CAMBRIDGE
International Education

Cambridge International AS & A Level

PSYCHOLOGY **9990/41**

Paper 4 Specialist Options: Application and Research Methods **May/June 2025**

MARK SCHEME

Maximum Mark: 60

Published

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the May/June 2025 series for most Cambridge IGCSE, Cambridge International A and AS Level components, and some Cambridge O Level components.

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Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptions for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

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Social Science-Specific Marking Principles (for point-based marking)

1 Components using point-based marking:

- Point marking is often used to reward knowledge, understanding and application of skills. We give credit where the candidate's answer shows relevant knowledge, understanding and application of skills in answering the question. We do not give credit where the answer shows confusion.

From this it follows that we:

a DO credit answers which are worded differently from the mark scheme if they clearly convey the same meaning (unless the mark scheme requires a specific term)

b DO credit alternative answers/examples which are not written in the mark scheme if they are correct

c DO credit answers where candidates give more than one correct answer in one prompt/numbered/scaffolded space where extended writing is required rather than list-type answers. For example, questions that require *n* reasons (e.g. State two reasons …).

d DO NOT credit answers simply for using a 'key term' unless that is all that is required. (Check for evidence it is understood and not used wrongly.)

e DO NOT credit answers which are obviously self-contradicting or trying to cover all possibilities

f DO NOT give further credit for what is effectively repetition of a correct point already credited unless the language itself is being tested. This applies equally to 'mirror statements' (i.e. polluted/not polluted).

g DO NOT require spellings to be correct, unless this is part of the test. However spellings of syllabus terms must allow for clear and unambiguous separation from other syllabus terms with which they may be confused (e.g. Corrasion/Corrosion)

2 Presentation of mark scheme:

- Slashes (/) or the word 'or' separate alternative ways of making the same point.
- Semi colons (;) bullet points (•) or figures in brackets (1) separate different points.
- Content in the answer column in brackets is for examiner information/context to clarify the marking but is not required to earn the mark (except Accounting syllabuses where they indicate negative numbers).

3 Calculation questions:

- The mark scheme will show the steps in the most likely correct method(s), the mark for each step, the correct answer(s) and the mark for each answer
- If working/explanation is considered essential for full credit, this will be indicated in the question paper and in the mark scheme. In all other instances, the correct answer to a calculation should be given full credit, even if no supporting working is shown.
- Where the candidate uses a valid method which is not covered by the mark scheme, award equivalent marks for reaching equivalent stages.
- Where an answer makes use of a candidate's own incorrect figure from previous working, the 'own figure rule' applies: full marks will be given if a correct and complete method is used. Further guidance will be included in the mark scheme where necessary and any exceptions to this general principle will be noted.

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4 Annotation:

- For point marking, ticks can be used to indicate correct answers and crosses can be used to indicate wrong answers. There is no direct relationship between ticks and marks. Ticks have no defined meaning for levels of response marking.
- For levels of response marking, the level awarded should be annotated on the script.
- Other annotations will be used by examiners as agreed during standardisation, and the meaning will be understood by all examiners who marked that paper.

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Annotations guidance for centres

Examiners use a system of annotations as a shorthand for communicating their marking decisions to one another. Examiners are trained during the standardisation process on how and when to use annotations. The purpose of annotations is to inform the standardisation and monitoring processes and guide the supervising examiners when they are checking the work of examiners within their team. The meaning of annotations and how they are used is specific to each component and is understood by all examiners who mark the component.

We publish annotations in our mark schemes to help centres understand the annotations they may see on copies of scripts. Note that there may not be a direct correlation between the number of annotations on a script and the mark awarded. Similarly, the use of an annotation may not be an indication of the quality of the response.

The annotations listed below were available to examiners marking this component in this series.

Annotations

Annotation	Meaning
	Correct point
	Incorrect point
BOD	Benefit of doubt
REP	Repetition
	Answer unclear
NOM	Used in the 10-mark planning Q in Section B to indicate wrong method
E	Used in the 10-mark planning Q in Section B to indicate ethics included
NAQ	Not answering question
SEEN	
	Supportive point
B	Used in the 10-mark planning Q in Section B to indicate bullet point included
NE	Used in the 10-mark planning Q in Section B to indicate no ethics included

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Generic levels of response marking grids
Table A: AO2 Application
The table should be used to mark the 10 mark 'Plan a study' **questions (9, 10, 11** and **12)**.

Level	Description	Marks
5	The response: • uses an appropriate method as required by the question. • describes a good range of appropriate method-specific features with accurate detail. • describes a good range of appropriate general methodological features with accurate detail. • shows very good understanding and the plan is coherent and is sufficient for replication. • clearly applies knowledge of psychological methodology and terminology involved in planning a study. • Uses and shows good understanding of ethical guidelines.	9–10
4	The response: • uses an appropriate method as required by the question. • describes a range of appropriate method-specific features in detail. • describes a range of appropriate general methodological features with some in detail. • shows good understanding and the plan is coherent. • applies knowledge of psychological methodology and terminology involved in planning a study. • uses ethical guidelines appropriately.	7–8
3	The response: • uses an appropriate method as required by the question. • describes a range of appropriate method-specific features although these may lack detail. • describes some general methodological features although these may lack detail. • shows limited understanding and the plan has some coherence. • applies some knowledge of psychological methodology and terminology involved in planning a study. • refers to ethical guidelines.	5–6
2	The response: • uses an appropriate method as required by the question. • identifies (lists) some appropriate method-specific features. • identifies (lists) a limited range of appropriate general methodological features. • shows little understanding and the plan would be difficult or impossible to replicate. • makes some attempt to apply knowledge of psychological methodology and terminology involved in planning a study. • ethical guidelines listed or absent.	3–4

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Level	Description	Marks
1	The response: • may not use the method required by the question. • may not answer the question set. • identifies a few general and/or method-specific features and detail is limited. • shows very little understanding and the plan would be impossible to replicate. • makes a limited attempt to apply knowledge of psychological methodology and terminology involved in planning a study.	1–2
0	• No response worthy of credit. • The candidate describes the study listed on the syllabus. • The plan is unethical.	0

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>1</td><td colspan="2">The key study by Chapman and DeLapp (2013) on blood/injection/injury phobia used the subjective unit of discomfort scale (SUDS) to assess the change in the anxiety levels of the patient ‘T’.</td></tr>
<tr><td>1(a)(i)</td><td>Identify <u>two</u> situations included in the SUDS hierarchy used with ‘T’, other than ‘getting a phlebotomy’.

Syllabus 1.4.3 Key study on treating blood/injection/injury phobia using cognitive-behavioural therapy (CBT) with applied tension: Chapman and DeLapp (2013).
Marks: 1 mark for each correct answer
Note: wording does not need to be exact.

Definitive answers:
<table>
<tr><td>Getting a physical or stress test</td><td>Seeing someone get a phlebotomy in person</td></tr>
<tr><td>Getting blood pressure taken at CVS (a local pharmacy) or Wal-Mart</td><td>Taking my own blood sugar</td></tr>
<tr><td>Getting blood pressure by a nurse</td><td>Wife taking my blood sugar</td></tr>
<tr><td>Taking blood pressure myself</td><td>Seeing someone get a phlebotomy in a video</td></tr>
<tr><td></td><td>Wrapping a tourniquet around my arm and touching my veins</td></tr>
</table></td><td>2</td></tr>
</table>

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>1(a)(ii)</td><td>Give the results for <u>one</u> situation of the SUDS hierarchy identified in part (a) that show a change in the anxiety levels of ‘T’.

Marks: 1 mark for comment related to a situation and comment about numbers but no numbers.

2 marks for comment plus reasonably accurate numbers for that situation.

Note: numbers can be before versus during, during versus after, or before versus after. ‘During’ is the results as the therapy session progressed.

Definitive answers:
<table>
<tr><th>Situation</th><th>Before</th><th>During</th><th>After</th></tr>
<tr><td>Getting a physical or stress test</td><td>100</td><td></td><td></td></tr>
<tr><td>Getting blood pressure taken at CVS (a local pharmacy) or Wal-Mart</td><td>90</td><td></td><td></td></tr>
<tr><td>Getting blood pressure by a nurse</td><td>85</td><td></td><td></td></tr>
<tr><td>Taking blood pressure myself</td><td>75</td><td>55>45>35</td><td>20</td></tr>
<tr><td>Seeing someone get a phlebotomy in person</td><td>55</td><td>65>45</td><td>30>0</td></tr>
<tr><td>Taking my own blood sugar</td><td>55</td><td></td><td></td></tr>
<tr><td>Wife taking my blood sugar</td><td>50</td><td>45</td><td>20</td></tr>
<tr><td>Seeing someone get a phlebotomy in a video</td><td>50</td><td></td><td></td></tr>
<tr><td>Wrapping a tourniquet around my arm and touching my veins</td><td>45</td><td>40>30></td><td>20>15</td></tr>
</table></td><td>2</td></tr>
<tr><td>1(b)</td><td>Suggest <u>one</u> reason why the data gathered from ‘T’ might not be valid.

Marks: Award 2 marks for an appropriate suggestion stated and applied to study with detail/elaboration/example. Award 1 mark for an appropriate suggestion identified but not applied.

Answers may include (<u>other appropriate responses to be credited</u>).
• ‘T’ may not tell the truth (1 mark) about his subjective rating of anxiety level so the measure is not measuring accurately what T is claiming (2 marks)
• T might be responding to social desirability/demand characteristics (1 mark) rating of anxiety level so the measure is not measuring accurately what T is claiming (2 marks)</td><td>2</td></tr>
</table>

Question	Answer	Marks
1(c)	**Explain <u>two</u> strengths of using quantitative data to assess the effectiveness of blood/injection/injury anxiety measures.** Marks: Up to 2 marks for each strength ×2 Award 2 marks for an appropriate strength stated and applied as required by the question with detail/elaboration/example. Award 1 mark for an appropriate strength stated but not applied. Answers may include (<u>other appropriate responses to be credited</u>): Strengths: • quantitative data is unambiguous (and objective) fact (1 mark) this allows the therapist to make a precise judgement about the current state of anxiety in the blood phobic (2 marks) • test producing quantitative data can be replicated e.g. measure can be repeated on numerous occasions (1 mark) and so progress, or lack of it, in the blood phobic can be seen (2 marks) • quantitative data can be used for statistical analysis/visual displays (1 mark) to compare with other people with a blood phobia, for example (2 marks) Note: do not credit 'statistical analysis' and 'make comparisons' as two points unless justified. Note: credit a comparison/contrast (such as with qualitative data) as + mark.	**4**

Question	Answer	Marks
2	**Ellis developed rational emotive behaviour therapy (REBT) for the treatment of mood (affective) disorders.**	
2(a)	**Outline how irrational beliefs are changed by REBT.** Syllabus 1.2.3 psychological therapies: – Ellis's rational emotive behaviour therapy (REBT). Marks: Award 2 marks for a detailed outline. Award 1 mark for a partial outline (e.g. ABC only). Answers may include (other appropriate responses to be credited): • Rational Emotive Behaviour Therapy. (REBT) Ellis focused on how illogical beliefs are maintained through: A: an activating event, B: the belief held about A, C: the consequences – thoughts, feelings or behaviours – resulting from A. REBT therefore involves: D: disputing the irrational beliefs, E: the effects of successful disruption of the irrational beliefs. Note**:** therapy is changing beliefs therefore A, B & C are only appropriate to explain D and E. Note: ABC only =1. D=1; E=1 (both =2). ABC + D or E =2 Note: Question is 'Outline' so terms need more than identification for 1 mark.	**2**
2(b)	**Suggest how the effectiveness of REBT could be measured using a questionnaire.** Marks: Award 2 marks for an appropriate suggestion stated and applied to study with detail / elaboration / example. Award 1 mark for an appropriate suggestion identified but not applied. Answers may include (other appropriate responses to be credited): • a questionnaire could be created which could include a range of closed questions (1 mark) asking about disruption of irrational beliefs on a 5-point scale for example (2 marks) • a questionnaire could be created which could include a range of open questions (1 mark) asking in detail about disruption of irrational beliefs (2 marks) • questions could be asked about coping with activating events' (1 mark) • questions could be asked about successful disruption of the irrational beliefs (1 mark) with example (2 marks) Note: BDI is creditworthy if some detail of it is provided (21 items, closed, rating scale, etc.)	**2**

Question	Answer	Marks
2(c)	**Explain <u>two</u> strengths of using REBT to treat depression.** Marks: Up to 2 marks for each strength ×2 Award 2 marks for an appropriate strength stated and applied as required by the question with detail / elaboration / example. Award 1 mark for an appropriate strength stated but not applied. Answers may include (<u>other appropriate responses to be credited</u>): Strengths: • technique can be applied by anyone, in any place at any time (1 mark) so the 'patient' can apply the disputing of beliefs themselves when they are exposed to a relevant activating event (2 marks) • research has supported its effectiveness compared to a control group (1 mark) e.g. Lyons and Woods, 1991) found REBT showed significant improvement (2 marks). • research has supported its effectiveness compared to other therapies (1 mark) e.g. Iftene, 2015) found REBT to be as effective as anti-depressants (2 marks). Note: credit a comparison/contrast (such as use of drugs) as + mark.	**4**

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<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>3</td><td colspan="2">From the key study by Robson et al. (2011) on consumers' responses to table spacing:</td></tr>
<tr><td>3(a)(i)</td><td>Participants were asked 'how you would feel about being seated at this table?'. One of the questions that the participants then had to rate on the questionnaire was 'I would be overheard by other diners'.

Give <u>two</u> other questions that the participants were asked to rate.

Syllabus: 2.2.3 key study on consumers responses to table spacing: Robson et al. (2011).

Marks: Award 1 mark for each correct statement.
Definitive answers:
Note: questions do not need to be word perfect.
Note: answers need to be more than a single word (such as 'comfortable')

<table>
<tr><td colspan="2">Sitting at this table, I would:</td></tr>
<tr><td>feel like the restaurant cares about me</td><td>disturb the next table if I had to get up</td></tr>
<tr><td>have the kind of experience I want</td><td>be overheard by other diners</td></tr>
<tr><td>have an exciting meal experience</td><td>feel like I was being watched</td></tr>
<tr><td>feel like a VIP</td><td>feel exposed</td></tr>
<tr><td colspan="2"></td></tr>
<tr><td colspan="2">Sitting at this table would make me feel: bothered, contented, uptight, active, comfortable, vigorous, distressed, lively, tense, passive, crowded, worried, in control, influential</td></tr>
<tr><td colspan="2">It would be fine with me if I sat at this table</td></tr>
<tr><td colspan="2">If the host were to show me to this table, I would ask to be seated somewhere else.</td></tr>
</table>
</td><td>2</td></tr>
<tr><td>3(a)(ii)</td><td>Outline the type of rating scale used by participants to answer these questions.

Marks: Award 1 mark for each correct feature.

Definitive answers:
• Likert-type scale (1 mark) seven-point scale/1–7 (1 mark) agree/disagree (1 mark)
OR
• range: strongly disagree (1) via 'neither agree nor disagree' to strongly agree (7) (1 mark)</td><td>2</td></tr>
</table>

Question	Answer	Marks
3(b)	**Suggest <u>one</u> way to collect data about the effect of table spacing in restaurants, other than using an online questionnaire with closed questions.** Marks: Award 2 marks for an appropriate suggestion stated and applied to study with detail / elaboration / example. Award 1 mark for an appropriate suggestion identified but not applied. Answers may include (<u>other appropriate responses to be credited</u>): • observation using behavioural categories (1 mark) related to table spacing (2 marks) • interview (face-to-face or by telephone) with open questions, or closed questions without a rating scale (1 mark) related to table spacing (2 marks) • questionnaire with open questions (1 mark) related to table spacing (2 marks)	**2**
3(c)	**Explain <u>one</u> strength and <u>one</u> weakness of using rating scales to assess consumers' responses to table spacing.** Marks: Up to 2 marks for each strength and 2 marks for each weakness. Award 2 marks for an appropriate strength/weakness stated and applied as required by the question with detail / elaboration / example. Award 1 mark for an appropriate strength/weakness stated but not applied. Answers may include (<u>other appropriate responses to be credited</u>): Strengths: • scales provide participants with fixed responses: easier to choose and easier to analyse (1 mark) so researchers gain data about space at tables which is easier to analyse than qualitative data (2 marks) • a rating scale such as a 7-point scale allows a wider range of responses than a 3-point of 5-point scale (1 mark) in this study there is a wide scale such as 'somewhat agree/disagree' (2 marks) • Weaknesses: • a rating scale may include a mid-point (neutral response) which might be used as an opt-out (1 mark) and so the effect of table spacing cannot be measured (2 marks) • using a scale provides quantitative data and there is no opportunity to gather qualitative data (1 mark) so no opportunity to give an explanation for a choice of response such as 'why they feel they were being watched by those on nearly tables'. (2 marks).	**4**

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Question	Answer	Marks
4(a)	**Outline what is meant by brand awareness.** Syllabus: 2.5.3 brand awareness, brand image and effective slogans including types and function of slogans; guidelines. Marks: Award 1 mark for a partial outline e.g. 'can identify/is familiar with a brand'… Award 2 marks for a detailed outline (example/elaboration) e.g.…based on Answers may include (<u>other appropriate responses to be credited</u>): • brand awareness is the extent to which consumers are familiar with a brand's identity and its product or services (1 mark) any example/elaboration (+1 mark) • based on slogans, logos or name (+1) Note: common indicators of brand awareness are brand recall and brand recognition. • brand recall is the respondent's ability to remember the brand without any aid (+1 mark). • brand recognition is the respondent's ability to identify the brand from a list/array that is provided (+1 mark)	**2**
4(b)	**Suggest <u>one</u> way in which brand awareness could be measured, other than a rating scale.** Marks: Award 2 marks for an appropriate suggestion stated and applied to study with detail / elaboration / example. Award 1 mark for an appropriate suggestion identified but not applied. Answers may include (<u>other appropriate responses to be credited</u>): • conduct an experiment (type needed) (1 mark): participants can be exposed to different brands (IV) and complete various tasks (DV) or are then asked about their experiences and/or feelings/satisfaction. • give a questionnaire or interview (include technique or format) (1 mark) to determine brand experiences based on what people think about each brand. • conduct an observation (features) (1 mark) in with various brands and record time taken to identify an item/what product is associated with it. Note: can award 1 mark for correct example with identified method (no detail)	**2**

Question	Answer	Marks
4(c)	**Explain <u>one</u> strength and <u>one</u> weakness of the measurement you suggested in part (b).** Marks: Up to 2 marks for each strength and 2 marks for each weakness. Award 2 marks for an appropriate strength/weakness stated and applied as required by the question with detail / elaboration / example. Award 1 mark for an appropriate strength/weakness stated but not applied. Answers may include (other appropriate responses to be credited): Strengths and Weaknesses • experiment: any strength/weakness of a laboratory experiment or a field experiment (1 mark) related to brand awareness (2 marks) • interview: any strength/weakness of a face-to-face or phone or online interview OR type of interview (structured/semi/unstructured) (1 mark) related to brand awareness (2 marks) • questionnaire: any strength/weakness of closed or open questions OR type of format (paper/pencil or online or postal) (1 mark) related to brand awareness (2 marks) • observation: any strength/weakness (about four features of observations) (1 mark) related to brand awareness (2 marks) Note: strengths and weaknesses must relate to answer in **(b)** else 0 marks	**4**

Question	Answer	Marks
5	**From the key study on positive psychology in schools by Shoshani and Steinmetz (2014):**	
5(a)(i)	**Identify <u>two</u> features of the sample used in this study.** Syllabus: 3.5.3 Key study on using positive psychology in schools to improve mental health: Shoshani and Steinmetz (2014) Marks: Award 1 mark for each correct feature Definitive answers: participants were: • 1167 (at the outset) OR 1038 (completed sets of data by the end) • the seventh, eighth and ninth grades • aged 11.8–14.7 years at the beginning of the study • from two large middle schools in the center of Israel. • were mostly Jewish (98 %). • 57 % of the study population reported middle socioeconomic status • family status (64 % lived in a two-parent family, 36 % lived in a single-parent family) Note: 0 marks for ‘mix of males & females’. M/F numbers not known.	**2**

Question	Answer	Marks
5(a)(ii)	**Give the <u>two</u> reasons why some participants withdrew from the study.** Marks: Award 1 mark each correct reason (numbers are not needed but may be provided). Definitive answers (from study): • due to absence (34 intervention, 22 control) • refusal to complete questionnaires (2 intervention, 4 control) Note: intervention group a total of 65 students did not complete the study (65 intervention, 59 in control; this is **not** a reason); 'later dropped out' (29 intervention, 33 control) is **not** a reason	**2**
5(b)	**The study included a 'wait-list control condition'.** **Suggest <u>one</u> reason for including this 'wait-list control condition'.** Marks: Award 2 marks for an appropriate suggestion stated and applied to study with detail / elaboration / example. Award 1 mark for an appropriate suggestion identified but not applied. Answers may include (<u>other appropriate responses to be credited</u>). • schools and appropriate pupils are 'ready and waiting' (1 mark) six school principals agreed to be on the wait-control list (+1 mark) OR Another school was selected to the wait list control group, based on similar features to the intervention school (1 mark) such as socio-demographic characteristics and number of total students (+1 mark). • schools and appropriate pupils are prepared to be the intervention group (1 mark) with pupils continuing with the regular curricula of the social science lessons which were to impart information and to discuss issues related to the period of adolescence (+1 mark) • these schools act as a baseline (1 mark) to which the intervention group can be compared (2 marks)	**2**

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Question	Answer	Marks
5(c)	**Explain <u>one</u> strength and <u>one</u> weakness of using longitudinal studies to investigate positive psychology in schools.** Marks: Up to 2 marks for each strength and 2 marks for each weakness. Award 2 marks for an appropriate strength/weakness stated and applied as required by the question with detail / elaboration / example. Award 1 mark for an appropriate strength/weakness stated but not applied. Answers may include (<u>other appropriate responses to be credited</u>): Strengths: • it can test to see if what was taught remained with a student over time (1 mark) related to study (2 marks) • it can be used as a pilot study on which to base future studies (1 mark) related to study (2 marks) Note: only credit 'rich, in-depth information if fully justified. No credit for bias due to 'relationships' Weaknesses: • participants are young and can be influenced by things later in life 'windows of opportunity' at different ages (e.g. Lau et al) (1 mark) related to study (2 marks) • participants move to different types of education which may or may not promote the same values (1 mark) related to study (2 marks)	**4**

Question	Answer	Marks
6(a)	**Identify <u>two</u> behavioural categories included in the UAB pain behaviour scale.** Syllabus 3.3.2 behavioural/observational measures: UAB pain behaviour scale. Marks: Award 1 mark for each correct category. Definitive answers (from UAB): • vocal complaints verbal • vocal complaints non-verbal (groans moans gasps etc.) • down time (time spent lying down because of pain per day from 8 AM to 8 PM) • facial grimaces • standing posture • mobility • body language (clutching rubbing site) • use of visible support equipment (braces, crutches, cane, leaning on furniture etc.) • stationary movement (ability to stay still) • medication use Note: can credit examples (from above) without category e.g. rubbing but no alternative word.	**2**

Question	Answer	Marks
6(b)	**Suggest <u>one</u> way in which acute pain can be managed using a psychological treatment.** Marks: Award 2 marks for an appropriate suggestion stated and applied to study with detail / elaboration / example. Award 1 mark for an appropriate suggestion identified but not applied. Answers may include (<u>other appropriate responses to be credited</u>): • outline of how attention diversion /non-pain imagery /cognitive redefinition works (1 mark) with outline related to acute pain (example probably included) (2 marks) Note: needs more than merely 'acute pain'. Answer should use an example of acute pain, such as a headache.	**2**
6(c)	**Explain <u>two</u> weaknesses of pain measures that use observation to collect data.** Marks: Up to 2 marks for each weakness Award 2 marks for an appropriate weakness stated and applied as required by the question with detail / elaboration / example. Award 1 mark for an appropriate weakness stated but not applied. Answers may include (other appropriate responses to be credited): Weaknesses: • the observer may misinterpret the pain behaviour of the patient (1 mark) incorrect interpretation could lead to too much or too little medication being prescribed (2 marks) • the observer does not ask the person experiencing pain about their pain (1 mark) so perhaps missing essential detail about whether the person thinks their pain is easing (2 marks) • observations can be done without the person's knowledge (1 mark) so perhaps missing essential detail about whether the person thinks their pain is easing (2 marks) • the observer is not experiencing the pain of the person being observed (1 mark) related to pain (2 marks) • the observer may miss important pain behaviours (1 mark) related to pain (2 marks)	**4**

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Question	Answer	Marks
7	**From the key study on reasons for sabotage in the workplace by Giacalone and Rosenfeld (1987):**	
7(a)(i)	**'Subjects were told that they should not write their names or any identifying information on the questionnaires.'** **Outline why this was necessary in this study.** Syllabus: 4.5.3 Key study reasons for sabotage in the workplace: Giacalone and Rosenfeld (1987). Marks: Award 2 marks for outline and **related to study**. Award 1 mark for brief outline Most likely answer: **Confidentiality** so participants can remain anonymous (1 mark) and management cannot behave inappropriately towards them (tell off/demote/sacked) because of their answers (2 marks) Note: answer does not have to use the term confidentiality.	**2**
7(a)(ii)	**'Each subject was also advised that the questionnaires were being used for an industrial psychology seminar and that management would not have access to the responses.'** **Outline why this was necessary in this study.** Marks: Award 2 marks for outline and **related to study**. Award 1 mark for brief outline Most likely answer: **Deception** so participants remain naïve about the purpose of the study (1 mark) because otherwise participants might not be honest about sabotage and data gathered might not be valid (2 marks) Note: answer does not have to use the term deception.	**2**

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Question	Answer	Marks
7(b)	**The questionnaires used in the study were constructed by an employee who had recently resigned.** **Suggest <u>one</u> reason why an employee who had recently resigned was chosen to help construct the questionnaires.** Marks: Award 2 marks for an appropriate suggestion stated and applied to study with detail / elaboration / example. Award 1 mark for an appropriate suggestion identified but not applied. Answers may include (<u>other appropriate responses to be credited</u>). • the ex-employee had experience with the company (1 mark) this would provide more insight into the reasons for sabotage than from any other source (2 marks) • the ex-employee knew the company and ways in which workers had committed sabotage actions (1 mark) this would provide more insight into the reasons for sabotage than from any other source (2 marks) • the ex-employee may have resigned rather than be sacked for committing an act of sabotage (1 mark) and so the researcher has first-hand knowledge (2 marks) • the ex-employee would not be returning to work for the company (1 mark) and so would provide honest answers; tell the employers the truth (2 marks)	**2**
7(c)	**Explain <u>two</u> reasons why generalisations cannot be made about sabotage from one study.** Marks: Up to 2 marks for each 'cannot generalise' ×2 Award 2 marks for an appropriate 'cannot generalise' stated and applied as required by the question with detail / elaboration / example. Award 1 mark for an appropriate 'cannot generalise' stated but not applied. Answers may include (<u>other appropriate responses to be credited</u>): Reasons: • definitions of what is and is not sabotage might differ from one company to another (1 mark) Giacolone and Rosenfeld listed methods and forms based on one of their workers (2 marks) • 'work tools' (e.g. machinery) in one industry might be different from work tools in another industry (1 mark). Giacolone and Rosenfeld's study was conducted in an electrical factory very different from an office (2 marks) • any one study will be conducted in a particular country which may not generalise to other countries (1 mark). Workers in some countries may never sabotage! (2 marks) Note: 0 marks for sample size/number of workers. Study found many reasons among the 38 workers.	**4**

Question	Answer	Marks
8(a)	**Explain what is meant by an 'error of commission' when investigating accidents at work.** Syllabus: 4.4.3 accidents at work focusing on human errors (errors of omission, commission, sequencing and timing). Marks: Award 2 marks for explanation with detail/example. Award 1 mark for explanation with no detail or no example. Answers may include (<u>other appropriate responses to be credited</u>): • an error of commission is where a worker misuses or misapplies standard/procedural information (1 mark) it is: • an error because an operator performs an **action which is incorrect** or inappropriate (+1 mark) • where an operator performs an **incorrect additional action** which should not have been done (+1 mark) • any appropriate example (+1 mark) such as switching off a functional engine causing a plane to crash (Kegworth) • Candidates may also write about *reasons* for errors of commission (+1 mark) only credited as extension of initial explanation (alone NAQ), such as • belief perseverance: an operator continues to use information in their decision-making that has previously been dismissed. • sunk cost bias: an operator remains committed to a decision because of the time and effort that has already gone into that plan even though the plan may have become inappropriate. • extra-evidentiary bias: an operator uses information despite having been told it should be ignored. • hindsight bias: an operator falsely over-estimates the accuracy of their past knowledge.	**2**
8(b)	**Suggest <u>one</u> way in which an error of commission could be reduced.** Marks: Award 2 marks for an appropriate suggestion stated and applied to study with detail / elaboration / example. Award 1 mark for an appropriate suggestion identified but not applied. Answers may include (<u>other appropriate responses to be credited</u>): • train the operator to fit the machine (1 mark) all operators should receive full initial training and then have compulsory refresher sessions (2 marks) • design the machine/system to fit the operator (1 mark) ensure that the machine is appropriately designed with appropriate visual displays, audio warnings, appropriately designed controls (2 marks). • introduce an accident reduction strategy such as token economy (1 mark) so workers are rewarded for not making errors at work (perhaps plus example) (2 marks)	**2**

Question	Answer	Marks
8(c)	**Explain <u>two</u> weaknesses when gathering data about accidents at work.** Marks: Up to 2 marks for each weakness: Award 2 marks for an appropriate weakness stated and applied as required by the question with detail / elaboration / example. Award 1 mark for an appropriate weakness stated but not applied. Answers may include (<u>other appropriate responses to be credited</u>): Weaknesses: • the operator may not tell the truth, exaggerate or underemphasise details (1 mark) which may lead to inaccurate conclusions about the reason for the accident (2 marks) • the operator may be afraid that if they tell the truth they may lose their job (1 mark) and so what is said about the accident may be incorrect (2 marks) • different definitions of 'accident' made by the operator/company/health and safety authorities (1 mark) resulting in accidents not being reported at all (2 marks)	**4**

Question	Answer	Marks
9(a)	**Plan a study using a postal questionnaire to investigate attributional styles in adults with depression.** **Your plan must include details about:** • **type(s) of data** • **sampling technique.** Use Table A: AO2 Application to mark candidate responses to this question. Credit both general features and specific features of the plan. The **specific** features of the plan <u>should</u> include: • **technique** (paper/pencil, online, **postal**) • format (open and/or closed) • examples of questions • question scoring/interpretation • number of questions The **general** features of the plan <u>should</u> include (if appropriate): • sample and **sampling technique** • ethical guidelines • a procedure • a location • **type of data,** analysis of data, use of descriptive statistics • an aim or hypothesis (directional or non-directional)/null hypothesis • steps for making the study valid and reliable Credit other elements of the plan as appropriate using the marking grid. Note: Answers which merely post an ASQ without detail are restricted to Level 2 'identifies (lists) some appropriate method-specific features'.	**10**

Question	Answer	Marks
9(b)	**For <u>one</u> piece of psychological knowledge on which your plan is based:**	
9(b)(i)	**Describe this psychological knowledge.** Syllabus: 1.2.2 Explanations of mood (affective) disorders: depressive disorder (unipolar). Psychological explanations: learned helplessness/attributional style, including a study, e.g. Seligman et al. (1988). Description: Seligman et al. (1988) extended learned helplessness; a person's attributional style determined why people responded differently to adverse situational events. If a person makes an internal attribution (they are the cause), and if they believe that this is stable and global (the cause is consistent and this applies everywhere), then they may feel helpless and may experience depression. However, if they make other attributions (e.g. that the cause is external or situational; or unstable and specific), then helplessness and depression are unlikely. depression is associated with an internal/global/stable pattern. (3) You become very rich. (10) You apply for a position that you want very badly (e.g., important job, graduate school admission) and you get it. (12) You get a raise. (1) You meet a friend who compliments you on your appearance. (6) You do a project that is highly praised. (9) Your spouse (boyfriend/girl friend) has been treating you more lovingly. (2) You have been looking for a job unsuccessfully for some time. (5) You give an important talk in front of a group and the audience reacts negatively. (8) You can't get all the work done that others expect of you. (4) A friend comes to you with a problem and you don't try to help. (7) You meet a friend who acts hostilely toward you. (11) You go out on a date and it goes badly. *Note: the Seligman study is 'an example' so any appropriate alternative study could be used.* Attributional style questionnaire (ASQ) could feature. Has 12 hypothetical events (6 good, 6 bad), then four questions: (1) a free-response question about the cause of the hypothetical event. 7-point scale: (2) whether the event has an i*nternal or external* cause; (3) a question about *stable or unstable* cause (4) a question about whether the event has a *global or specific cause*. Note: no credit for BDI. It does not measure attributional style. Marks / Description 3–4: The knowledge is appropriate. Relevant points are correctly described in good detail. 1–2: Basic points are identified with some elaboration and understanding. The answer lacks detail (a sentence or two). 0: No creditable response	**4**

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>9(b)(ii)</td><td>Explain how you used <u>two</u> features of this psychological knowledge to plan your study.

Candidates should explain how the psychological knowledge described in (b)(i) has informed their plan in part (a).

For each feature:
<table>
<tr><td>Marks</td><td>Description</td></tr>
<tr><td>2</td><td>Suitable answer that relates 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.</td></tr>
<tr><td>1</td><td>Basic answer that identifies a feature</td></tr>
<tr><td>0</td><td>No creditable response</td></tr>
<tr><td>Note</td><td>1 mark for explanation of follow on from (b)(i); 1 mark for explanation appearing in (a) ×2</td></tr>
</table>
Example: Male and female participants can be sent an attributional style questionnaire and comparisons can be made about differences in response to the 6 good and 6 bad events.</td><td>4</td></tr>
<tr><td>9(c)(i)</td><td>Explain <u>one</u> reason for your choice of type(s) of data.

Candidates must use the type(s)of data stated in (a).

Award 2 marks: reason is given and applied to the plan
Award 1 mark: reason is given without being applied to the plan

Example:
• quantitative data can be statistically analysed by researchers (1 mark) related to plan (2 marks)
• qualitative data can allow participants to provide reasons for their answer (1 mark) related to plan (2 marks)
• both quantitative and qualitative data can be gathered to provide ‘best of both worlds’ (1 mark) related to plan (2 marks)</td><td>2</td></tr>
</table>

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Question	Answer	Marks
9(c)(ii)	**Explain <u>one</u> weakness of the use of a postal questionnaire in your study.** Candidates must use the postal questionnaire stated in **(a)** Award 2 marks: weakness is given and applied to the plan Award 1 mark: weakness is given without being applied to the plan **Example** • postal means that the questionnaire can be treated like 'junk-mail' and thrown away (1 mark) related to plan (2 marks) • the questionnaire could be started and then forgotten (1 mark) related to plan (2 marks) • the questionnaire may not be returned because that may incur costs for the participant (1 mark) related to plan (2 marks).	**2**
9(c)(iii)	**Explain <u>one</u> reason for your choice of sampling technique.** Candidates must use the sampling technique stated in **(a)** Award 2 marks: reason is given and applied to the plan Award 1 mark: reason is given without being applied to the plan Example: • a random sample was chosen so everyone in the target population has an equal chance of participating (1 mark) related to plan (2 marks) • an opportunity sample was chosen because large numbers can be obtained relatively more easily than other methods (1 mark) related to plan (2 marks) • a volunteer sample was chosen because people are willing and more likely to participate; (1 mark) related to plan (2 marks).	**2**

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>10(a)</td><td>
Plan a study using a field experiment to investigate the effect of food name on menu item choice.
Your plan must include details about:

• type(s) of data
• dependent variable

Use Table A: AO2 Application to mark candidate responses to this question.
Credit both general features and specific features of the plan.
<table>
<tr>
<td>The specific features of the plan <u>should</u> include:
• type of experiment
• independent variable
• dependent variable
• controls
• choice of experimental design.
If appropriate:
• counterbalancing, random allocation (RCT)
• single blind/double blind
• other appropriate features</td>
<td>The general features of the plan <u>should</u> include (if appropriate):
• sample and sampling technique
• ethical guidelines
• a procedure
• a location
• type of data, analysis of data, use of descriptive statistics
• an aim or hypothesis (directional or non-directional)/null hypothesis
• steps for making the study valid and reliable</td>
</tr>
</table>

Credit other elements of the plan as appropriate using the marking grid.
</td><td>10</td></tr>
</table>

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>10(b)</td><td colspan="2">For <u>one</u> piece of psychological knowledge on which your plan is based:</td></tr>
<tr><td>10(b)(i)</td><td>Describe this psychological knowledge.

Syllabus: 2.2.2 menu design psychology. The effect of food name on menu item choice, including a study, e.g. Lockyer (2006).

Abstract from Lockyer (2006): The purpose of this paper is to examine the use of words on a restaurant menu, and to evaluate the impact that they have on the selection of menu items. The research comprised two distinct parts. First, four focus groups were held examining responses to five menus, each with the same menu items but using different wording. The results from the focus group analysis were used to develop a survey which was more widely distributed. From the focus group it was revealed that the occasion and participants in the dining experience influence the wording for menu item selection. Respondents discussed the mystique of the menu and confirmed a desire for menu items that would not normally be prepared at home. It was also of interest the ‘mouth-watering’ effect that the words have on potential customers and what a strong persuader these words were. The survey reinforced the focus group research in many ways, also stressing the positive effect of descriptive words such as ‘Tender’; ‘Golden’ and ‘Natural’ to the choice of menu items.

Note: the Lockyer study is ‘an example’ so any appropriate alternative study could be used.
<table>
<tr><td>Marks</td><td>Description</td></tr>
<tr><td>3–4</td><td>The knowledge is appropriate. Relevant points are correctly described in good detail.</td></tr>
<tr><td>1–2</td><td>Basic points are identified with some elaboration and understanding. The answer lacks detail (a sentence or two).</td></tr>
<tr><td>0</td><td>No creditable response</td></tr>
</table></td><td>4</td></tr>
</table>

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>10(b)(ii)</td><td>Explain how you used <u>two</u> features of this psychological knowledge to plan your experiment.

Candidates should explain how the psychological knowledge described in (b)(i) has informed their plan in part (a).
For each feature:

<table>
<tr><td>Marks</td><td>Description</td></tr>
<tr><td>2</td><td>Suitable answer that relates 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.</td></tr>
<tr><td>1</td><td>Basic answer that identifies a feature</td></tr>
<tr><td>0</td><td>No creditable response</td></tr>
<tr><td>Note</td><td>1 mark for explanation of follow on from (b)(i); 1 mark for explanation appearing in (a) ×2</td></tr>
</table>

Example: One menu can be created, some items with ‘standard food names’ and some items with ‘mouth-watering names such as ‘Tender'; ‘Golden’ and ‘Natural’. The number of items ordered with each type of description can be compared.</td><td>4</td></tr>
<tr><td>10(c)(i)</td><td>Explain <u>one</u> reason for your choice of type(s) of data.

Candidates must use the type(s) of data stated in (a).
Award 2 marks: reason is given and applied to the plan
Award 1 mark: reason is given without being applied to the plan

Example:
• quantitative data can be statistically analysed by researchers (1 mark) related to plan (2 marks)
• qualitative data can allow participants to provide reasons for their answer (1 mark) related to plan (2 marks)
• both quantitative and qualitative data can be gathered to provide ‘best of both worlds’ (1 mark) related to plan (2 marks)</td><td>2</td></tr>
</table>

Question	Answer	Marks
10(c)(ii)	**Explain <u>one</u> weakness of your choice of type(s) of data.** Candidates must use the type(s) of data stated in **(c)(i)**. Award 2 marks: weakness is given and applied to the plan Award 1 mark: weakness is given without being applied to the plan Example: • quantitative data only provides numbers, it does not provide a reason behind the number unlike qualitative data (1 mark) related to plan (2 marks) • quantitative data may limit how a participant responds (1 mark) related to plan (2 marks) • quantitative data might reduce behaviour to a single number (1 mark) related to plan (2 marks) • qualitative data often has no numbers so no descriptive statistics or statistical analysis (1 mark) related to plan (2 marks) • qualitative data needs to be interpreted and if only one judge is used, this could result in bias (1 mark) related to plan (2 marks)	**2**
10(c)(iii)	**Explain <u>one</u> reason for your choice of dependent variable.** Candidates must use the dependent variable stated in **(a)**. Award 2 marks if an appropriate reason is given and justified. Explanation of why the specific DV was chosen (1 mark) related to study i.e. operationalised DV (2 marks) Award 1 mark if an appropriate reason is given but DV not operationalised. Example: • number of items chosen from menu with one type of wording compared with number of items chosen with alternative type of wording (1 mark) was chosen because it provides quantitative data allowing comparisons and descriptive statistics to be displayed (2 marks)	**2**

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<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>11(a)</td><td>Plan a study using a face-to-face interview to investigate the effectiveness of stimulation therapy/TENS for managing acute pain.

Your plan must include details about:
• interview format
• sampling technique.

Use Table A: AO2 Application to mark candidate responses to this question.
Credit both general features and specific features of the plan.
<table><tr><td>The specific features of the plan <u>should</u> include:
• interview technique (telephone or face-to-face)
• interview format (structured, unstructured, semi-structured).
• question format (open and/or closed)
• examples of questions
• question scoring/interpretation
• number of questions</td><td>The general features of the plan <u>should</u> include (if appropriate):
• sample and sampling technique
• ethical guidelines
• a procedure
• a location
• type of data, analysis of data, use of descriptive statistics
• an aim or hypothesis (directional or non-directional)/null hypothesis
• steps for making the study valid and reliable</td></tr></table></td><td>10</td></tr>
<tr><td>11(b)</td><td colspan="2">For <u>one</u> piece of psychological knowledge on which your plan is based:</td></tr>
<tr><td>11(b)(i)</td><td>Describe this psychological knowledge.

Syllabus: 3.3.3 Managing and controlling pain. Alternative treatments: acupuncture; stimulation therapy/TENS.

Description: stimulation therapy is a ‘counter-irritation’ or distraction that directs attention away from the stronger pain to the milder pain. One example is transcutaneous electrical nerve stimulation (TENS) which is self-administered. Electrodes are placed on the skin near where the patient feels pain and mild electric shocks are given, causing distraction. TENS increases specific types of endorphin production and release. Also reduces neuron excitation and sensitisation in the spinal cord.

<table><tr><td>Marks</td><td>Description</td></tr><tr><td>3–4</td><td>The knowledge is appropriate. Relevant points are correctly described in good detail.</td></tr><tr><td>1–2</td><td>Basic points are identified with some elaboration and understanding. The answer lacks detail (a sentence or two).</td></tr><tr><td>0</td><td>No creditable response</td></tr></table></td><td>4</td></tr>
</table>

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>11(b)(ii)</td><td>Explain how you used <u>two</u> features of this psychological knowledge to plan your study.

Candidates should explain how the psychological knowledge described in (b)(i) has informed their plan in part (a).

For each feature:
<table><tr><td>Marks</td><td>Description</td></tr><tr><td>2</td><td>Suitable answer that relates 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.</td></tr><tr><td>1</td><td>Basic answer that identifies a feature</td></tr><tr><td>0</td><td>No creditable response</td></tr><tr><td>Note</td><td>1 mark for explanation of follow on from (b)(i); 1 mark for explanation appearing in (a) ×2</td></tr></table>
Example: Structured interviews can be created asking participants closed questions about the technique being used, how effective it was in reducing their acute pain and how invasive it was (such as the insertion of needles).</td><td>4</td></tr>
<tr><td>11(c)(i)</td><td>Explain <u>one</u> reason for your choice of interview format.

Candidates must use the interview format stated in (a).
Award 2 marks: reason is given and applied to the plan
Award 1 mark: reason is given without being applied to the plan.

Example:
• a structured interview was used so all participants received the same questions (1 mark) in the same order (1 mark) related to plan (2 marks).
• a semi structured interview was used so although there were fixed questions there was also the option to ask questions that might arise during the interview (1 mark) related to plan (2 marks)
• an unstructured interview was used so participants had the flexibility so answer in any way they pleased (1 mark) related to plan (2 marks).</td><td>2</td></tr>
<tr><td>11(c)(ii)</td><td>Explain <u>one</u> weakness with conducting face-to-face interviews in your study.

Candidates must use the face-to-face interview technique stated in (a).
Award 2 marks: weakness is given and applied to the plan
Award 1 mark: weakness is given without being applied to the plan

Example
• face-to-face might result in answers which are not truthful because the interviewer can see the interviewee (1 mark) related to plan (2 marks)
• participants need to travel or the interviewer needs to travel for the interview to take place which takes time and increases costs (1 mark) related to plan (2 marks)</td><td>2</td></tr>
</table>

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Question	Answer	Marks
11(c)(iii)	**Explain <u>one</u> reason for your choice of sampling technique.** Candidates must use the sampling technique stated in **(a)** Award 2 marks: reason is given and applied to the plan Award 1 mark: reason is given without being applied to the plan Example: • a random sample was chosen so everyone in the target population has an equal chance of participating (1 mark) related to plan (2 marks) • an opportunity sample was chosen because large numbers can be obtained relatively more easily than other methods (1 mark) related to plan (2 marks) • a volunteer sample was chosen because people are willing and more likely to participate; (1 mark) related to plan (2 marks).	**2**

Question	Answer	Marks
12(a)	**Plan a study using an interview to investigate effect of rapid rotation shiftwork on the health of workers.** **Your plan must include details about:** • **question scoring/interpretation** • **interview format** Use Table A: AO2 Application to mark candidate responses to this question. Credit both general features and specific features of the plan. The **specific** features of the plan <u>should</u> include: • interview technique (telephone or face-to-face) • **interview format (structured, unstructured, semi-structured).** • question format (open and/or closed) • examples of questions • **question scoring/interpretation** • number of questions The **general** features of the plan <u>should</u> include (if appropriate): • sample and sampling technique • ethical guidelines • a procedure • a location • type of data, analysis of data, use of descriptive statistics • an aim or hypothesis (directional or non-directional)/null hypothesis • steps for making the study valid and reliable Credit other elements of the plan as appropriate using the marking grid.	**10**

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>12(b)</td><td colspan="2">For one piece of psychological knowledge on which your plan is based:</td></tr>
<tr><td>12(b)(i)</td><td>Describe this psychological knowledge.

Syllabus: 4.4.2 design of work: shiftwork: rapid rotation and slow rotation, on-call and flexi-time including definitions and examples of each.

Effects of shiftwork on health and accidents, including a study, e.g. Gold et al. (1992).

Description: rapid rotation shifts (i) Metropolitan rota: work 2 early (6 am to 2 pm), 2 late (2 pm to 10 pm), 2 night (10 pm to 6 am), 2 rest; (ii) Continental rota: work 2 early, 2 late, 3 night; 2 rest, 2 early, 3 late; 2 night, 2 rest, 3 early; 2 late, 2 night, 3 rest.

Knutsson (2003): shift work is associated with specific pathological disorders, particularly peptic ulcer disease, coronary heart disease and compromised pregnancy outcome. There is no evidence to suggest that shiftwork affects mortality or cancer. Gastrointestinal disorders (peptic ulcer disease) are more common in shift-workers than in day workers.

Note: accidents are not relevant Gold et al. study: Rotating shift work, sleep, and accidents related to sleepiness in hospital nurses).

<table>
<tr><td>Marks</td><td>Description</td></tr>
<tr><td>3–4</td><td>The knowledge is appropriate. Relevant points are correctly described in good detail.</td></tr>
<tr><td>1–2</td><td>Basic points are identified with some elaboration and understanding. The answer lacks detail (a sentence or two).</td></tr>
<tr><td>0</td><td>No creditable response</td></tr>
</table>
</td><td>4</td></tr>
</table>

<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>12(b)(ii)</td><td>Explain how you used <u>two</u> features of this psychological knowledge to plan your study.

Candidates should explain how the psychological knowledge described in (b)(i) has informed their plan in part (a). For each feature:

<table>
<tr><td>Marks</td><td>Description</td></tr>
<tr><td>2</td><td>Suitable answer that relates 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.</td></tr>
<tr><td>1</td><td>Basic answer that identifies a feature</td></tr>
<tr><td>0</td><td>No creditable response</td></tr>
<tr><td>Note</td><td>1 mark for explanation of follow on from (b)(i); 1 mark for explanation appearing in (a) ×2</td></tr>
</table>

Example: Participants can be asked about whether their shift is a metropolitan or a continental shift rota. They can then be asked whether they have suffered or received treatment for disorders such as a peptic ulcer.</td><td>4</td></tr>
<tr><td>12(c)(i)</td><td>Explain <u>one</u> reason for your choice of question scoring/interpretation.

Candidates must use the choice of question scoring/interpretation stated in (a).
Award 2 marks: reason is given and applied to the plan
Award 1 mark: reason is given without being applied to the plan

Example
• a (n-point) scale was used because each participant’s could express the amount of agreement/disagreement (1 mark) related to study (2 marks).
• a yes/no was used because each participant’s response could be compared (1 mark) related to study (2 marks).
• quantitative data was gathered because it allowed statistical analysis/production of descriptive statistics (1 mark) related to study (2 marks).
• as the data is qualitative, a number of judges/raters were used to reach agreement on the words produced (1 mark) related to study (2 marks)
• the answers gave qualitative data so was coded by raters/judges to ‘convert’ into quantitative data for statistical analysis (1 mark) related to study (2 marks)</td><td>2</td></tr>
</table>

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Question	Answer	Marks
12(c)(ii)	**Explain <u>one</u> weakness of your choice of question scoring/interpretation.** Candidates must use the choice of question scoring/interpretation stated in **(c)(i)** Award 2 marks: weakness is given and applied to the plan Award 1 mark: weakness is given without being applied to the plan Example • a different [e.g.3 or 7] point scale should have been used rather than the [e.g. 5] point used because the range of answers was too narrow/too wide (1 mark) related to study (2 marks) • a forced/fixed choice point scale should have been used (e.g. 4 point) because many participants opted for the middle/neutral answer on my [5 point] scale (1 mark) related to study (2 marks) • the raters/judges interpreting the answers may not agree leading to false findings (1 mark) related to study (2 marks) • only one person gathered the answers and they might have some bias toward the outcome of the study (1 mark) related to study (2 marks)	**2**
12(c)(iii)	**Explain <u>one</u> reason for your choice of interview format.** Candidates must use the interview format stated in **(a).** Award 2 marks: reason is given and applied to the plan Award 1 mark: reason is given without being applied to the plan Example: • a structured interview was used so all participants received the same questions (1 mark) in the same order (1 mark) related to plan (2 marks). • a semi-structured interview was used so although there were fixed questions there was also the option to ask questions that might arise during the interview (1 mark) related to plan (2 marks) • an unstructured interview was used so participants had the flexibility so could answer in any way they pleased (1 mark) related to plan (2 marks).	**2**

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