



---

A-LEVEL

# Psychology (Specification A)

PSYA3 Topics in Psychology

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).

## Biological rhythms and sleep

01 Discuss the role of endogenous pacemakers and of exogenous zeitgebers in the control of circadian rhythms. (8 marks + 16 marks)

**AO1 8 marks** Knowledge of the role of endogenous pacemakers and of exogenous zeitgebers in the control of circadian rhythms.

It is likely that for AO1 credit students will outline the interaction between pacemakers and zeitgebers in the control of circadian rhythms, while detail of the brain/physiological systems underlying the roles of endogenous pacemakers and of exogenous zeitgebers in the control of circadian rhythms will provide another popular route to AO1 credit. With this approach the findings of studies become AO2/3.

Students are likely to focus on research into the functions of the suprachiasmatic nucleus (SCN) and its interaction with light input in the control of sleep and waking, although examiners should also credit other relevant responses (e.g. rhythms associated with mealtimes or hormone release).

Answers that focus on the SCN and sleep may receive marks across the scale: for marks above Reasonable there should be an accurate description of light input from the retina reaching the SCN, and of pathways from the SCN to the pineal gland controlling the release of melatonin.

It is extremely unlikely but partial performance is technically possible on this question. Students describing the role of only endogenous pacemakers or exogenous zeitgebers may receive a maximum of 5 marks for AO1 and 10 marks for AO2/3.

### AO1 8 marks knowledge and understanding

#### 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

#### 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

#### 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

#### 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 organisation and structure

#### 0 marks

no creditworthy material

**AO2/3 16 marks** Commentary on the role of endogenous pacemakers and of exogenous zeitgebers in the control of circadian rhythms.

Research studies on disruption of biological rhythms are likely to provide the most effective route to AO2/3 credit. There are many studies of shift work and jetlag, and findings cover the psychological and physiological effects of disruption. Other relevant studies include ‘free running’ case studies in humans (e.g. Siffre’s cave study), research on the SCN in non-human animals, and work on the genetic basis of endogenous pacemakers.

However, reference to research must be placed in the context of the roles of endogenous pacemakers and exogenous zeitgebers to earn marks above Basic.

Methodological evaluation of studies (e.g. the reliability and validity of real-world research) will only earn marks if the implications for the question (the role of endogenous pacemakers and of exogenous zeitgebers in the control of circadian rhythms) are explicit.

Indicative issues, debates and approaches in the context of this question include the practical applications of findings. Some convincing studies, for instance, show that modifying shift work patterns on the basis of our knowledge of the interaction between pacemakers and zeitgebers can have significant beneficial effects on behaviour and health. Students may also refer to extrapolating from animals to humans, and the idiographic approach (case studies).

**AO2/3 Mark bands – Best fit**

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues and debates and/or approaches need to be addressed effectively.

**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. Issues/debates/approaches are used effectively. 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. Issues/debates/approaches are used in a reasonably effective manner. 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. Superficial reference may be made to issues/debates/approaches. 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. If reference is made to issues/debates/approaches, it is muddled and inaccurate. 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.

**Perception**

02 Outline and evaluate Bruce and Young's theory of face recognition.

(8 marks + 16 marks)

**AO1 = 8 marks** Outline of Bruce and Young's theory of face recognition

Bruce and Young's theory consists of several subcomponents or processes. These include structural encoding, expression analysis, facial speech analysis, face recognition units, person identity nodes, name generation and a cognitive system.

At least four of these should be included for answers in the top bands, and description should be accurate and well detailed.

Diagrams would be an effective way of presenting the model, but there must be some detail of the functions of individual components and of the interaction between components. For instance, boxes should contain outlines of the function of that module ('facial speech analysis'), with clear directional arrows showing links to other modules. If diagrams are presented without detail they may earn a maximum of 4 marks.

**AO1 8 marks knowledge and understanding****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

**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

**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
<b>2-1 mark Rudimentary</b> Knowledge and understanding are rudimentary and may be muddled and/or inaccurate The material presented may be very brief or largely irrelevant Lacks organisation and structure
<b>0 marks</b> no creditworthy material

### **AO2/3 = 16 marks** Evaluation of Bruce and Young's theory of face recognition

The main route to AO2/3 credit is likely to be research evidence. There have been many studies investigating this model, from diary studies and laboratory experiments on face recognition to case studies on brain damaged patients who show impairments of face recognition.

Implications of findings for the model must be clear for marks in the top bands e.g. through demonstrating separate routes for processing facial expressions and facial speech, or problems with defining the functions of the cognitive system.

Methodological evaluation of studies can earn AO2/3 marks if the implications for the theory are clear i.e. through comments on the reliability and validity of findings. This applies particularly to evidence from single case studies.

It would also be relevant to consider the considerable influence this theory has had on the psychology of face processing; this might involve the debate of whether face processing is analytic or holistic, or the ability of the model to account for such a wide range of research evidence.

The theory is periodically updated but students may refer to any version and receive marks across the range.

Indicative issues, debates and approaches in the context of the Bruce and Young's theory of face recognition include the cognitive approach and the nature-nurture debate.

#### **AO2/3 Mark bands – Best fit**

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues and debates and/or approaches need to be addressed effectively.

#### **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.  
Issues/debates/approaches are used effectively.  
Ideas are well structured and expressed clearly and fluently. Consistently effective use of psychological terminology. Appropriate use of grammar, punctuation and spelling.

<p><b>12-9 marks Reasonable</b></p> <p>Evaluation demonstrates reasonable analysis and understanding. The answer is generally focused and shows reasonable elaboration and/or a line of argument is evident. Issues/debates/approaches are used in a reasonably effective manner. 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><b>8-5 marks Basic</b></p> <p>Evaluation demonstrates basic, superficial understanding. The answer is sometimes focused and shows some evidence of elaboration. Superficial reference may be made to issues/debates/approaches. 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></p> <p>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. If reference is made to issues/debates/approaches, it is muddled and inaccurate. 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></p> <p>No creditworthy material is presented.</p>

## Relationships

03 Discuss theories of the formation **and/or** maintenance of romantic relationships.

8 marks + 16 marks)

**AO1 = 8 marks** Description of theories of the formation and/or maintenance of romantic relationships

- theories specific to the formation of relationships would include Murstein's matching hypothesis and filter theory. Students who only refer to individual factors without embedding them in theory can receive a max mark of 4.
- theories more focused on maintenance would be economic models such as social exchange theory and equity theory. It would be possible to justify these as also applying to formation
- reinforcement/affect and reward/need satisfaction approaches could be applied to either formation or maintenance
- evolutionary explanations are not excluded by this question but the focus must be on formation and/or maintenance of romantic relationships

Students are required to discuss at least two theories. Answers covering only one are showing partial performance and can receive a maximum of 5 marks for AO1 and 10 marks for AO2/3.

### **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</p>
<p><b>4-3 marks Basic</b>          Knowledge and understanding are basic/relatively superficial          A restricted range of material has been presented          Organisation and structure of the answer are basic</p>
<p><b>2-1 mark Rudimentary</b>          Knowledge and understanding are rudimentary and may be muddled and/or inaccurate          The material presented may be very brief or largely irrelevant          Lacks organisation and structure</p>
<p><b>0 marks</b>          no creditworthy material</p>

**AO2/3 = 16 marks** Commentary on theories for the formation and/or maintenance of romantic relationships

There are accessible research studies for all of the theories covering formation and/or maintenance of romantic relationships, and the findings of the studies should provide effective AO2/3 material. However the focus of studies should be on romantic relationships and examiners should be alert to studies on 'liking', which can receive only rudimentary credit on this question unless clearly shaped to relationship formation.

Some of the research is clearly highly artificial and laboratory-based and commentary on this lack of external validity would be relevant and effective. Additionally the ability of theories to explain e.g. people who stay in abusive relationships, the formation and/or maintenance of gay and lesbian relationships, or gender differences in attitudes to long-term relationships, would be an effective and relevant consideration.

Alternative theories can be used as commentary as long as there is a sustained focus on the question.

Indicative issues, debates and approaches (eg. the evolutionary approach) in the context of this question include cultural differences and biases. Research has been mostly conducted from a western point of view, ignoring factors more relevant to less developed societies.

**AO2/3 Mark bands – Best fit**

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues and debates and/or approaches need to be addressed effectively.

**AO2/3 16 Marks Commentary****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. Issues/debates/approaches are used effectively. 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. Issues/debates/approaches are used in a reasonably effective manner. 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. Superficial reference may be made to issues/debates/approaches. 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. If reference is made to issues/debates/approaches, it is muddled and inaccurate. 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.

## Aggression

04 Outline **one** social psychological theory of aggression (4 marks)

### AO1 - 4 marks

Students are likely to choose either social learning theory (SLT) or deindividuation as their social psychological theory of aggression. Also credit other relevant theories, as long as the focus is on social psychological factors.

SLT involves models, imitation, vicarious reinforcement, personal reinforcement and punishment, and underlying cognitive processes such as mental representation.

Although the precise terms may not be used for marks in the top band there must be reference to imitation, vicarious reinforcement and one other relevant factor. For instance students may outline the stages involved in social learning, and thereby cover imitation, vicarious reinforcement and one other relevant factor.

For deindividuation there should be reference to the loss of private self-awareness and increased anonymity (decreased public self-awareness).

Research studies may only receive credit if they provide an outline of the key features of a social psychological theory of aggression.

Note: Evaluative material is not creditworthy in this question part.

Examiners should be sensitive to the time constraints of this question part.

### 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.

05 Discuss evolutionary explanations of human aggression. (4 marks + 16 marks)

**AO1 = 4 marks** Outline of evolutionary explanations of human aggression

Evolutionary explanations of human aggression focus on specific areas where aggression is thought to be adaptive.

These include acquiring and protecting resources such as food, territory and mates, and status within the group, especially in males. High status then leads to greater access to resources in general and to mates in particular. Evolutionary explanations of group display would also be relevant.

AO1 detail for marks above Basic should therefore include the evolutionary context i.e. the need to ensure survival of one's genes.

Students are likely to consider the relationship between human aggression and infidelity and/or jealousy. This can make up the entire answer or alternatively form part of a more general essay on explanations of human aggression. Aggression in relation to infidelity and/or jealousy is usually linked to male mate-retention strategies in response to imagined or actual sexual infidelity. There is a range of mate-retention strategies several of which do not involve aggression of any sort. For credit to be earned students must retain a clear focus on human aggression.

If the focus of the answer is on infidelity and/or jealousy the evolutionary context would still be necessary for marks above Basic; this could include reference to potential cuckoldry and the evolutionary drive for men to invest resources only in their own offspring. Outlines of non-aggressive strategies (e.g. surveillance) might earn AO2/3 credit if used as relevant commentary on aggression in relation to infidelity/jealousy.

Examiners should be sensitive to the time constraints of this question part. Not all the above points need be covered for full marks.

#### **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.  Lacks organisation and structure.</p>
<p><b>0 marks</b>  no creditworthy material.</p>

**AO2/3 = 16 marks** Commentary on evolutionary explanations of human aggression

A range of research studies would provide highly effective AO2/3 material for this question. Studies on criminal aggression (perpetrated mainly by young poor males) can be linked to the relationship between status and aggression (e.g. Daley & Wilson, 1988).

Studies on tribes such as the Ache or !Kung San provide some support for the relationship between aggression in males and access to resources such as food and mates.

Further important points of evaluation/commentary include the use of different types of aggression, which can interact with gender differences in aggressive behaviour. Research studies have also supported gender differences in attitudes to infidelity, with males being more upset by sexual infidelity and females by emotional infidelity. As long as the focus remains on aggression, such studies are creditworthy as AO2/3 or IDA.

Methodological evaluation of studies may earn marks, but only if the relevance of the evaluation for *explanations* is explicit and sensible. For instance, given an evolutionary perspective, studies on non-human animals (especially primates) cannot be dismissed out of hand, as they often are.

Alternative explanations of human aggression, such as social psychological or biological (genetics, neurotransmitters) approaches, may earn marks if used effectively as evaluation of evolutionary explanations.

Issues, debates and approaches in this area include free will and determinism. The idea that human aggression is driven by our evolutionary past is highly deterministic. However, when students have provided research support for this view then it cannot simply be dismissed, and *effective* debate would be expected to consider the validity of the determinist view.

### **AO2/3 Mark bands – Best fit**

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues and debates and/or approaches need to be addressed effectively.

### **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. Issues/debates/approaches are used effectively. 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. Issues/debates/approaches are used in a reasonably effective manner. 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. Superficial reference may be made to issues/debates/approaches

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.

If reference is made to issues/debates/approaches, it is muddled and inaccurate.

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.

## Eating behaviour

06 Outline and evaluate **one or more** biological explanations for **either** anorexia nervosa, **or** bulimia nervosa, **or** obesity. (8 marks + 16 marks)

### AO1 = 8 marks

- anorexia nervosa (AN) - possible biological explanations for AN include an involvement of brain serotonin pathways, genetics, and the evolutionary approach e.g. 'adapted to flee famine' hypothesis
- for bulimia nervosa there is evidence for a genetic factor. Neural explanation involves a role for serotonin. Evolutionary approach focuses on the sexual competition hypothesis.
- for obesity, research has focused on malfunctioning hypothalamic centres, abnormalities in metabolic rate, and genetic/evolutionary factors such as specific obesity genes, genome lag, the thrifty gene etc

### AO1 8 marks knowledge and understanding

#### 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

#### 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

#### 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

#### 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 organisation and structure

#### 0 marks

no creditworthy material

**AO2/3 = 16 marks** Evaluation of **one or more** biological explanations for either anorexia nervosa, bulimia nervosa, or obesity.

Whichever eating disorder is discussed, research evidence should be the most effective route to A02/3 credit. For instance, there are by now many studies on the genetics of AN, BN and obesity. The role of serotonin in AN has also been experimentally investigated, as has metabolic rate in obesity. A malfunction of feeding centres in the hypothalamus has been suggested as relevant to AN and obesity but direct evidence is lacking.

Methodological evaluation of studies would only be relevant if the implications for the explanation are explicit e.g. in terms of the reduced reliability and validity of findings compromising support for the explanation.

Comparison with alternatives, especially psychological, explanations could also be effective as long as the focus remains on one or more biological explanations.

Indicative issues, debates and approaches in the context of biological explanations for eating disorders would include the free will and determinism debate. If eating disorders are grounded in biology, especially genetics, then individual responsibility is reduced and this may affect the extent to which people try to change their behaviour.

### **AO2/3 Mark bands – Best fit**

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues and debates and/or approaches need to be addressed effectively.

### **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. Issues/debates/approaches are used effectively. 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. Issues/debates/approaches are used in a reasonably effective manner. 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. Superficial reference may be made to issues/debates/approaches. 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. If reference is made to issues/debates/approaches, it is muddled and inaccurate. 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.

**Gender**

07 Outline the role of hormones **and/or** genes in gender development.

(4 marks)

**AO1 = 4 marks**

The roles of hormones and/or genes in gender development are most obvious in the early stages of embryonic development.

- early in embryonic development the Y chromosome in males promotes the formation of the testes. The testes then begin to release testosterone. This hormone produces male sexual physical characteristics and also acts on the brain to alter its organisation to a 'male' pattern e.g. in the hypothalamus
- in female XX embryos, the absence of high levels of testosterone allows the body and brain to develop in the female pattern i.e. largely under genetic control
- in adolescence, a second surge of testosterone in boys produces secondary sexual characteristics and may also influence the changes in brain organisation that occur in adolescence. Note that this surge of testosterone release is under genetic control

Reference to one or more clinical syndromes and cases would be an effective way of illustrating the role of hormones and/or genes in gender development eg David Reimer, the Batista family, could gain credit if used to give detail of the role of hormones and/or genes in gender development.

There are many other case studies (e.g. congenital adrenal hyperplasia, exposing girls to high levels of testosterone) and examiners should be careful to check for relevance and accuracy.

To earn credit, implications of any material presented for the role of hormones and/or genes in gender development must be explicit. Note that credit is only given if the focus is on the role of hormones and/or genes.

Examiners should be sensitive to the time constraints of this question part.

**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.

08 Outline and evaluate gender schema theory.

(4 marks + 16 marks)

**AO1 = 4 marks** Outline of gender schema theory

AO1 material will be an outline of gender schema theory, particularly associated with Martin and Halverson. Students may focus on features and/or the developmental process.

- development of gender identity (boy or girl) at about age 2-3 involves ignoring information that does not fit their developing schema; toys, for instance, become categorised as belonging to boys or girls
- after which child seeks out behaviours appropriate for their own gender
- formation of gender schemas leads to formation of ingroups and outgroups
- parental gender schemas may play an important role in schema development

Outlines of what a schema is and how they develop and become more detailed and elaborate over time would be relevant and creditworthy.

Note: However the concept of schemas is difficult to understand and describe at this level. Therefore AO1 marks should be based on the demonstration of *understanding*, rather than simply the amount of AO1 material presented.

Examiners should be sensitive to the time constraints of this question part.

**AO1 4 marks knowledge and understanding**

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

**AO2/AO3 = 16 marks** Evaluation of gender schema theory

There are a number of relevant research studies that would provide an effective route to AO2/AO3 credit. These generally focus on the early development of gender schemas (e.g. Campbell et al., 2004) or the influence of parents (e.g. Tenenbaum & Leaper, 2002).

Other studies investigate ingroup and outgroup processes, or the rigidity of gender stereotypes.

It is important for marks above Basic that the implications of findings for gender schema theory are clear.

Methodological evaluation of studies may earn credit if the implications for the theory are clear. eg. through the reliability and/or validity of findings.

Comparison with alternative theories e.g. Kohlberg, or the biosocial approach, would be another effective source of AO2/AO3 credit.

Issues, debates and approaches in the context of gender schema theory include the nature-nurture debate. Gender schema theory emphasises the role of social and cognitive factors in the development of schemas and has no clear role for any genetic factors in the origin of schemas or in their development. However, there is evidence for genetic influences on gender development.

### **AO2/3 Mark bands – Best fit**

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues and debates and/or approaches need to be addressed effectively.

### **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. Issues/debates/approaches are used effectively.  
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.  
Issues/debates/approaches are used in a reasonably effective manner.  
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.  
Superficial reference may be made to issues/debates/approaches.  
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.

If reference is made to issues/debates/approaches, it is muddled and inaccurate.

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.

**Intelligence and learning**

09 'It is argued that evolutionary factors such as ecological demands, social complexity and brain size influenced the development of human intelligence.'

Discuss evolutionary factors in the development of human intelligence.

(8 marks + 16 marks)

**AO1 = 8 marks** Description of evolutionary factors in the development of human intelligence

Examples of evolutionary factors in the development of human intelligence given in the specification and emphasised in the quote are ecological demands, social complexity and brain size. It is likely that students will focus on these:

- ecological demands include hunting and foraging, and in general surviving in the environment of evolutionary adaptation (EEA). This may have placed a selection pressure on the development of more complex tools, weapons and hunting strategies
- living in groups increases cognitive demands as animals have to identify and remember family, allies, and enemies. This puts a selection pressure on increasing intelligence
- brain size and intelligence are linked but are not necessarily the same thing. Factors leading to an increase in brain size are also likely to have led to an increasing intelligence, but not necessarily e.g. brain size is correlated with body size. For marks in the top band answers should focus on the development of human intelligence, not brain size alone

**AO1 8 marks knowledge and understanding****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.

**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.

<p><b>4-3 marks Basic</b>  Knowledge and understanding are basic/relatively superficial.  A restricted range of material has been presented.  Organisation and structure of the answer are basic.</p>
<p><b>2-1 mark Rudimentary</b>  Knowledge and understanding are rudimentary and may be muddled and/or inaccurate.  The material presented may be very brief or largely irrelevant.  Lacks organisation and structure.</p>
<p><b>0 marks</b>  no creditworthy material.</p>

**AO2/3 = 16 marks** Commentary on evolutionary factors in the development of human intelligence

There are some relevant research studies in this area. Dunbar has shown that across primate groups the size of the cortex in the brain correlates with the average group size. He concludes that the cognitive demands of social living have been a main driver of brain growth and this has underpinned an increase in human intelligence.

However many of the arguments in this area are retrospective. As we are the most successful species we have to assume that the demands of the hunter gatherer lifestyle, for instance, would have been a factor in driving human intelligence.

Additionally, even if we accept that increased brain size is a marker for increased intelligence, it may be that brain size increased for reasons other than providing a selection advantage in e.g. social living. Diet, for instance, may have been a major factor in allowing for a larger brain, which was only then used for hunting, making tools, and managing group living.

Where students refer to non-human animal studies marks above Basic may only be awarded if there is an explicit link to the development of human intelligence.

Indicative issues, debates, and approaches in the context of evolutionary factors in the development of human intelligence include the nature/nurture and free will/determinism debates. If the development of a human intelligence is driven by evolutionary factors then it could be argued that increases in intelligence would only be linked to behaviours that give a selection advantage. This implies that intelligence would be restricted to a fairly narrow range of behaviours, whereas today humans exhibit what could be called intelligent behaviour across all spheres of activity.

**AO2/3 Mark bands – Best fit**

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues and debates and/or approaches need to be addressed effectively.

**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. Issues/debates/approaches are used effectively. 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. Issues/debates/approaches are used in a reasonably effective manner. 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. Superficial reference may be made to issues/debates/approaches. 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. If reference is made to issues/debates/approaches, it is muddled and inaccurate. 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.

## Cognition and development

10 Outline and evaluate Piaget's theory of cognitive development. (8 marks + 16 marks)

**AO1 = 8 marks** Outline of Piaget's theory of cognitive development.

- Piaget's theory involves processes such as assimilation, accommodation and equilibration,
- developmental stages such as sensorimotor (0-2 years old), preoperational 2 to 6 years old), concrete operational (7 to 11 years old) and formal operational (12 years on).
- concepts such as 'schema' and 'biological readiness'.

Note: for marks above basic there should be some reference to the stages with some detail of each. For marks in the top band there should in addition be reference to at least two underlying processes, such as assimilation, accommodation and equilibration. Minor inaccuracies in the age ranges should be ignored.

### AO1 8 marks knowledge and understanding

#### 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.

#### 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.

#### 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.

#### 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 organisation and structure.

#### 0 marks

no creditworthy material.

**AO2/3 = 16 marks** Evaluation of Piaget's theory of cognitive development

There is a wealth of research evidence, both from Piaget and from subsequent researchers, on cognitive development in children. This is likely to form the bulk of AO2/3 material. Methodological criticism of Piaget's own studies may earn credit if the implications for his theory are clear, in terms of the reliability and validity of his findings.

Subsequent studies have shown that Piaget generally underestimated the cognitive abilities of young children, and undervalued the contribution of language to cognitive development. Additionally his stages provide an effective framework for describing development but may underestimate individual differences.

However, his influence on the growth of developmental psychology as a research area has been immense, and concepts such as 'readiness' have been extremely influential in the classroom. Further applications of his theory to education would provide additional AO2/3 credit.

Comparison with alternative theories such as Vygotsky would be an effective route to AO2/3 credit as long as the focus remains on Piaget's theory.

Indicative issues, debates and approaches in the context of Piaget's theory of cognitive development would include applications to education. Piaget's ideas and vocabulary have had a considerable influence on educational practice e.g. the progression through stages and the idea of 'readiness'.

**AO2/3 Mark bands – Best fit**

AO2/3 material should first be placed in the appropriate band according to the descriptors. However, not all the criteria need be satisfied for an answer to be placed in a particular band. Weak performance in one area may be compensated for by strong performance in others. In order to access the top band, issues and debates and/or approaches need to be addressed effectively.

**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. Issues/debates/approaches are used effectively. 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. Issues/debates/approaches are used in a reasonably effective manner. 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.  
Superficial reference may be made to issues/debates/approaches  
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.  
If reference is made to issues/debates/approaches, it is muddled and inaccurate.  
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.

### AO1 and AO2/3 Specification Coverage Grid

	AO1	AO2/3	Total
<b>Biological Rhythms and Sleep</b>			
01	8	16	24
	<b>8</b>	<b>16</b>	<b>24</b>
<b>Perception</b>			
02	8	16	24
	<b>8</b>	<b>16</b>	<b>24</b>
<b>Relationships</b>			
03	8	16	24
	<b>8</b>	<b>16</b>	<b>24</b>
<b>Aggression</b>			
04	4		4
05	4	16	20
	<b>8</b>	<b>16</b>	<b>24</b>
<b>Eating Behaviour</b>			
06	8	16	24
	<b>8</b>	<b>16</b>	<b>24</b>
<b>Gender</b>			
07	4		4
08	4	16	20
	<b>8</b>	<b>16</b>	<b>24</b>
<b>Intelligence and Learning</b>			
09	8	16	24
	<b>8</b>	<b>16</b>	<b>24</b>
<b>Cognition and Development</b>			
10	8	16	24
	<b>8</b>	<b>16</b>	<b>24</b>