A-level
PSYCHOLOGY
7182/2

Paper 2 Psychology in context

Mark scheme

June 2020

Version: 1.0 Final Mark Scheme

206A7182/2/MS

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.

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

Level of response marking instructions

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

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

Step 1 Determine a level

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

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

Step 2 Determine a mark

Once you have assigned a level you need to decide on the mark. The descriptors on how to allocate marks can help with this. The exemplar materials used during standardisation will help. 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 What is the correct arrangement of Maslow's hierarchy of needs from bottom to top of the hierarchy?

[1 mark]

Marks for this question: AO1 = 1

A Physiological, Safety, Love/belongingness, Esteem, Self-actualisation.

0 2 Which of the following shows the correct order of the psychosexual stages of development as proposed by the psychodynamic approach?

[1 mark]

Marks for this question: AO1 = 1

C Oral, Anal, Phallic, Latency, Genital.

0 3 Describe the role of defence mechanisms according to the psychodynamic approach.

[2 marks]

Marks for this question: AO1 = 2

2 marks for a clear, elaborated description of the role of defence mechanisms according to the psychodynamic approach.

1 mark for a limited or muddled description of the role of defence mechanisms according to the psychodynamic approach.

Possible content:
- help the ego manage the conflict between the id and the superego
- provide compromise solutions (usually unconscious) to deal with unresolvable conflict
- provide a strategy to reduce anxiety (which weakens the ego's influence)
- use of examples, eg through the use of denial/displacement/repression, to describe the role of defence mechanisms.

Credit other relevant material.

0 4 Briefly explain **one** strength and **one** limitation of the psychodynamic approach.

[4 marks]

Marks for this question: AO3 = 4

2 marks for a clear, elaborated strength of the psychodynamic approach.

1 mark for a limited or muddled strength of the psychodynamic approach.

Plus

2 marks for a clear, elaborated limitation of the psychodynamic approach.

1 mark for a limited or muddled limitation of the psychodynamic approach.

Possible content:
- psychotherapy as a treatment for mental health issues
- explanatory power to many psychological topics
- socially sensitive, eg mental health issues may be blamed on parents
- testing of unconscious concepts is unfalsifiable
- lack of scientific rigour
- subjectivity – unconscious thoughts can only be inferred from behaviour or reported thoughts/experiences
- use of evidence to support or contradict the psychodynamic approach, eg studies into the effectiveness of psychotherapy, eg De Maat, et al. (2009), case studies of people who are unable to recall upsetting events, eg Gagnepain, et al. (2014) on suppression, Little Hans.

Credit other relevant strengths or limitations.

0 5 Describe **and** evaluate operant conditioning as a way of explaining people's behaviour. Refer to Alison's approach to reducing plastic waste in your answer.

[16 marks]

Marks for this question: AO1 = 6, AO2 = 4, AO3 = 6

Level	Marks	Description
4	13–16	Knowledge of operant conditioning accurate and generally well detailed. Application is effective. Evaluation of operant conditioning is thorough and effective. Minor detail and/or expansion of the argument is sometimes lacking. The answer is clear, coherent and focused. Specialist terminology is used effectively.
3	9–12	Knowledge of operant conditioning is evident but there are occasional inaccuracies/omissions. Application/evaluation 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 operant conditioning is present. Focus is mainly on description. Any application and/or evaluation 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 operant conditioning is very limited. Evaluation or application 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.

Possible content:
- basic idea behind Skinner's theory of operant conditioning
- positive reinforcement
- negative reinforcement
- positive/negative punishment.

Possible application:
- negative reinforcement – if students choose not to buy the bottled drinks they no longer have to see the photo of the plastic filled ocean therefore the photo
- students bringing in their own bottles have their behaviour positively reinforced by providing free refills of drinks so chances of students bringing their own bottle is increased
- students returning plastic bottles for recycling have their behaviour positively reinforced by giving them 20p, so the chances of students bringing their own bottle is increased as well as the chances of students collecting plastic bottle litter from around school site and recycling it
- the punishment of the 20p increase in cost of bottled drink acts to decrease the chance of students choosing to buy bottled drinks
- sticker of photo of the plastic filled ocean on bottles bought by students acts as a punishment to reduce the chances of students buying the bottled drinks.

Possible evaluation:

- issue of determinism/free will
- support for the effectiveness of operant conditioning in shaping behaviour through research studies or real life application, eg Skinner's research, Tranquility Bay, token economy systems in prisons/psychiatric wards, phobia treatment etc
- counterarguments presented to suggest limitations of using operant conditioning, eg support from Skinner's/animals research cannot necessarily be generalised to humans
- comparison of approaches – discussion of the effectiveness of operant conditioning to shape behaviour compared to SLT or the cognitive approach for example
- issue of reductionism.

Credit other relevant material.

Section B

Biopsychology

0 6 Using the letters given in **Figure 1**, correctly identify the areas of the brain to complete the table below.

[4 marks]

Marks for this question: AO1 = 4

1 mark for each of the following:

	Area of brain
Which area is responsible for processing sensations such as pain and pressure?	**C**
Which area processes information such as colour and shape?	**D**
Which area processes information such as pitch and volume?	**E**
Which area is responsible for voluntary movements?	**B**

0 7 Explain the difference between infradian rhythms and ultradian rhythms.

[2 marks]

Marks for this question: AO1 = 2

2 marks for a clear, coherent explanation with some elaboration.

1 mark for a limited or muddled explanation.

Content:
- the rhythms have different durations: infradian rhythms have a duration of over 24hrs whereas ultradian rhythms are cycles that last less than 24hrs.

Note – a definition of one type of rhythm or examples of the rhythms are not creditworthy in isolation.

0 8 Explain **one** limitation of asking hospital patients to self-report the effectiveness of Zapurpain.

[2 marks]

Marks for this question: AO2 = 2

2 marks for a clear and coherent explanation of one limitation linked to the survey.

1 mark for a limited/muddled explanation of one limitation.

Possible limitations:
- social desirability, patients may feel obliged to say the drug is effective at reducing their pain
- pain is subjective, a participant who has a higher pain threshold may report Zapurpain to be more effective for example.

Accept other plausible limitations affecting validity.

0 9 Explain how Zapurpain might affect the process of synaptic transmission through inhibition.

[4 marks]

Marks for this question: AO2 = 4

Level	Marks	Description
2	3–4	The explanation of how Zapurpain might affect the process of synaptic transmission through inhibition is clear and coherent with effective use of terminology.
1	1–2	The explanation of how Zapurpain might affect the process of synaptic transmission through inhibition is partial/limited/muddled. Terminology may be absent or inappropriately used.
	0	No relevant content.

Possible content:
- Zapurpain mimics the effect of inhibitory neurotransmitters**,** stimulation of postsynaptic receptors by an inhibitory neurotransmitter result in inhibition (hyperpolarisation) of the postsynaptic membrane
- when an inhibitory neurotransmitter binds to the post-synaptic receptors it makes the post-synaptic cell less likely to fire (IPSP)
- Summation – if inhibitory inputs are higher than excitatory they can cancel out excitation and inhibit an action potential occurring/Zapurpain would decrease the overall activity
- Zapurpain would make the post-synaptic cell less likely to fire
- reducing brain activity may lead to reduced pain.

Credit other relevant material, eg information embedded in a labelled diagram – direction of transmission should be made clear.

1 0 Explain **one** difference and **one** similarity between Functional Magnetic Resonance Imaging (fMRI) and Event-Related Potentials (ERPs) as ways of studying the brain.

[4 marks]

Marks for this question: AO1 = 4

2 marks for **one** clear and coherent difference between fMRIs and ERPs as ways of studying the brain.

1 mark for **one** limited or muddled difference between fMRIs and ERPs as ways of studying the brain.

Possible content:
- fMRIs have poor temporal resolution whereas ERPs have good temporal resolution
- fMRIs have good spatial resolution whereas ERPs have poor spatial resolution
- fMRIs provide indirect measure of neural activity whereas ERPs offer a direct measure of neural activity
- different methodology - fMRIs work by measuring changes in blood oxygenation as a measure of neural activity whereas ERPs measure electrical activity via electrodes to detect brainwaves triggered by certain events
- fMRIs are more expensive than ERPs.

Credit other relevant differences.

Plus

2 marks for **one** clear and coherent similarity between fMRIs and ERPs as ways of studying the brain.

1 mark for **one** limited or muddled similarity between fMRIs and ERPs as ways of studying the brain.

Possible content:
- fMRIs and ERPs are both non-invasive and do not use radiation (risk free)
- fMRIs and ERPs both measure brain activity linked to events/tasks.

Credit other relevant similarities.

1 1 Outline and evaluate split-brain research.

[8 marks]

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

Level	Marks	Description
4	7–8	Knowledge of split-brain research is accurate with some detail. Evaluation 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 split-brain research is evident but there are occasional inaccuracies/omissions. Evaluation 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 split-brain research is present. Focus is mainly on description. Any evaluation 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 split-brain research is very limited. Evaluation 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.

Possible content:
- 'split-brain' patients have had their corpus callosum severed
- Sperry's methodology
- Sperry's key visual/tactile findings
- case of Karen Bryne – Alien Hand Syndrome.

Possible evaluation points:
- 'split-brain' research has enabled discoveries of lateralisation of function
- experiments on split-brain patients were scientific
- research has added to the unity of consciousness debate
- lack of controls: extent of disconnection between hemispheres varied, lack of valid control groups, may be additional effects of surgery other than just procedure, some patients had experienced drug therapy for much longer than others
- artificial data – in real life severed corpus callosum can be compensated for by unrestricted use of two eyes
- 'split-brain' patients may initially suffer from hemispheres acting independently but in an adaptive process one tends to dominate
- issue of generalisability – research relates to small sample sizes, Andrewes (2001) and patients are atypical
- research oversimplifies hemispheric lateralisation – usually hemispheres are constantly communicating, and plasticity allows for compensation across hemispheres
- contradictory findings casting doubt over discoveries made, eg Gazzaniga (1998), patient JW in Turk et al. (2002).

Credit other relevant material.

Section C

Research methods

1 2 In which section(s) of a scientific report would you expect to find reference to the results/findings of the investigation?

[1 mark]

Marks for this question: AO1 = 1

B The abstract, the discussion and the results sections only.

1 3 Which of the following correlation co-efficients best describes the data represented in **Figure 2**?

[1 mark]

Marks for this question: AO2 = 1

A –0.80

1 4 Identify the type of graph shown in **Figure 2** and explain why this is an appropriate graph to use for the data collected.

[3 marks]

Marks for this question: AO2 = 3

1 mark for scattergram/scattergraph.

Plus

2 marks for a clear and coherent explanation linked to this study.

1 mark for a limited or muddled explanation.

Possible content:
- the study is correlational/looking at the relationship between recreational screen time and academic performance
- scattergrams display relationships between co-variables, academic performance and recreational screen time are co-variables.

Credit other relevant material.

1 5 Explain why it would not be appropriate for the researchers to conclude that increased recreational screen time reduces academic performance.

[2 marks]

Marks for this question: AO2 = 2

2 marks for a clear and coherent explanation linked to this study.

1 mark for a limited or muddled explanation.

Possible content:
- correlation only shows a relationship between the two co-variables, recreational screen time and academic performance
- researcher's conclusion implies causation, increased recreational screen time impairs academic performance
- third variable could be responsible for the relationship, eg personality type, number of hours spent studying.

Credit other relevant material.

1 6 What is meant by the term meta-analysis?

[2 marks]

Marks for this question: AO1 = 2

2 marks for a clear and coherent definition of meta-analysis.

1 mark for a limited or muddled definition of a meta-analysis.

Possible content:
- meta-analysis is the process where researchers collect and collate a wide range of previously conducted research on a specific area
- collated research is reviewed together
- combined data/effect size is often statistically tested to provide an overall conclusion.

Credit other relevant material.

1 7 Complete **Table 1** by ticking the statement which best describes the population and the sample in the psychologist's experiment.

Place **one** tick in each column.

[2 marks]

Marks for this question: AO2 = 2

	Population	**Sample**
All the pupils in the selected four schools.		
All the Year 5 pupils across the world.		
All the Year 5 pupils in the county.	✓	
All the Year 5 pupils in the selected three schools.		
All the 58 Year 5 pupils with parental consent in the selected three schools.		✓

1 8 Briefly explain why a directional hypothesis would be most suitable for this experiment.

[1 mark]

Marks for this question: AO2 = 1

There is past research indicating that recreational screen time has a detrimental effect on academic performance (or similar).

1 9 Write an appropriate hypothesis for this experiment.

[3 marks]

Marks for this question: AO2 = 3

3 marks for an appropriate and clearly stated operationalised directional hypothesis:
'Students (who have a two-week period) without recreational screen time (Group A) will have higher class test scores than students (who have a two-week period) with unrestricted/unlimited recreational screen time (Group B).'
Accept alternative wording.

2 marks for a directional statement with the IV and the DV operationalised but lacks clarity OR a clear directional statement which has only one variable operationalised, eg Group A and Group B are used to describe conditions of the IV.

1 mark for a muddled directional statement with the IV and DV present and only has one variable operationalised, or for a clear directional statement with the IV and DV but neither is fully operationalised.

0 marks for expressions of aim/questions/correlational/non-directional hypotheses or statements with only one condition of the IV present.

2 0 Using the data in **Table 2**, explain how the distribution of scores in **Group A** differs from the distribution of scores in **Group B**.

[4 marks]

Marks for this question: AO2 = 4

Award **1 mark** for each of the following points:
- the data in Group A is symmetrical/normally distributed
- because the mean (73.6) is approximately equal to the mode/median (74)
- the data in Group B is positively skewed
- because the mean (66.3) is greater than the mode (44)/median (58).

Note: credit can be given if this information is provided in diagrams.

2 1 What do the mean and standard deviation values in **Table 2** suggest about the effect of the recreational screen time on test performance? Justify your answer.

[4 marks]

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

Mean:
1 mark for suggestion – recreational screen time has a negative impact on test performance.
Accept alternative wording.

Plus

1 mark for justification – mean test performance is higher when there is no recreational screen time (Group A) than when recreational screen time is unrestricted (Group B).
Accept alternative wording.

Standard deviation:
1 mark for a suggestion – the impact of recreational screen time on test performance is not consistent.
Accept alternative wording.

Plus

1 mark for a justification – there was a wider variation of test performances/higher standard deviation in Group B compared to Group A.
Accept alternative wording.

Note: **0 marks** for just stating the data from the table.

Note: Justifications are not creditworthy in isolation.

2 2 Identify the most appropriate choice of statistical test for analysing the data collected and explain **three** reasons for your choice in the context of this study.

[7 marks]

Marks for this question: AO2 = 7

1 mark for Mann-Whitney (OR unrelated t-test, if this does not contradict data type).

Plus

For **each** of the following bullet points award:

2 marks for a clear and coherent reason linked to the study.

1 mark for a limited/partial reason.

Possible content:
- it is testing for a difference **–** having no recreational screen time on exam performance as opposed to having unlimited recreational screen time
- it uses an independent/unrelated design –the pupils either had no recreational screen time or unlimited recreational screen time
- data is ordinal – the difference between each test score is not fixed **OR** data is assumed to be non-parametric as the data in Group B is skewed (OR data is interval – the difference between test scores is fixed)

Note: accept an alternative appropriate statistical test if correct justification of the data is given.

Note: appropriate reason can be credited even if an incorrect test is named or no test is given.

Note: where more than three reasons are given, only the first three should be marked.

2 3 Explain how the psychologist could have matched pupils on their typical recreational screen time across the experimental conditions.

[4 marks]

Marks for this question: AO2 = 4

Award **1 mark** for **each** bullet point given below:
- the psychologist could use a questionnaire/interview/ask parents to report/pupils to self-report
- examples of questions given/data obtained on average/daily recreational screen time use
- pupils with similar recreational screen time use would be paired
- one pupil from each pair would be (randomly) placed in Group A and the other in Group B.

Accept alternative wording.

2 4 Identify **one** other variable for which the psychologist could have matched the pupils. Explain how this might have affected the test performance if it was not controlled.

[2 marks]

Marks for this question: AO2 = 2

1 mark for a suggestion of an appropriate variable, eg academic performance, speed of learning, concentration in class etc.

Plus

1 mark for an explanation of how it might relate to test performance.

2 5 Design the observation to investigate pupils' social interaction in the playground.

In your answer you will be awarded credit for providing appropriate details of:

- type of observation, with justification
- choice of time sampling **or** event sampling, with justification
- dealing with **one** relevant ethical issue
- assessing reliability of the data through inter-observer reliability.

[12 marks]

Marks for this question: AO2 = 6 and AO3 = 6

Level	Marks	Description
4	10–12	Suggestions are generally well detailed and practical, showing sound understanding of observational design. All four elements are present. Justifications are appropriate. The answer is clear and coherent. Specialist terminology is used effectively. Minor detail and/or explanation sometimes lacking.
3	7–9	Suggestions are mostly sensible and practical, showing some understanding of observational design. At least three elements are present. There is some appropriate justification. The answer is mostly clear and well organised. Specialist terminology is mostly used effectively.
2	4–6	Some suggestions are appropriate but others are impractical or inadequately explained. At least two elements are addressed. Justifications are partial, muddled or absent. The answer lacks clarity, accuracy and organisation on occasions.
1	1–3	Knowledge of observational design is limited. At least one element is addressed. The whole answer lacks clarity, has many inaccuracies and is poorly organised.
	0	No relevant content.

Four elements of design to be credited:

- type of observation with justification for choice of observation type, eg covert or overt, naturalistic, participant or non-participant and why
- use of time **OR** event sampling with justification – recordings can take place at specified time intervals (time sampling), eg every minute **OR** as the behaviour occurs (event sampling), eg number of times child talks to another child
- dealing with **one** relevant ethical issue – request informed consent from parents, minimise risk of harm to pupils, confidentiality of personal data, debriefing, enabling a withdrawal of data
- how reliability of the data collection could be assessed, eg using two observers/raters and comparing separate recordings; statistical comparison (correlation) of data from both observers/raters.

Assessment Objective Grid				
	AO1	**AO2**	**AO3**	**Total**
Approaches in psychology				
01	1			
02	1			
03	2			
04			4	
05	6	4	6	
Total	**10**	**4**	**10**	**24**
Biopsychology				
06	4			
07	2			
08		2		
09		4		
10	4			
11	3		5	
Total	**13**	**6**	**5**	**24**
Research methods				
12	1			
13		1		
14		3 (maths)		
15		2		
16	2			
17		2 (maths)		
18		1		
19		3		
20		4 (maths)		
21		2 (maths)	2 (maths)	
22		7 (maths)		
23		4		
24		2		
25		6 (maths)	6 (strand 2)	
Total	**3**	**37**	**8**	**48**

Paper Total	**26**	**47**	**23**	**96**