
INTERNATIONAL AS PSYCHOLOGY **PS02**

Unit 2 Biopsychology, Development and Research Methods 1

Mark scheme

June 2023

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.

Further copies of this mark scheme are available from oxfordaqaexams.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, 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. There will be an answer in the standardising materials which will correspond with each level of the mark scheme. This answer will have been awarded a mark by the Lead Examiner. You can compare the student's answer with the example 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: Biopsychology

Total for this section: 30 marks

Question	Marking guidance	Total marks
01	Identify the division of the nervous system which is mostly associated with motor movements, such as running. Shade one box only. Answer: D Somatic nervous system	1 AO1 = 1

Question	Marking guidance	Total marks
02	What is the function of neurotransmitters during synaptic transmission? Award marks as follows: 2 marks for a clear description of the function of neurotransmitters. 1 mark for a limited/vague/muddled description. Possible content • Neurotransmitters facilitate/enable the transmission of nerve impulses to pass across the synapse (from the presynaptic to the postsynaptic neuron). • Excitatory neurotransmitters make a nerve impulse or action potential more likely to be triggered in the postsynaptic neuron. • Inhibitory neurotransmitters make a nerve impulse or action potential less likely to be triggered in the postsynaptic neuron. Credit other relevant material.	2 AO1 = 2

Question	Marking guidance	Total marks												
03	Describe the structure and function of a relay neuron. Possible content • They may have many dendrites running in towards the cell body. • They have a single output axon. • They have a central cell body with a nucleus. • They do not have myelin sheath. • To interconnect sensory and motor pathways/neurons. • To interconnect different parts of the CNS. • To conduct electrical impulses. Credit other relevant material. <table border="1"> <thead> <tr> <th>Level</th><th>Description</th><th>Marks</th></tr> </thead> <tbody> <tr> <td>2</td><td>Description of the structure and function of a relay neuron is accurate with some detail. The answer is clear with appropriate use of terminology.</td><td>3–4</td></tr> <tr> <td>1</td><td>Description of the structure and/or function of a relay neuron is limited, vague or muddled. Specialist terminology is either absent or inappropriately used.</td><td>1–2</td></tr> <tr> <td>0</td><td>No creditable content.</td><td>0</td></tr> </tbody> </table>	Level	Description	Marks	2	Description of the structure and function of a relay neuron is accurate with some detail. The answer is clear with appropriate use of terminology.	3–4	1	Description of the structure and/or function of a relay neuron is limited, vague or muddled. Specialist terminology is either absent or inappropriately used.	1–2	0	No creditable content.	0	4 AO1 = 4
Level	Description	Marks												
2	Description of the structure and function of a relay neuron is accurate with some detail. The answer is clear with appropriate use of terminology.	3–4												
1	Description of the structure and/or function of a relay neuron is limited, vague or muddled. Specialist terminology is either absent or inappropriately used.	1–2												
0	No creditable content.	0												

Question	Marking guidance	Total marks
04	Localisation of function in the brain suggests specific brain areas are specialised for certain functions. Briefly explain the function of the auditory centre. Award marks as follows: 2 marks for a clear explanation of the function of the auditory centre. 1 mark for a limited/vague/muddled explanation. Possible content • The auditory centre processes sound input from the ears. • It analyses and processes acoustic information, eg volume, tempo and pitch. • It is involved in hearing. Credit other relevant material.	2 AO1 = 2

Question	Marking guidance	Total marks									
05	Amaan is waiting to be interviewed for a new job. He is very nervous. His heart is beating very fast. Amaan feels sick and his mouth is dry. His legs are shaking. Describe the fight or flight response. Refer to Amaan's experience in your answer. Possible content • The fight or flight response is a reflex response and the body's physiological reactions to threat/stressful situations. • The response is generated from the sympathetic branch of the ANS and allows the individual to react quickly so that they can fight or escape the threat. • The hypothalamus detects a situation as threatening and sends a message to the adrenal gland (adrenal medulla). • This triggers the release of adrenaline (to the endocrine system) and noradrenaline in the brain. • This prompts physical changes to help deal with the threat OR to escape. Changes include: increased heart and breathing rate; muscle tension, sweating; reduction in digestion etc. • Perception of threat switches control from parasympathetic to sympathetic nervous system. Credit the use of a diagram to outline the steps. Possible application • Amaan is nervous because the hypothalamus detects the job interview as a threat and this leads to a release of adrenaline. • Amaan's heart is beating very fast due to the increased heart rate which speeds up the flow of oxygenated blood to prepare for fight or flight. • Amaan feels sick and his mouth is dry which is an effect of the increase in adrenaline and the slowing-down of digestion in order to prepare for energy expenditure. • His legs are shaking due to the blood flow being diverted to muscles to aid flight. <table border="1"> <thead> <tr> <th>Level</th><th>Description</th><th>Marks</th></tr> </thead> <tbody> <tr> <td>3</td><td>Knowledge of the fight or flight response is detailed and appropriate. The application is effective. The answer is clear with appropriate use of specialist terminology.</td><td>7–9</td></tr> <tr> <td>2</td><td>Knowledge of the fight or flight response is relevant but detail is lacking. Any application is mostly effective. The answer lacks clarity in places. Specialist terminology is mostly used appropriately.</td><td>4–6</td></tr> </tbody> </table>	Level	Description	Marks	3	Knowledge of the fight or flight response is detailed and appropriate. The application is effective. The answer is clear with appropriate use of specialist terminology.	7–9	2	Knowledge of the fight or flight response is relevant but detail is lacking. Any application is mostly effective. The answer lacks clarity in places. Specialist terminology is mostly used appropriately.	4–6	9 AO1 = 5 AO2 = 4
Level	Description	Marks									
3	Knowledge of the fight or flight response is detailed and appropriate. The application is effective. The answer is clear with appropriate use of specialist terminology.	7–9									
2	Knowledge of the fight or flight response is relevant but detail is lacking. Any application is mostly effective. The answer lacks clarity in places. Specialist terminology is mostly used appropriately.	4–6									

	1	Knowledge of the fight or flight response is very limited. Application is limited, poorly focused or absent. The answer is vague/muddled. Specialist terminology is either absent or inappropriately used.	1–3	
	0	No creditable content.	0	

Question	Marking guidance	Total marks									
06	Describe and evaluate research into plasticity and functional recovery after trauma. Possible content • Explanation of plasticity – the ability of the brain to change and adapt due to experiences, including trauma. • Description of studies investigating plasticity: eg Blakemore & Mitchell (1973) – development of visual cortex in cats demonstrating plasticity; Maguire (2000) – hippocampus changes in taxi drivers. • Explanation of functional recovery – recovery of function lost after brain damage. • Description of studies investigating functional recovery: eg Villablanca and Hovda (2000) – removal of one damaged hemisphere soon after birth; Kapar (1997) – doctors had better recovery after brain damage compared to general population. • Explanation of mechanisms of recovery: eg reduction of swelling of brain tissue; axonal sprouting from surviving neurons; neurogenesis – growth of new neurons. • Reference to the role of age – more significant change possible in younger brains (eg Teuber, 1975) found that soldiers under the age of 20 had a much better recovery of movement and visual problems. Possible evaluation • Research support using objective evidence, like brain scans. • Issues with generalisation of results from case studies or studies with small participant numbers. • Issues with generalisation from animals to humans. • Real life application: knowledge about plasticity has raised awareness of the importance of rehabilitation and treatment in order to promote recovery. • Difficulty of predicting the level of recovery (low predictive validity). There are huge individual differences in recovery because many factors play a part, eg age, determination, practice, degree of damage. Credit other relevant material. <table border="1"> <thead> <tr> <th>Level</th><th>Description</th><th>Marks</th></tr> </thead> <tbody> <tr> <td>4</td><td>Knowledge of research into plasticity and functional recovery after trauma is mostly accurate and generally well detailed. Evaluation is mostly effective. Minor detail and/or expansion of argument is sometimes lacking. The answer is clear and focused. Specialist terminology is mostly used effectively.</td><td>10–12</td></tr> <tr> <td>3</td><td>Knowledge of research into plasticity and/or functional recovery after trauma is evident but there are occasional inaccuracies/omissions. There is some effective evaluation. The answer is mostly clear and organised, but occasionally lacks focus. Specialist terminology is mostly used appropriately.</td><td>7–9</td></tr> </tbody> </table>	Level	Description	Marks	4	Knowledge of research into plasticity and functional recovery after trauma is mostly accurate and generally well detailed. Evaluation is mostly effective. Minor detail and/or expansion of argument is sometimes lacking. The answer is clear and focused. Specialist terminology is mostly used effectively.	10–12	3	Knowledge of research into plasticity and/or functional recovery after trauma is evident but there are occasional inaccuracies/omissions. There is some effective evaluation. The answer is mostly clear and organised, but occasionally lacks focus. Specialist terminology is mostly used appropriately.	7–9	12 AO1 = 6 AO3 = 6
Level	Description	Marks									
4	Knowledge of research into plasticity and functional recovery after trauma is mostly accurate and generally well detailed. Evaluation is mostly effective. Minor detail and/or expansion of argument is sometimes lacking. The answer is clear and focused. Specialist terminology is mostly used effectively.	10–12									
3	Knowledge of research into plasticity and/or functional recovery after trauma is evident but there are occasional inaccuracies/omissions. There is some effective evaluation. The answer is mostly clear and organised, but occasionally lacks focus. Specialist terminology is mostly used appropriately.	7–9									

	2	Limited knowledge of research into plasticity and/or functional recovery after trauma is present. Any evaluation is of limited effectiveness. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is occasionally used appropriately.	4–6	
	1	Knowledge of research into plasticity and/or functional recovery after trauma 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.	1–3	
	0	No creditable content.		

Section B: Cognitive Development

Total for this section: 30 marks

Question	Marking guidance	Total marks												
07	What does Piaget mean by equilibration? • Piaget explains equilibration as a process in which a child achieves a cognitive balance between new information and old knowledge of the world. • It occurs when a child uses the processes of accommodation and assimilation to produce a state of equilibrium between existing schemas and new experiences in order to overcome disequilibrium. • Equilibration helps explain how children are able to move from one stage of thought into the next. • Credit examples, eg a child creates a new schema for a cat when it realises that a cat is not the same as a dog. Credit other relevant content. <table border="1"> <thead> <tr> <th>Level</th><th>Description</th><th>Marks</th></tr> </thead> <tbody> <tr> <td>2</td><td>The explanation of equilibration is accurate with some detail. The answer is clear with appropriate use of specialist terminology.</td><td>3–4</td></tr> <tr> <td>1</td><td>The explanation of equilibration is limited, vague or muddled. Specialist terminology is either absent or inappropriately used.</td><td>1–2</td></tr> <tr> <td>0</td><td>No creditable content.</td><td></td></tr> </tbody> </table>	Level	Description	Marks	2	The explanation of equilibration is accurate with some detail. The answer is clear with appropriate use of specialist terminology.	3–4	1	The explanation of equilibration is limited, vague or muddled. Specialist terminology is either absent or inappropriately used.	1–2	0	No creditable content.		4 AO1 = 4
Level	Description	Marks												
2	The explanation of equilibration is accurate with some detail. The answer is clear with appropriate use of specialist terminology.	3–4												
1	The explanation of equilibration is limited, vague or muddled. Specialist terminology is either absent or inappropriately used.	1–2												
0	No creditable content.													

Question	Marking guidance	Total marks															
08	Mimi is three years old and is playing with her older sisters, Bex and Robyn. Robyn places her ball in a box and leaves the room. Bex takes the ball out of the box and hides it in a cupboard. When Robyn returns, she looks for her ball in the box and is very surprised when she cannot find it. Mimi laughs and asks, “Have you forgotten that your ball is in the cupboard?” Using your knowledge of theory of mind, explain the behaviours of Mimi and Robyn. Possible application • Mimi has not yet developed a theory of mind, only aged 3, as she expected her sister Robyn to look for the ball in the cupboard. • Mimi is unable to take Robyn’s mental state/perspective and understand that Robyn’s mind/mental state/knowledge of the changed location of the ball. • Mimi thinks Robyn will know what Mimi knows concerning the whereabouts of the ball after Bex has moved it. • Robyn has acquired a theory of mind and has not seen Bex put the ball in the box so her belief about its location, is a false belief. • The comment by Mimi that Robyn should know that the ball is in the cupboard means that Mimi cannot attribute false belief to Robyn. • If Mimi had not commented about/laughed at Robyn looking in the box for her ball, it would have meant that Mimi understood Robyn’s false belief. <table border="1"> <thead> <tr> <th>Level</th><th>Description</th><th>Marks</th></tr> </thead> <tbody> <tr> <td>3</td><td>The application of theory of mind to the behaviour of Mimi and Robyn is detailed and appropriate. The answer is clear with appropriate use of specialist terminology.</td><td>5–6</td></tr> <tr> <td>2</td><td>The application of theory of mind to the behaviour of Mimi and Robyn is relevant but detail is lacking. The answer lacks clarity in places. Specialist terminology is used mostly appropriately.</td><td>3–4</td></tr> <tr> <td>1</td><td>The application of theory of mind to the behaviour of Mimi and Robyn is very limited. The answer is vague/muddled. Specialist terminology is either absent or inappropriately used.</td><td>1–2</td></tr> <tr> <td>0</td><td>No creditable content.</td><td></td></tr> </tbody> </table>	Level	Description	Marks	3	The application of theory of mind to the behaviour of Mimi and Robyn is detailed and appropriate. The answer is clear with appropriate use of specialist terminology.	5–6	2	The application of theory of mind to the behaviour of Mimi and Robyn is relevant but detail is lacking. The answer lacks clarity in places. Specialist terminology is used mostly appropriately.	3–4	1	The application of theory of mind to the behaviour of Mimi and Robyn is very limited. The answer is vague/muddled. Specialist terminology is either absent or inappropriately used.	1–2	0	No creditable content.		6 AO2 = 6
Level	Description	Marks															
3	The application of theory of mind to the behaviour of Mimi and Robyn is detailed and appropriate. The answer is clear with appropriate use of specialist terminology.	5–6															
2	The application of theory of mind to the behaviour of Mimi and Robyn is relevant but detail is lacking. The answer lacks clarity in places. Specialist terminology is used mostly appropriately.	3–4															
1	The application of theory of mind to the behaviour of Mimi and Robyn is very limited. The answer is vague/muddled. Specialist terminology is either absent or inappropriately used.	1–2															
0	No creditable content.																

Question	Marking guidance	Total marks
09	Mona is teaching her younger brother Arno to count. Pointing to Arno's toy cars, Mona says out loud the numbers one to five. Mona says to Arno: "Now, you have a go. Point with your finger at the cars." As Arno tries to count, Mona says, "Well done, Arno! Do it again." After his sister's help, Arno can now count to five easily. Discuss Vygotsky's theory of cognitive development. Refer to Arno and Mona in your answer. Possible content • Emphasis is on the role of social and cultural factors in Vygotsky's theory of cognitive development. • Children develop tools of their own culture, especially language. • Role of language in thought – language becomes internalised (about age eight years) and becomes intellectual (inner) speech. • Children are born with elementary mental functions which develop into higher mental functions. • Child's interaction with older or more knowledgeable others; introduction of the concept of the 'Zone of Proximal Development' – difference between actual and potential ability. • Credit description of scaffolding and role of instruction; child is seen as an apprentice to a more knowledgeable other. • Child internalises a world view of other people through social interaction. • Credit description of relevant studies. Possible application • Mona is the 'more knowledgeable other' who knows how to count. • She provides scaffolding as she breaks down the skill of counting into smaller elements eg how to count to five. • Mona demonstrates counting directly by modelling it, pointing with her fingers at the cars and saying the numbers out loud. • She provides general encouragement by saying 'Now, you have a go' and specific encouragement by instructing Arno to point at the cars. • With practice, Arno learns counting and therefore Mona provides less help/scaffolding until he can do it independently. Possible discussion • Discussion of research evidence in support of Vygotsky's theory, eg scaffolding Wood and Middleton (1975), Mexican girls learning weaving Greenfield and Lave (1982). • Application to education, eg peer tutoring, guided learning etc. • Guidance and instruction may not always have a positive influence as they may lead to lack of motivation/independence etc. • Contrast with Piaget: eg Vygotsky believed (unlike Piaget's notion of readiness) that development could be accelerated to some extent, eg through the zone of proximal development and collaborative learning. • Vygotsky's theory focuses on the process of cognitive development rather than outcomes (Piaget). Credit other relevant material.	20 AO1 = 8 AO2 = 4 AO3 = 8

Note: credit discussion of the observational methods used in investigating Vygotsky's theory eg qualitative data, use of recording, sample size, if linked to evaluation of the theory.		
Level	Description	Marks
4	Knowledge of Vygotsky's theory of cognitive development is accurate and generally well detailed. Discussion is mostly effective. Application is appropriate. Minor detail and/or expansion of argument is sometimes lacking. The answer is clear and focused. Specialist terminology is mostly used effectively.	16–20
3	Knowledge of Vygotsky's theory of cognitive development is evident but there are occasional inaccuracies/omissions. There is some effective discussion/application. The answer is mostly clear and organised but occasionally lacks focus. Specialist terminology is mostly used appropriately.	11–15
2	Limited knowledge of Vygotsky's theory of cognitive development is present. Any discussion/application is of limited effectiveness. The answer lacks clarity, accuracy and organisation in places. Specialist terminology is occasionally used appropriately.	6–10
1	Knowledge of Vygotsky's theory of cognitive development is very limited. Discussion/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.	1–5
0	No creditable content.	

Section C: Research Methods 1

Total for this section: 30 marks

Question	Marking guidance	Total marks
10	A teacher wanted to find out what techniques her students used when they revised for a test. She decided to collect primary data. After a lesson, she approached five students and asked if they would take part in a short interview. She interviewed each of the students individually. At the start of each interview, she asked the student how they revised. Depending on their answer, she then thought of further questions to ask. Identify the type of interview the teacher used. Briefly explain your answer. Award marks as follows: Award 1 mark for unstructured interview. Award a further mark for the questions she asked were not determined beforehand (but varied from interview to interview, depending on the answer of the student). Credit semi-structured interview if explained that the first question was the same for all participants, but the following questions varied.	2 AO2 = 2

Question	Marking guidance	Total marks
11	Identify the sampling technique used by the teacher. 1 mark: opportunity sampling.	1 AO2 = 1

Question	Marking guidance	Total marks
12	Explain why there might be bias in the sample the teacher used. Award marks as follows: 3 marks for a clear and effective explanation of why there might be bias in this sample. 2 marks for an explanation that lacks detail. 1 mark for a limited/vague/muddled explanation. Possible content • The sample was made up of five pupils which is very small and therefore lacks diversity. • All participants came from the same school/class. • She used opportunity sampling and therefore it is possible that she approached a specific type of pupil. Credit other relevant content.	3 AO2 = 3

Question	Marking guidance	Total marks
13	Briefly explain two limitations of using self-report techniques. For each limitation award marks as follows: 2 marks for a clear explanation of one limitation. 1 mark for a limited/vague/muddled explanation. Possible content • Self-report techniques gather subjective information which is difficult to analyse objectively. • There is an increased risk of researcher bias because the researcher may need to process and interpret the information. • Answers might be subject to social desirability bias. • Interviews require skills/training of the interviewer. • Questionnaires are often not returned. Credit other relevant content.	4 AO3 = 4

Question	Marking guidance	Total marks
14	Briefly explain why the data the teacher collected is primary data. Award marks as follows: 2 marks for a clear explanation of why the data collected is primary data. 1 mark for a limited/vague/muddled explanation. Possible content • It is data that the teacher collected first hand. • The teacher can be sure the data will be about revision strategies. Credit other relevant content.	2 AO2 = 2

Question	Marking guidance	Total marks
15	Students may have felt embarrassed and anxious when they were interviewed by their teacher. Explain how the teacher could have made sure her students were protected from psychological harm during the interview. Award marks as follows: 3 marks for a clear and effective explanation of what the teacher could have done to protect the students from psychological harm during the interview. 2 marks for an explanation that lacks detail. 1 mark for a limited/vague/muddled explanation. Possible content • During the interview, the teacher should have reminded the students that participation is voluntary and that they have the right to withdraw at any time. • The teacher should have reminded the students during the interview that their answers were confidential/no names are being recorded. • The teacher could have asked another person to conduct the interviews to ensure that the answers of the interviewees remain anonymous to the teacher. Credit other relevant content.	3 AO2 = 3

Question	Marking guidance	Total marks
16	At the end of each interview, the teacher conducted a debrief with the student. Explain what information the teacher should have provided in the debrief. Award marks as follows: 3 marks for a clear and effective explanation of the information provided in the debrief. 2 marks for an explanation that lacks detail. 1 mark for a limited/vague/muddled explanation. Possible content • The teacher should have reminded the students of the aim of the interview which was to investigate revision techniques. • She should have repeated to the student that participation in the interview was voluntary and that they were still able to withdraw their data. • The student should have been given access to help during the debrief in case they felt that the interview brought up anything they wished to discuss further. • The teacher should have reassured the student that the interview was confidential and that their privacy was guaranteed. Credit other relevant content.	3 AO2 = 3

Question	Marking guidance	Total marks
17	In her interviews, the teacher collected qualitative data. Outline two differences between qualitative and quantitative data. For each difference award marks as follows: 2 marks for a clear outline of one difference. 1 mark for a limited/vague/muddled outline. Possible content: • Qualitative data is made up of words while quantitative data is a frequency and may be numerical. • Qualitative data requires the participants to express themselves while quantitative data requires the participants to select an option provided by the researcher/create a score. • Qualitative data can be converted into quantitative data while quantitative data cannot be converted into qualitative data. Credit other relevant differences.	4 AO1 = 4

Question	Marking guidance	Total marks
18	Follow-up study In the interviews, most students mentioned using visual aids, such as posters. The teacher wanted to follow up her study into revision techniques. She decided to investigate how useful posters are when revising. Her class was due to take a psychology test. The teacher divided her class into two groups. Group 1 was told to revise only by making posters. Group 2 was told to use any revision technique apart from posters. The students all completed the same psychology test. The test had a maximum score of 20 marks. Identify the experimental design used by the teacher. Briefly justify your answer. Award marks as follows: Award 1 mark for independent groups design. Award a further mark for the students only took part in one condition/group, either poster or control group.	2 AO2 = 2

Question	Marking guidance	Total marks
19	Identify the operationalised dependent variable in the follow-up study. Award marks as follows: 2 marks for a fully operationalised dependent variable: test score out of 20 marks. 1 mark for a limited/vague/muddled dependent variable which lacks operationalisation, eg score/mark/result.	2 AO2 = 2

Question	Marking guidance	Total marks
20	Identify the type of experiment used by the teacher in the follow-up study. Briefly justify your answer. Award marks as follows: Award 1 mark for field experiment. Award a further mark for the students completed a psychology test that took place during their lesson.	2 AO2 = 2

Question	Marking guidance	Total marks
21	Identify one extraneous variable in the follow-up study and briefly explain how the teacher could have dealt with this. Award marks as follows: Award 1 mark for identification of a relevant extraneous variable, eg student ability/intelligence, time spent revising/amount of revision completed. Award a further mark for a brief explanation of how the teacher could deal with this. Possible content - Some students might be more intelligent/better at psychology, so the teacher could use a matched pairs design based on previous psychology test scores. - Some students might revise more/for longer than others, so the teacher could make them revise during lessons. Credit other relevant content.	2 AO2 = 2