

Specimen Paper Answers – Paper 4

Cambridge International AS & A Level Psychology 9990

For examination from 2024



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Introduction

These specimen answers have been produced by Cambridge ahead of the examination in 2024 to exemplify standards for those teaching Cambridge International AS & A Level Psychology 9990. In this booklet, we have provided examples for Specimen Paper 04 structured questions and essay questions, a mixture of high and middle-level responses for the structured question 5 and question 6 and a high and either middle or low-level answer for essay questions 10(a), (b) and (c).

The marks given are for guidance only and are accompanied by a brief commentary explaining the strengths and weaknesses of the answers. Comments are given to indicate where and why marks were awarded, and how additional marks could have been obtained.

The mark schemes for the Specimen Papers are available to download from the [School Support Hub](#).

2024 Specimen Paper 04

2024 Specimen Paper Mark Scheme 04

Past exam resources and other teaching and learning resources are available from the [School Support Hub](#).

Details of assessment

The syllabus for Cambridge International AS & A Level Psychology is available at www.cambridgeinternational.org

Paper 4 – Specialist Options: Application and Research Methods

Written paper, 1 hour 30 minutes, 60 marks

This paper contains two sections.

Section A: candidates answer questions on the two specialist options they have studied.

There will be two structured questions on each of the specialist options, and candidates will answer all parts of the questions from the two specialist options they have studied.

Questions will require candidates to consider the subject content and Key Studies of the specialist options, research methods and methodological concepts. The questions are based on two topics or sub-topics within the studied specialist options. The topic areas for each specialist option will be different to the topic areas assessed in Paper 3.

Section B: candidates answer one planning question from a choice of four (one for each specialist option). In the planning question candidates must plan a study (10 marks) and answer structured questions to evaluate the plan (14 marks).

For the planning question, candidates will apply their knowledge of research methods and practical issues and methodological concepts to plan an investigation. Candidates will be required to specify both the **general features** which will apply to all research methods and the **specific features** which apply to the research method used.

Question 5

From the key study by Yokley and Glenwick (1984) on community interventions:

(a) Outline **two** of the experimental conditions used in the study. [4]

Specimen answer – high

The two experimental conditions used in the study are the general prompt group where participants received a prompt stating that 'your child needs vaccinations'. The second was the monetary incentive group where as well as the general prompt, information was given about \$175 which could be won.

Mark awarded = 4 out of 4

Examiner comment

This question asks for two experimental conditions and is marked with up to two marks available for each condition.

The answer correctly identifies one condition, the general prompt group, and outlines what happened to this group. For the first part of the answer, 2 marks can be awarded out of 4.

The answer then identifies a second condition, monetary incentive group, and provides an outline of what happens to this group and also makes it clear how it is different from the first group. This second part of the answer is also awarded 2 marks out of 2, with the answer scoring full marks overall.

Common mistakes

A common mistake is to identify but not to outline, and this question requires an outline setting out the main points of the things being identified. An example of this would be to write 'one condition is the general prompt group' and nothing else. This would score 1 mark out of 2, because the condition has been correctly identified, but it would not score the second mark because there is no outline of the main points of what this condition involves.

(b) Suggest why Yokley and Glenwick included two control conditions in their study. [2]

Specimen answer – middle

A control condition is included to make the study better, to make the DV more likely to be due to the IV. Another reason is that the control conditions can be compared to the experimental conditions.

Mark awarded = 1 out of 2

Examiner comment

This is an example of a response which makes an appropriate suggestion but without applying it to the question.

This answer has several weaknesses. Firstly, there is no mention of the Yokley and Glenwick study; the answer is general and could apply to any study. Secondly, the question has been misinterpreted. Instead of focussing on why two controls were used, two reasons have been provided. A better approach would have

been a single suggestion which has been applied to the question. In this case, 1 mark out of 2 can be awarded for either of the suggestions.

Common mistakes

- Suggest questions require application of knowledge and understanding to the situation, in this case the Yokley and Glenwick study.
- A common mistake is not to read the question fully. In this instance, the question does not require two reasons for controls, as in the part (a) question, but a suggestion of why Yokley and Glenwick included two controls.

(c) Explain **two** weaknesses of conducting field experiments to study participation in immunisation interventions in communities. [4]

Specimen answer – middle

An advantage of an experiment is that individual variables can be isolated (the IV) and extraneous variables controlled. But this is reductionist and for a field experiment there might be many extraneous variables that affect the DV that cannot be controlled. For example, the money incentive group offers \$175, but the family might have lots of money and so this is not an incentive at all. Further, in a field experiment, participants do not know they are taking part and so behave naturally.

Mark awarded = 2 out of 4

Examiner comment

This question asks for two weaknesses and is marked with up to 2 marks available for each weakness.

This answer appears to begin incorrectly with an advantage, but it then becomes apparent that the answer is explaining an appropriate weakness. There is then a good example which relates the weakness to the study by Yokley and Glenwick and knowledge from the study is evident, such as referring to the money incentive group and \$175. The first part of this answer can be awarded 2 marks out of 2.

The second part of the response, participants not knowing that they are taking part in an experiment, is not a weakness, but a strength. The statement is accurate because in many instances participants do not know they are participating in a field experiment, but this is a strength rather than a weakness. The answer is not related to the context of immunisation interventions in communities at all. No marks can be awarded for the second half of the answer.

Common mistakes

It is important to remember that question parts (a), (b) and (c) all relate to the same question, introduced in the stem (the question introduction). For this question the stem referred to the key study by Yokley and Glenwick and so answers to all question parts must relate to this study or context.

Question 6

The UAB pain behaviour scale can be used with patients in hospital. It uses repeated observations to measure changing levels of pain.

(a) Describe how this scale is used with a patient in hospital. [2]

Specimen answer – high

The UAB scale is used by an experienced practitioner to judge the amount of pain a patient in hospital is in. The scale includes verbal and non-verbal complaints and these can be rated as none, occasional or frequent.

Mark awarded = 2 out of 2

Examiner comment

This is a good answer because not only does the answer describe what the UAB is used for, there is brief detail about what is rated and the rating categories. This answer would be awarded 2 marks out of 2. Note that other aspects of the UAB could have been included, such as rating the pain each day over a period of time to see whether it was easing or not, or there could be examples of the verbal or non-verbal behaviour, such as groans, gasps or body posture. These additional aspects could be used as alternative description, but all the features would not be needed to achieve full marks.

Common mistakes

Candidates assume that a question allocated 2 marks requires a very brief answer. If, for example, an answer was 'The UAB scale can be used by a doctor or nurse to find out how much pain the patient is experiencing' this would score 1 mark out of 2 because there is no description. By adding a little extra detail (as shown in the high-level answer above) can earn full marks.

(b) Suggest why is it important to use repeated observations to measure changing levels of pain.

[2]

Specimen answer – middle

It is important to use repeated observations to measure changing levels of pain so it can be seen if the pain is worse, the same or better.

Mark awarded = 1 out of 2

Examiner comment

This answer begins by repeating the question. The second half of the answer is correct because this is a reason why repeated observations are used, but there is no elaboration or further detail. Only 1 mark out of 2 can be awarded.

Common mistakes

- Candidates re-write the question. This wastes valuable writing time, especially if it is done for every answer.
- Candidates do not add enough detail to their answers. The answer above could have gone on to write (for example), 'Repeated observation means that the amount of pain medication being administered can be increased or decreased and if there is no pain recorded then the patient can be sent home' which would have been awarded the second mark.

(c) Explain **one** strength and **one** weakness of using this scale to measure pain behaviour.

[4]

Specimen answer – high

A strength is that the medical practitioner is using the UAB scale to independently assess the pain of a patient. If the patient were to assess their own pain, they may exaggerate, but a medical expert would assess the pain accurately using numbers which can be compared each day. A weakness is that the scale only assesses how much pain the patient is in. This has two problems. Firstly it does not assess what type of pain the patient is in and secondly it only has three categories: none, occasional and frequent. A wider scale could be used, such as a type of 5-point scale.

Mark awarded = 4 out of 4

Examiner comment

This question asks for one strength and one weakness and is marked with up to two marks available for each.

This answer has a strength which has elaboration and a weakness which also has elaboration. The answer shows knowledge and understanding of the UAB pain measure and the evaluative points are clearly explained. This answer scores full marks.

Common mistakes

Candidates do not provide one strength and one weakness. Sometimes answers will incorrectly include two strengths or two weaknesses. Reading the question, understanding what is required and then putting it into action is essential examination technique.

Question 10

A pleasant odour, such as the smell of flowers, could be the most important retail atmospheric to influence the behaviour of consumers. However, some people do not like the smell of flowers, instead preferring the smell of fruit.

(a) Plan an experiment to investigate the influence of different odours in a retail environment on the behaviour of customers.

Your plan must include details about:

- A sampling technique
- A directional or non-directional hypothesis.

[10]

Specimen answer – high

I would conduct a field experiment, specifically outside two different flower shops located in different parts of a shopping mall. The IV would include two conditions: the smell of flowers (congruent odour) the smell of fresh bread (incongruent odour with a flower shop). For controls I would spray the same amount of each odour for 3 seconds every 6 minutes and I would repeat this each day for 1 week. However, I would not be able to control some extraneous variables such as other odours in the background. The DV would be the number of participants entering each flower shop, because the different odours would cause them to enter the shop or not. The directional hypothesis would be that 'participants smelling a congruent odour will enter a flower shop significantly more than participants smelling an incongruent odour'. The experimental design is independent groups because there are two different flower shops each with a different odour. The study would be entirely ethical because participants are doing their normal shopping, although it could be argued that as I'm influencing their behaviour, I should gain informed consent. As it is conducted in a shopping mall, ecological validity is high. Data would be gathered using a naturalistic, covert and structured observation. This means that the observers would not be seen by the participants and it is structured because the behavioural response categories would simply be 'enters the store' and 'does not enter the store'. The sampling technique would be opportunity, because I would take the opportunity to observe a participant smelling the smell and entering the shop or not. Data would be quantitative and the total number of people entering each shop could be calculated.

Mark awarded = 10 out of 10

Examiner comment

The 10-mark questions are marked using a levels-based mark scheme. It is worth noting the focus on method-specific features. These features for each type of study (experiment, observation, etc.) are listed in the Cambridge International AS & A Level Psychology 9990 syllabus.

This is a very good answer. This response meets the criteria for Level 5 in the marking grid for this question. From the mark scheme: the answer does use a method as required by the question; it has a good range of method-specific details which are described clearly (it has IV, DV, controls, design and location). It describes a range of general methodological features well, such as ecological validity, the how data is collected and the type of data. It also meets the requirements to include sampling technique, although some could be more detailed (such as features of the observation or how the data would be analysed) and a hypothesis. It shows very good understanding of what is required and why it is important for a valid and reliable experiment and is a coherent design. This study could be replicated fairly easily as there is enough detail about the method specific and general features. Appropriate knowledge and terminology is evident in the plan.

Specimen answer – low

I would conduct an experiment with different odours. I would have an odour smelling of flowers and a citrus smelling odour. My study would be done in a shopping mall. The participants would be people in the shopping mall. This would make the sampling technique an opportunity sample. The study would be ethical. At the exit to the shopping mall I would ask people to complete a questionnaire asking about whether they could smell the smell or not, and whether they thought this improved their shopping experience. The hypothesis would be that participants smelling a flower smell would rate the shopping experience higher than participants smelling citrus. The results could be analysed and mean scores calculated and a bar chart could be drawn.

Mark awarded = 4 out of 10

Examiner comment

This response meets the criteria for Level 2 of the marking grid for this question. From the mark scheme: the answer uses an appropriate method as required by the question and states the sampling technique and hypothesis. It has some method-specific details but these lack detail and a lot of terminology is absent, for example there is no mention of IV, DV or controls. It shows very limited understanding of methodological features specific to the plan of a field experiment and the study would be very difficult to replicate because of the lack of method specific detail. There is little attempt to apply knowledge of psychological methodology and terminology such as IV, DV, etc. (Note that this is not penalised twice, but it does confirm the level achieved by this response).

This answer could be significantly better if explanations were provided rather than just general statements. For example: what type of experiment is it? Why would the study be done in a shopping mall? Why is the sampling technique opportunity? How is the study ethical? What is the IV, the DV? What is the experimental design? What questions would be asked in the questionnaire to gather data? The answer has potential, but absence of explanations restricts the awarding of marks.

Common mistakes

- The most serious mistake in planning questions is not planning a study using the stated method. If the question requires an experiment to be conducted, and a different method is used (such as an observation, interview or questionnaire) then the response will only meet the criteria for Level 1 marks (1–2). Note that it is appropriate to use a different method to gather data as part of the plan of the main method (as is done in the good response above where observations are used).
- The guidance in the syllabus about the method-specific features of each type of study is extremely important. Candidates should be familiar with these and with the other general methodological features which create a coherent study.
- A failure to expand on methodological details (as explained above) can make the difference between a middle-range response and a high response.

(b) For one piece of psychological knowledge on which your plan is based:

(i) Describe this psychological knowledge.

[4]

Specimen answer – high

One relevant piece of psychological knowledge is the study by Chebat and Michon (2003). They conducted a field experiment in a shopping mall. In week one there was no odour (the control) and in the second week a light citrus scent was sprayed between two major retailers for 3 seconds every 6 minutes. 145 participants in the scent condition and 447 in the control condition completed a questionnaire about their spending and the quality of the mall. Results showed that the citrus scent improved the shoppers' mood and what they thought about the environment.

Mark awarded = 4 out of 4

Examiner comment

The mark scheme allocates 3–4 marks to answers where 'The knowledge is appropriate. Relevant points are correctly described in good detail.' This answer includes the Chebat and Michon (2003) study which is the recommended example study in the syllabus. Correct points are described in good detail. This question part is awarded 4 marks out of 4.

Note that the example provided in this response is quite short, but has good detail listing the type of experiment, the location, the design, the method of collecting data and the outline of the results. No further detail is necessary.

Any psychological knowledge that is relevant to the plan (in question part (a)) can be described. This will most likely be a specific study, but it could also be knowledge from the wider topic area. It could also be a theory or a model. Candidates can use this question part to tell the examiner what they have learned on this topic.

Specimen answer – low

A study was done by Chebat and Michon in a shopping mall where they found that different scents, one of which was a citrus smell, led people to buy more products. Other studies have found that lighting and colour can also affect shopper behaviour.

Mark awarded = 1 out of 4

Examiner comment

The answer correctly names Chebat and Michon and the location of the shopping mall and the comment that they used a citrus odour in their study is also correct. However, Chebat and Michon did not look at whether people bought more products or not. The comments about lighting and colour are from the same topic area, but receive no credit because there is no explanation of how lighting and colour are relevant.

Common mistakes

- The most common mistake is answers that do not focus on the question. The answer must focus on a relevant piece of psychological knowledge. To score 4 marks the response must be accurate and have some detail.
- If what is described is not from the relevant topic area, and an examiner cannot see how the information described is relevant, then no marks can be awarded.

(b)(ii) Explain how you used two features of this psychological knowledge to plan your experiment.

[4]

Specimen answer – high

Firstly, Chebat and Michon conducted their study in a shopping mall because this is a natural environment for shoppers and not an artificial lab environment. This is the reason why I decided to conduct my study outside flower shops in a shopping mall rather than in a lab. Secondly, Chebat and Michon sprayed their odour for 3 seconds every six minutes and I assume they did this because it maintained a constant level of odour. I decided to do the same as Chebat and Michon because I have no evidence that any different timings would be better.

Mark awarded = 4 out of 4

Examiner comment

This question asks for two features and is marked with up to 2 marks available for each feature.

This question is where the link between existing research and the plan is explained. The purpose of this question part is to show how the candidate applies existing research knowledge to something different, or something new.

The mark scheme for 2 marks answers states: ‘Suitable answer that identifies a feature and explains how the feature was used, expanded or modified to make it appropriate to the plan. The knowledge has clearly been applied to the plan.’

This answer includes two features both of which are clearly explained and show how the plan in part (a) was based on the study by Chebat and Michon (2003). This question part receives 4 marks out of 4.

Specimen answer – middle

The study by Chebat and Michon was done in a shopping mall, so I also conducted my study in a shopping mall. The study by Chebat and Michon used a citrus odour, so I also used a citrus odour.

Mark awarded = 2 out of 4

Examiner comment

This question asks for two features and is marked with up to two marks available for each feature.

Both these comments are correct and each scores 1 mark. However, there is no elaboration and no explanation for either decision. The consequence of this is that no further marks can be awarded.

Common mistakes

- The most common mistake is answering question part (a), the plan, without application of relevant psychological knowledge. Candidates need to be aware that the second part of the planning question requires them to state what psychological knowledge they used to plan the study and explain how they used it. Otherwise, they might not be able to answer this question fully.
- It would be inappropriate to refer to a published study for every aspect of methodology that applies to every study. For example, it would not be appropriate to write 'I used a volunteer sample because the Milgram (1963) did'.
- To gain more marks a response should always include an explanation of why the decision was made. Even a single sentence may be sufficient to score a further mark. 'Explain' questions always require the student to say why or how and support with relevant evidence.
- As with other questions if the question asks for two features, a response will not have access to all the marks if they do not provide two features.

(c)(i) State two reasons for your choice of sampling technique.

[2]

Specimen answer – high

I chose an opportunity sample for two reasons. Firstly, they were people in the shopping mall, there because of their own choice to be there and they would behave naturally because they did not know they were participating in an experiment. Secondly, if the participants agree to do the study, they are more likely to be enthusiastic and less likely to withdraw.

Mark awarded = 2 out of 2

Examiner comment

This answer is excellent because it provides two clear reasons. They are both stated well and are appropriate to the study planned above.

This is a good way to structure a response with two reasons evident.

Specimen answer – middle

I chose an opportunity sample because using a self-selecting sample would take much more time because I would have to advertise on a poster or in a newspaper and then I would have to select people who volunteered to participate.

Mark awarded = 1 out of 2

Examiner comment

The answer gives a good and detailed reason why an opportunity sample was chosen. However, two reasons are required and as this answer only gives one reason only 1 mark can be awarded.

Common mistakes

If a question requires two things (reasons in this instance) then two must be given, otherwise full marks cannot be awarded.

(c)(ii) Explain one weakness of your choice of sampling technique.

[2]

Specimen answer – high

The weakness of this sampling technique is that there was no control over who the participants smelling the different odours of the IV actually were. For example, there was no control over age, gender, type of shopper (as outlined by Gil et al.). This would then restrict any generalisation I might make because I did not record any feature of any participant, just whether they entered the flower store or not.

Mark awarded = 2 out of 2

Examiner comment

This answer has an appropriate weakness, being no control of participant variables. If the answer were to be just 'no control over participant variables' then 1 mark would be awarded. However, this answer adds further detail and suggests what those participants' variables might be. This answer clearly links to the plan and the shows very good understanding when considering an implication (inability to generalise) of the weakness of the sample. Impressively, the answer refers to the Gil et al. study which looked at different types of shoppers and this is an appropriate participant variable to mention.

Specimen answer – middle

The problem with opportunity sampling in my study is that when giving people the questionnaire I might choose people who I think might answer the questions in the way that supports my study.

Mark awarded = 1 out of 2

Examiner comment

This answer has an appropriate weakness, that of experimenter bias when using an opportunity sample and so scores 1 mark. However, there is no link to what the study being planned is about and so the second mark cannot be awarded.

Common mistakes

A weakness must be explained in context of the plan not just stated to be awarded full marks.

(c)(iii) Explain one reason for your choice of directional or non-directional hypothesis. [2]

Specimen answer – high

I chose a directional hypothesis because I was making a prediction about the outcome of the study. I predicted that congruent smells (smell of flowers outside a flower shop) would encourage people to enter the shop rather than if they smelled an incongruent smell (bread outside a flower shop). My directional hypothesis is based on the idea that a congruent smell triggers the impulse to buy flowers and therefore enter the shop when an incongruent smell would not.

Mark awarded = 2 out of 2

Examiner comment

For this question the mark scheme allocates 1 mark for an appropriate reason and 1 further mark if the reason is explained. The answer above states that the hypothesis is directional because a prediction is being made. This is correct and 1 mark can be awarded. The answer then goes on to explain why a prediction was made. The reasoning in this answer is logical, links directly to the plan and so 1 further mark can be awarded.

Specimen answer – middle

The hypothesis would be that participants smelling a flower smell would rate the shopping experience higher than participants smelling citrus. This is a directional hypothesis because there is the prediction that a flower smell will be rated higher than a citrus smell.

Mark awarded = 1 out of 2

Examiner comment

The answer includes the hypothesis that appeared in part (a), the plan. This alone would score no marks and it has already received credit in part (a). Similarly writing 'This is a directional hypothesis' would score no marks because no reason for the choice is provided. However, there is then the comment about a prediction being made and the flower smell rated higher. This reason would score 1 mark. However, there is no explanation about *why* a flower smell will be rated higher and so the second mark cannot be awarded.

Common mistakes

- The direction of the hypothesis stated in question part (a) the plan, must match the reason stated in this question part.
- Stating a reason 'directional because I was making a prediction' is only a partial answer. Explanation is needed for full marks.

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