AQA

A-level
PSYCHOLOGY
7182/2

Paper 2 Psychology in context

Mark scheme

June 2024

Version: 1.0 Final



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 Examiner.

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.

No student should be disadvantaged on the basis of their gender identity and/or how they refer to the gender identity of others in their exam responses.

A consistent use of 'they/them' as a singular and pronouns beyond 'she/her' or 'he/him' will be credited in exam responses in line with existing mark scheme criteria.

Further copies of this mark scheme are available from aqa.org.uk

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Level of response marking instructions

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

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

Step 1 Determine a level

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

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

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. Answers in the standardising materials will correspond with the different levels of the mark scheme. These answers will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the standardised examples to determine if it is the same standard, better or worse than the example. You can then use this to allocate a mark for the answer based on the Lead Examiner's mark on the example.

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

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

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

Section A

Approaches in psychology

0 1 Describe the ego **and** superego according to the psychodynamic approach.

[4 marks]

Marks for this question: AO1 = 4

For each description award:
2 marks: for a clear description of the part of personality with some detail
1 mark: a limited and/or muddled description.

Possible content:
- the ego: rational, balancing the id and superego, reference to 'reality principle', formed between 18mths–3yrs.
- the superego: reference to 'morality principle', acts as the conscience or moral guide, represents the ego ideal/ideal self, based on parental and societal values, formed between 3–6yrs.

Credit other relevant content.

0 2 Outline Wundt's method of introspection.

[4 marks]

Marks for this question: AO1 = 4

Level	Marks	Description
2	3–4	Outline of Wundt's method of introspection is clear and accurate with some detail. The answer is generally coherent with effective use of terminology.
1	1–2	Some outline of Wundt's method of introspection is evident. The answer lacks accuracy and/or detail. Use of terminology is either absent or inappropriate.
	0	No relevant content.

Possible content:
- the process of analysing one's own conscious awareness/experience
- Wundt would ask people to focus on an everyday object and look inwards noticing sensations and feelings and images
- focus on being objective
- systematic reporting of an experience of an object
- breaking thoughts about an object down into separate elements
- reflection on sensations, feelings and images/verbal reporting of own inner thoughts
- participants were presented with standardised sensory events like a ticking metronome and asked to report their reactions.

Credit other relevant content.

0 3 Outline **one** example of how neurochemistry influences behaviour.

[3 marks]

Marks for this question: AO1 = 3

3 marks for a clear and coherent outline of an example of how neurotransmitter(s) influence behaviour with some elaboration.
2 marks for an outline of an example of how neurotransmitter(s) influences behaviour that lacks the clarity and/or detail of the 3-mark answer.
1 mark for a naming a neurotransmitter with a relevant behaviour.

Possible content:
- reference to specific neurochemicals and their effects, eg dopamine regulates motor behaviour/plays a role in brain's reward system; serotonin regulates appetite/sleep/memory/mood/muscle contraction
- imbalances of neurochemicals have been linked to abnormal behaviour/mental illnesses, eg low serotonin and OCD, high or low dopamine and schizophrenia
- the mode of action of psychoactive drugs, eg SSRIs to reduce anxiety and thereby reduce compulsive behaviour.

Credit other relevant content.

0 4 Explain why a humanistic psychologist would suggest that Karishma is not displaying congruence.

[2 marks]

Marks for this question: AO2 = 2

2 marks for a clear explanation of why a humanistic psychologist would suggest that Karishma is not displaying congruence with some effective application.
1 mark for a limited and/or muddled explanation of why a humanistic psychologist would suggest that Karishma is not displaying congruence.

Possible content:
- there is a (big) gap between Karishma's concept of self and her ideal self
- she does not think she is clever but wants to go to university/to be a lawyer.

Credit other relevant points.

0 5 Explain how a humanistic psychologist might help Karishma to achieve congruence.

[3 marks]

Marks for this question: AO2 = 3

3 marks for a clear and coherent explanation of how a humanistic psychologist might help Karishma to achieve congruence with some effective application.
2 marks for an explanation of how a humanistic psychologist might help Karishma to achieve congruence that lacks the requirements of the 3-mark answer.
1 mark for a limited and/or muddled explanation.
0 marks for no relevant content

Possible content:

- the psychologist would create a therapeutic atmosphere by offering unconditional positive regard, empathy and warmth to raise Karishma's self-esteem
- the psychologist would use counselling/client-centred therapy with Karishma by reflecting back in a way that enables Karishma to determine the changes she needs to make in order to feel she is worthy of a place at university/would cope with a law degree
- the psychologist should help Karishma to improve her feelings of self-worth, eg by asking her about the good GCSE grades she achieved
- the psychologist might ask Karishma to complete a Q-sort at intervals to demonstrate any change in congruence; congruence will be achieved once Karishma develops a healthier view of herself/believes that she is worthy of a place at university/is good enough to study law.

Credit other relevant points.

0 6 Outline how behaviourists explain learning through the process of operant conditioning.

Compare operant conditioning with social learning.

[8 marks]

Marks for this question: AO1 = 3 and AO3 = 5

Level	Marks	Description
4	7–8	Knowledge of how behaviourists explain learning through the process of operant conditioning is accurate with some detail. Comparison of operant conditioning with social learning is thorough and effective. Minor detail and/or expansion of argument is sometimes lacking. The answer is clear, coherent and focused. Specialist terminology is used effectively.
3	5–6	Knowledge of how behaviourists explain learning through the process of operant conditioning is evident but there are occasional inaccuracies/omissions. Comparison of operant conditioning with social learning is mostly effective. The answer is mostly clear and organised but occasionally lacks focus. Specialist terminology is used appropriately.
2	3–4	Limited knowledge of how behaviourists explain learning through the process of operant conditioning is present. Focus is mainly on description. Any comparison of operant conditioning with social learning is of limited effectiveness. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is used inappropriately on occasions.
1	1–2	Knowledge of how behaviourists explain learning through the process of operant conditioning is limited. Comparison of operant conditioning with social learning is very limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Possible content – outline:

- learning is shaped (and maintained) by its consequences/determined by association between response and consequences
- types of reinforcement (positive/negative) and their role in increasing the likelihood of a behaviour being repeated
- role of punishment in extinguishing behaviour
- Skinner's research.

Possible comparisons:

- direct/indirect reinforcement – in operant conditioning these processes are direct but in social learning these are vicarious/indirect and can occur through observation and imitation
- both assume that human development is a consequence of nurture; babies are born as 'blank slates upon which experience writes'; both suggest that behaviour is a result of learned associations and reinforcement/punishment; social learning involves mediational processes (cognition) and operant conditioning does not

- operant conditioning assumes a hard determinism position, that all behaviour is environmentally determined by external influences that we are unable to control (environmental determinism); social learning assumes a soft determinism position, that as well as being influenced by our environment cognitive factors can mediate learning, we also exert some influence upon it through the behaviours we choose to perform (reciprocal determinism)
- operant conditioning takes a reductionist approach to the study of behaviour by breaking complex actions into the simplest observable actions of the stimulus and the response; social learning is less reductionist because it allows for cognitive factors to mediate this learning
- both are nomothetic, believing we have shared processes for learning behaviour and using generalisation to develop general principles or laws of human behaviour
- both assume that all aspects of behaviour can be investigated scientifically and use laboratory experiments.

Credit other relevant material.

Section B

Biopsychology

0 7 Which **two** of the following statements about the fight or flight response are **FALSE**?

[2 marks]

Marks for this question: AO1 = 2

1 mark for each correct letter:

Answer **A** – a decrease in the release of adrenaline.
Answer **D** – the parasympathetic division being in control of functioning.

0 8 What are hormones? Give an example of a hormone **other than** adrenaline and outline its function.

[4 marks]

Marks for this question: AO1 = 4

2 marks: for a clear, coherent definition of hormones.
1 mark: for a limited and/or muddled definition.

Content:
A chemical messenger that circulates in the blood and controls how cells/organs work/influences behaviour or mood.

Plus

1 mark for identification of a hormone

Plus

1 mark for an accurate outline of the function of the identified hormone.

Possible content:
- melatonin: helps regulate the wake-sleep cycle
- thyroxine: increases metabolic rates and affects growth
- insulin/glucagon: help regulate blood sugar levels
- testosterone: controls the development of male physical features
- oestrogen: controls the development of female physical features.

Credit other hormones and their functions.

Note – in absence of definition of hormones, mark(s) can be awarded for the example of a hormone

0 9 Briefly explain **one** ethical issue the psychologist would need to consider in this study.

[2 marks]

Marks for this question: AO2 = 2

2 marks for a clear ethical issue explained in the context of a patient who had difficulty sleeping.
1 mark for a limited and/or muddled explanation of an ethical issue.

Possible content:
- sensitive information may be revealed about the patient's sleeping habits (if their name was used)
- the patient might not agree to take part in the study if they were aware they would be asked personal questions about their sleeping habits
- the patient may decide they no longer want to continue to participate in the study as they are struggling to sleep
- the psychologist may distress the patient and make them more anxious about sleeping.

Credit other relevant information.

Note – no marks for just naming an ethical guideline without identifying the ethical problem.

1 0 Discuss research into the effects of endogenous pacemakers **and** exogenous zeitgebers on the sleep/wake cycle.

[16 marks]

Marks for this question: AO1 = 6 and AO3 = 10

Level	Marks	Description
4	13–16	Knowledge of research into the effects of endogenous pacemakers and exogenous zeitgebers on the sleep/wake cycle is accurate and generally well detailed. Discussion is thorough and effective. Minor detail and/or expansion of argument is sometimes lacking. The answer is clear, coherent and focused. Specialist terminology is used effectively.
3	9–12	Knowledge of research into the effects of endogenous pacemakers and exogenous zeitgebers on the sleep/wake cycle is evident but there are occasional inaccuracies/omissions. Discussion is mostly effective. The answer is mostly clear and organised but occasionally lacks focus. Specialist terminology is used appropriately.
2	5–8	Limited knowledge of research into the effects of endogenous pacemakers and exogenous zeitgebers on the sleep/wake cycle is present. Focus is mainly on description. Any discussion is of limited effectiveness. The answer lacks clarity, accuracy, and organisation in places. Specialist terminology is used inappropriately on occasions.
1	1–4	Knowledge of research into the effects of endogenous pacemakers and exogenous zeitgebers on the sleep/wake cycle is very limited. Discussion is limited, poorly focused or absent. The answer as a whole lacks clarity, has many inaccuracies and is poorly organised. Specialist terminology is either absent or inappropriately used.
	0	No relevant content.

Note that 'research' refers to theories and/or studies of the effects of endogenous pacemakers or exogenous zeitgebers on the sleep/wake cycle.

Possible content:

- knowledge of sleep/wake cycle
- knowledge of the role of the SCN, pineal gland and/or melatonin in sleep/wake cycle
- knowledge of the role of light and/or social cues on sleep/wake cycle
- description of the role of endogenous pacemakers and/or exogenous zeitgebers on sleep/wake cycle
- description of research into the effects of endogenous pacemakers and/or exogenous zeitgebers on sleep/wake cycle, eg Decoursey et al. (2000), Ralph et al. (1990), Campbell & Murphy (1998)
- description of studies of sleep/wake cycle, eg Siffre's cave study, Aschoff & Wever (1976), Folkard et al. (1985).

Possible discussion:

- research evidence used to support the effects of endogenous pacemakers and/or exogenous zeitgebers on sleep/wake cycle, eg Decoursey et al. (2000), Ralph et al. (1990), Morgan (1995), Campbell & Murphy (1998), Siffre's cave study, Aschoff & Wever (1976), Folkard et al. (1985)
- application of research to understanding of changing the sleep/wake cycle, eg jet lag, shifting the school day
- discussion of individual differences in the sleep/wake cycle, eg owls and larks
- discussion of an interactionist system
- methodological critique of evidence – issues of generalisation from case studies and animal studies; correlation-causation issue in correlational studies; ethical issues of animal studies.

Credit other relevant material.

Section C

Research methods

1 1 Is the diary primary or secondary data? Justify your answer.

[2 marks]

Marks for this question: AO2 = 2

1 mark for primary data.

PLUS

1 mark for an appropriate justification of why the diary data is primary data.

Possible justification:
- because the data was collected by the psychologist specifically for investigating children's play
- because the results came (directly) from the parents.

Credit other relevant answers that can be applied to the stem.

Note – Justification mark can only be awarded if primary data has been identified **and** the justification is in context (e.g. reference explicitly made to parents/play/diary/etc.)

1 2 Explain how the researcher could have used content analysis to analyse the parents' diaries.

[4 marks]

Marks for this question: AO2 = 4

Level	Marks	Description
2	3–4	Explanation of how the researcher could have used content analysis to analyse the parents' diaries is clear and mostly accurate. Application is explicit and appropriate. The answer is generally coherent with effective use of terminology.
1	1–2	Some explanation of how the researcher could have used content analysis to analyse the parents' diaries is evident. Application is limited. The answer lacks accuracy and/or detail. Use of terminology is either absent or inappropriate.
	0	No relevant content.

Possible content:
- the researcher could have begun by reading through some of the parents' diaries to identify potential categories which emerged from the data of the different types of play the parents engaged in with their children
- such categories might include: hide and seek, board games, video games, sports, role-play, going to the park
- the researcher would then have read the diaries again and counted the number of examples which fell into each category to provide quantitative data.

Credit variations in so far as they explain the process.

1 3 How might the researcher have assessed the reliability of the content analysis in this study?

[4 marks]

Marks for this question: AO2 = 4

Award **1 mark** for **each** of the following points (up to 4 marks):
- **second person** could (independently) perform a content analysis on the **same diaries** (inter-observer/rater reliability)
- **repeat** content analysis on a second occasion using the **same diaries** (test-retest reliability)
- use the existing categories
- they could compare their tally charts looking for agreement/calculate the correlation between the two sets of data
- researchers generally accept 0.8 correlation (accept 0.7–0.9) between the two sets of data.

Note – for full marks there must be some explicit application

1 4 Explain why the data collected from the interview might have improved upon the data collected from the diaries.

[3 marks]

Marks for this question: AO3 = 3

3 marks for a clear and coherent explanation of why the interview might have improved upon the data collected from the diaries.
2 marks for an explanation that lacks the clarity of the 3-mark answer.
1 mark for a limited or muddled explanation.

Possible content:
- the interviewer could have asked follow-up questions to gain greater insight into some of the comments in the diary
- the interviewer may have gained rapport with the participant so they felt comfortable revealing more personal/sensitive information face-to-face.

Accept other valid points.

Full credit can be awarded for a single, elaborated point or a number of points in less detail.

1 5 Write **one** question that could be used in the researcher's interview that would produce qualitative data.

[2 marks]

Marks for this question: AO2 = 2

2 marks for an appropriate question which produces qualitative data about play.
1 mark for a muddled and/or limited question that produces qualitative data.

Note: can accept relevant items that are not phrased as questions, eg 'describe your child's play.'

1 6 Identify **one** limitation of qualitative data.

[1 mark]

Marks for this question: AO3 = 1

1 mark for stating an appropriate limitation of qualitative data.

Possible content:
- difficult to analyse
- analysis may be subjective.

Accept other valid limitations.

1 7 Explain how the researcher could have obtained informed consent from the parents for this study.

[4 marks]

Marks for this question: AO2 = 4

Level	Marks	Description
2	3–4	Explanation of how the researcher could have obtained informed consent from the parents for this study is clear and generally well detailed. The material is applied explicitly and appropriately. The answer is generally coherent with effective use of terminology.
1	1–2	Some explanation of how the researcher could have obtained informed consent from the parents for this study is evident. Application is limited. The answer lacks accuracy and/or detail. Use of terminology is either absent or inappropriate.
	0	No relevant content.

Possible content:
- write to the parents/ring the parents/invite them in for a meeting
- tell them all the study details (aims, procedures, data use) so that they are fully informed what will happen and why, eg that the study was investigating age-related play differences, the children would be observed for 15 minutes while playing at nursery, the child would have three types of toy to choose from: building blocks, a sandpit or a slide
- ask for agreement/signed consent.

Accept other relevant content.

Note – bullet 3 must be covered for a level 2 response

1 8 Identify the type of experiment used in this study. Justify your answer.

[3 marks]

Marks for this question: AO2 = 3

1 mark for identification of the correct type of experiment – quasi.

PLUS

2 marks for identifying the IV as age with clear justification for the correct type of experiment.
1 mark for a limited and/or muddled justification for the type of experiment.

Possible justification:
- the IV is age which is pre-existing/naturally occurring/has not been manipulated/could not have been controlled by the researcher
- the IV is age so random allocation of the children to each condition is not possible.

Credit other relevant content.

If the type of experiment is wrong or absent, but the justification could apply to a quasi-experiment in this study, then this can receive credit up to a maximum of 2 marks.

1 9 Explain how a pilot study could be carried out to improve this study.

[4 marks]

Marks for this question: AO3 = 4

Level	Marks	Description
2	3–4	Explanation of how a pilot study could be carried out to improve this study is clear and mostly accurate. The answer is generally coherent with effective use of terminology.
1	1–2	Some explanation of how a pilot study could be carried out to improve this study is evident. The answer lacks accuracy and/or detail. Use of terminology is either absent or inappropriate.
	0	No relevant content.

Possible content:
- a small-scale trial version of the study could be conducted to identify any potential flaws/issues
- the procedures could have been checked to ensure they are appropriate and effective, e.g. the presence of the observer may have affected the behaviour seen
- if the child got bored the length of playtime could have been reduced
- the materials used could have been checked to ensure they are appropriate and effective
- if no children chose any of the types of play, then alternatives could have been chosen.

Credit other relevant content.

2 0 Explain how the researcher might have obtained the stratified sample of 4-year-old children from the two different nursery schools.

[4 marks]

Marks for this question: AO2 = 4

1 mark for **each** of the following:
- identification of strata/sub-groups (the sample should come from the different nurseries)
- calculate the required proportion from each nursery based on the proportion in the population: 3:2 (accept other examples of this ratio)
- select six children from nursery A and four children from nursery B
- identification of any reasonable method of selecting participants from each strata to form the sample e.g. random, opportunity, systematic.

Credit answers based on other strata/sub-groups, e.g. gender.

Note – bullet points 1 and 2 are covered within bullet point 3 and therefore credit for bullet points 1 and 2 should still be awarded if only bullet point 3 is presented and fully covered.

2 1 Identify the type of distribution shown in the data in **Table 1** for **each** age group. In **each** case justify your answer.

[4 marks]

Marks for this question: AO2 = 4

1 mark for **each** of the following points:
- 2-year-old scores indicate a negatively skewed distribution
- because the mean is lower than the median/mode (or to the left-hand side of the distribution)/the mode is higher than the mean/median

- 4-year-old scores indicate a normal distribution
- because the mean, median and mode are the same/the mean equals the mode. Accept the averages are the same.

2 2 What do the mean values in **Table 1** suggest about play preferences in 2-year-old and 4-year-old children? Justify your answer.

[2 marks]

Marks for this question: AO2 = 2

1 mark for suggesting 2 -year-olds prefer sandpit play (more than 4-year-olds)/4-year-olds prefer sandpit play less (than 2-year-olds).

Plus

1 mark for an appropriate justification of the play preference; because the mean time spent in the sandpit was higher for 2-year-olds (than for 4-year-olds)/ because the mean time spent in the sandpit was lower for 4-year-olds (than for 2-year-olds).

Note – simply re-stating data from the table is not sufficient for justification mark.

Note – no credit awarded for justification in isolation

2 3 Explain **three** reasons for this choice in the context of this study.

[6 marks]

Marks for this question: AO2 = 6

1 mark for each of the following reasons:
- experimental design is independent/unrelated
- the 2-year-old and 4-year-old children only took part in one condition/are different participants
- the data is interval
- measured time/minutes (spent in the sandpit is a universal/standardised measure)
- testing for a difference
- compared the times 2-year-old and 4-year-old children spend/play in the sandpit.

2 4 With reference to the critical values in **Table 2** above, explain whether or not there was a significant difference between the two age groups at the 5% level of significance.

[2 marks]

Marks for this question: AO2 = 2

1 mark for **each** of the following points:
- the difference is significant.
- the calculated value (3.576) is greater than the critical/table value of **2.101** (when df = 18, at p = 0.05)

Note – the table value of 2.101 can be identified in the table but candidate must still indicate that the calculated value is greater than this for credit for the second bullet point to be awarded.

2 5 Referring to the critical values in **Table 2**, explain why the researcher is very unlikely to have made a Type I error.

[3 marks]

Marks for this question: AO2 = 3

3 marks for a clear, coherent explanation which demonstrates some understanding of a Type I error with appropriate reference to the table.
2 marks for a coherent explanation which lacks the requirements of a 3-mark answer.
1 mark for a limited and/or muddled explanation.

Possible content:
- there is only a 1% probability/very low chance of making a Type I error because the result is (still) significant at p = 0.01 as 3.576 > 2.878
- at p = 0.05 there is only a 5% chance of making a Type I error which is low

Accept alternative wording.