
- a major extraneous variable in the repeated measures design is the possibility of order effects (eg practice or boredom) which are usually controlled via counterbalancing or randomisation. The sample should be divided randomly into two sub groups: half carry out task A followed by B and the other half B followed by A
- there should be some sort of time interval or distractor task between the two conditions: reward students who identify an appropriate time interval between the conditions
- the repeated measures design requires the construction of two carefully matched sets of materials as the same test cannot be used twice. Students can use the idea of an audio recording from the original experiment or can suggest their own memory test. However, they need to explain the idea that two sets of materials are required and these should be matched for difficulty.

Other material can receive credit, provided it illustrates the design of the experiment (eg standardised instructions for both conditions could do this).

Students have received credit for writing an hypothesis on question 20 so no marks available here for hypotheses.

AO3 10 marks Design an investigation**10 - 9 Effective design**

The answer demonstrates sound knowledge and understanding of experimental design. There is accurate and detailed explanation of how order effects would be controlled and matched materials constructed.

8 - 6 Reasonable design

The answer demonstrates reasonable knowledge and understanding of experimental design. There is appropriate reference to the need to control to order effects by counterbalancing but some details (eg time interval, need for matched materials) may be omitted.

5 - 3 Basic design

The answer demonstrates limited knowledge and understanding of experimental design. There is some reference to the need to control to order effects but description of how this would be done lacks detail and/ or clarity. There is likely to be little coverage of the need for matched materials.

2 - 1 Rudimentary design

Design decisions are muddled and/ or mostly inappropriate and the description lacks clarity.

0 Marks

No creditworthy material.

Assessment Objectives

Question	AO1	AO2/3	Total
Section A			
1	4		
2	4		
3		16	24
4	8	16	24
5	4	8	
6	4	8	24
7	4		
8	4		
9		16	24
Section B			
10	4		
11		10	
12	4		
13		6	24
14		10	
15	4	6	
16	4		24
17	4		
18		10	
19	4	6	24
Section C			
20		3	
21		5	
22		3	
23		4	
24		1	
25		3	
26		2	
27		4	
28		10	35

UMS conversion calculator www.aqa.org.uk/umsconversion