Cambridge Assessment International Education

Cambridge International AS & A Level

PSYCHOLOGY **9990/41**

Paper 4 Specialist Options: Application **October/November 2022**

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.

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This document consists of **24** printed pages.

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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 descriptors 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 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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Each option has three questions:

Section A: (stimulus) Answer two questions from choice of four: (a) = 2, (b) = 4, (c) = 4 and (d) = 5 [15 total]
Section A: candidates answer two questions from a choice of four, based on the two specialist options they have studied. Each question is based on stimulus material and is divided into four parts. There are 2 marks for part (a), 4 marks for part (b), 4 marks for part (c) and 5 marks for part (d).

Section B: (design) Answer one question from choice of four: (a) = 10 marks, (b) = 8 marks [18 total]
Section B: candidates answer one design-based question from a choice of four, based on either of the two specialist options they have studied. The question is divided into two parts. There are 10 marks for part (a) and 8 marks for part (b).

Section C: (e) Answer one question from choice of four 12 marks. TOTAL MARKS = 60
Section C: candidates answer one essay question from a choice of four, based on either of the two specialist options they have studied. There are 12 marks for this question.

Questions will require candidates to consider approaches, research methods and issues and debates. The questions will be based on two topic areas (a, b, c, d, e) covered within the chosen specialist option. The two topic areas for each specialist option will be different to the two topic areas assessed in Paper 3.

In order to achieve the same standard across all questions in a Section, the same generic mark schemes are used for each option. These mark schemes are as follows.

<table>
<tr><th colspan="3">Section A: Stimulus (Generic response descriptor)</th></tr>
<tr><td>(a)</td><td>0–2</td><td>1 mark for basic answer e.g. identification.
1 mark for elaboration/example.</td></tr>
<tr><td>(b)</td><td>0–4</td><td rowspan="2">Questions have one or two requirements
If 1 mark for one aspect: [1 mark max] 1 mark for identification or statement.
If 2 marks for two aspects: [2 + 2 marks] 1 mark basic answer. 2 marks elaboration ×2.
If 4 marks for one aspect: [4 marks] 1–2 marks basic answer. 3–4 marks detailed answer/elaboration.
Partial answers score half marks (i.e. 4 to 2 or 2 to 1).</td></tr>
<tr><td>(c)</td><td>0–4</td></tr>
<tr><td>(d)</td><td>0–5</td><td>Question requires discussion. Question always plural of each argument. Question always requires conclusion.
1 mark for each for/against argument (however detailed) up to 4 max. 1 mark for conclusion.
Note: If three (or more) arguments for one side, best two credited. If one side only, max 2 marks.</td></tr>
<tr><td>0</td><td>0</td><td>No response worthy of credit.</td></tr>
</table>

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Section C: Essay/Evaluate (Generic response descriptor)		
Level	Marks	Level Descriptor
Note: Questions are always worded in the same way: 'to what extent do you agree with this statement? Use examples of research you have studied to support your answer'. However, the words 'research' must be taken in the widest sense: (i) different examples can be used from the same piece of research; (ii) examples from different pieces of research; (iii) examples from methodology, such as a specific method or technique; (iv) examples from methodological issues such as ethics, generalisations, quantitative/qualitative data; psychological versus physiological, etc. (v) examples of debates and issues such as reductionism and holism; individual and situational, etc.		
4	10–12	• **Both sides** of the argument are considered and are relevant to the question. • **Appropriate examples** are included which fully support both sides. • Discussion is **detailed** with **good understanding** and clear expression. • A conclusion is drawn with appropriate justification.
3	7–9	• **Both sides** of the argument are considered and are relevant to the question. They may be **imbalanced** in terms of quality or quantity. • **Some examples** are included, are appropriate and often support both sides. • The answer shows good discussion with reasonable understanding. • A basic conclusion is drawn with little or no justification.
2	4–6	• Reasons are limited to **one side** of the argument. • **Limited** reference to **examples**, or **lack of detail**. • The answer shows **some understanding**. • There is no conclusion.
1	1–3	• Anecdotal discussion, **brief detail**, minimal relevance. Very **limited range**. • Discussion may be **inaccurate** or incomplete. • May evaluate topic area studies, making only indirect reference to the question.
0	0	• No response worthy of credit.

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Section B: Design a study question part (a) (Generic response descriptor)		
Level	Marks	Level Descriptor
4	9–10	• The design is appropriate to the named investigation and is based on thorough psychological knowledge. • The design is accurate, coherent and detailed, and it tests the proposed investigation competently. • Four or five design features are included. The features are clearly applied to the design throughout the answer and the candidate clearly understands the main features involved in designing an investigation. • The response has proposed an appropriate design, has applied a range of relevant methodological design features with competence and shown clear understanding.
3	7–8	• The design is appropriate to the named investigation and is based on good psychological knowledge. • The design is accurate, coherent and detailed, and it tests the proposed investigation competently. • Two or three design features are included. The features are often applied to the design and the candidate shows good understanding in places. • The response has proposed an appropriate design, has applied some relevant methodological design features and has shown good understanding.
2	4–6	• The design is mostly appropriate to the named investigation and is based on psychological knowledge. • The design is mostly accurate, coherent and detailed in places and it tests the proposed investigation. • Design features are limited in their understanding.
1	1–3	• The design may not be appropriate to the named investigation and use of terminology is sparse or absent. Basic psychological understanding is shown. • The design lacks coherence and is limited in understanding. • One or two appropriate design features are identified but incorrectly applied. • The response lacks detail.
0	0	• No response worthy of credit. The candidate describes the study listed on the syllabus.

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Section B: Explain a study question part (b) (Generic response descriptor)		
Level	Marks	Level Descriptor
3	6–8	• Quality and depth of explanation is thorough. • Description of knowledge is accurate, coherent and detailed. • Use of terms is accurate and use of psychological terminology is comprehensive. • Understanding of methodology (such as elaboration, use of example, quality of description) is very good. • The design is effectively explained in relation to the topic area. • There is a balance of methodology and topic area/relevant study knowledge.
2	4–5	• Quality of explanation and depth of explanation is competent. • Description of knowledge is mainly accurate, coherent and reasonably detailed. • Use of terms is mainly accurate and use of psychological terminology is competent. • Understanding of methodology (such as elaboration, use of example, quality of description) is good. • The design is adequately explained in relation to the topic area. • There is an imbalance of methodology and topic area/relevant study knowledge. • **Max 5 marks if only methodological or psychological decisions.**
1	1–3	• Quality of explanation and depth of explanation is basic. • Description of knowledge is often accurate, generally coherent, but lacks detail. • Use of terms is basic and use of psychological terminology is adequate. • Understanding of methodology (such as elaboration, use of example, quality of description) is limited. • The design is poorly explained in relation to the topic area. • There is an imbalance of methodology and topic area/relevant study knowledge.
0	0	• No response worthy of credit.

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Question	Answer	Marks
	Section A: Stimulus question Psychology and abnormality	
1	**Richard has a fear of oranges and knows about the behavioural explanation of phobias. Richard wants to be treated using systematic desensitisation (Wolpe, 1958). However, his partner thinks that other treatments may be better.**	
1(a)	**Explain what is meant by a 'behavioural explanation of phobias'.** **Most likely answer** (other appropriate responses to be credited): • all behaviours are learned (and so are phobias) • behaviours are learned through association and so are phobias • example of little Albert (Watson, 1920) may be given **Marks:** 1 mark for basic answer; +1 mark for elaboration/example.	**2**
1(b)	**Explain how systematic desensitisation would be used to treat Richard's fear of oranges.** **Most likely answer** (other appropriate responses to be credited): Systematic desensitisation (Wolpe (1958) 1 learning of progressive muscle relaxation / deep breathing. 2 creation of anxiety hierarchy (least fearful to most fearful). **Marks:** 1 mark for basic answer, 2–4 marks for increasing detail and quality (2 marks max if only one component, however detailed).	**4**
1(c)	**Suggest <u>two</u> ways in which a phobia can be treated, other than systematic desensitisation.** **Most likely answer** (other appropriate responses to be credited): Syllabus includes: • cognitive-behavioural therapy (Ost and Westling, 1995) used applied relaxation which involves tensing and relaxing muscles to relax muscles, *decrease* blood pressure and counteract the effects of stress-related hormones (e.g. adrenaline and cortisol) • applied tension (Ost et al, 1989) for blood or needle phobia but also vasovagal syncope. Involves tensing muscles to *increase* blood pressure. Note: cannot apply to any other phobia **Marks:** 1 mark for identifying alternative +1 mark for elaboration/example ×2. **Note:** no marks for SSRI, covert sensitisation, imaginal desensitisation, exposure therapy.	**4**

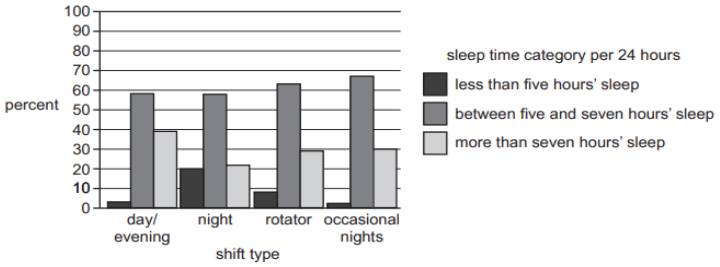
Question	Answer	Marks
1(d)	**Discuss the strengths and weaknesses of using systematic desensitisation to treat phobias. You should include a conclusion in your answer.** **Most likely answer** (other appropriate responses to be credited): **Strengths:** • the technique can be generalised to many other phobias (and anxiety) • it is effective and has been used for over 60 years • progressive muscle relaxation can be used anywhere by the 'patient' • it does not involve the use of any drug **Weaknesses:** • behavioural techniques take time and effort from the person (unlike swallowing a pill) • the techniques do not cure anything, merely make it easier to live with • behavioural techniques alone may be insufficient. Cognitive behaviour therapy better **Conclusion**: any appropriate conclusion drawn from the discussion that has been presented. 1 mark if appropriate. A conclusion is a 'decision reached by reasoning' and so a summary of points already made scores 0 marks. **Marks:** Question requires **discussion;** always **plural** of each argument, and always requires conclusion. **1 mark** for each strength/weakness (however detailed) **and** related to the question up to 4 max. **2** marks max for two strengths/weaknesses unrelated to the question. **1 mark** for conclusion.	**5**

Question	Answer	Marks
2	**Newspaper Headline: Bugs Bunny goes to Disney!** **Braun-LaTour et al. (2004) investigated the retroactive effect that advertising has on how consumers remember past experiences. In Experiment 1, students received course credits for participating. Data was collected and coded and an inter-rater reliability correlation of 0.9 was found between the two independent judges (coders).**	
2(a)	**Explain what is meant by the term 'retroactive effect' in this study.** **Most likely answer** (other appropriate responses to be credited): Retroactive interference is where new information interferes with the old (or existing) information in memory. Retroactive effect in this study is that new information (advertising) influences and changes the memory of an event (that people shook hands with Bugs Bunny at a Disney theme park). **Marks:** 1 mark for description of term description, +1 mark for relating to this study.	**2**
2(b)(i)	**Give <u>one</u> example of the data that was collected in Experiment 1.** Quotes from study: Two independent judges coded respondents' reactions to the ads and the recall statements of their Disney experience. Specifically, they • coded the number of words participants used in response to the ad • whether their reactions to the ad were personal or concentrated on critiquing ad elements • and whether or not they noticed that Bugs Bunny did not belong in a Disney ad For the memory measures, they • coded the number of words in the recall statement and • how many items that had appeared in the ad were mentioned as being part of the participants' own memory **Marks:** 1 mark basic answer (e.g. 'recall of statements'), 2 marks detailed answer/elaboration or example. **Note:** credit 'how many participants could remember' (1 mark) 'Bugs Bunny at Disneyland' (+1 mark).	**2**
2(b)(ii)	**Explain what is meant by an 'inter-rater reliability correlation of 0.9'.** Answer can include a number of components: Awareness of what inter-rater reliability is; what reliability is; how this was achieved; what the 0.9 correlation means in relation to inter-rater reliability. **Marks:** 1 mark basic answer (what it is), 2 marks detailed answer/ elaboration (0.9 is a 'strong' correlation).	**2**

Question	Answer	Marks
2(c)	**Explain how this study relates to the debate about individual versus situational explanations.** **Most likely answer** (other appropriate responses to be credited): • Situational: the past experience of visiting Disneyland and whether they had seen certain characters there, such as Bugs Bunny • Individual: the false memory (cognitive process) that was created in the mind of the participant **Marks:** 1 mark identifying +1 mark for explanation or example from study ×2.	**4**
2(d)	**Discuss the strengths and weaknesses of giving course credits to students in studies of 'false advertising'. You should include a conclusion in your answer.** **Most likely answer** (other appropriate responses to be credited, such as eye movement patterns): **Strengths:** • students will do anything for course credits (or being paid) • having an incentive is more likely to lead to them staying for the whole study rather than withdrawing • participants know they are taking part in a study (so give consent but not informed consent) • they are more likely to participate with enthusiasm and be attentive **Weaknesses:** • they know they are taking part in a study • they are less likely to withdraw, even though they may wish to • they are more likely to respond to try to please the experimenter • perhaps only participating for money not for 'furthering of scientific knowledge' **Conclusion**: any appropriate conclusion drawn from the discussion that has been presented. 1 mark if appropriate. A conclusion is a 'decision reached by reasoning' and so a summary of points already made scores 0 marks. **Marks:** Question requires **discussion;** always **plural** of each argument, and always requires conclusion. **1 mark** for each strength/weakness (however detailed) **and** related to the question up to 4 max. **2** marks max for two strengths/weaknesses unrelated to the question. **1 mark** for conclusion.	**5**

Question	Answer	Marks
3	**In an attempt to understand non-adherence to medical advice, Riekert and Drotar (1999) tested adolescents aged 11–18 and their parents. The parents completed a questionnaire at the medical appointment. The adolescents and their parents completed further questionnaires at home, which were then returned by post.**	
3(a)	**Outline <u>one</u> conclusion from the study by Riekert and Drotar.** **Most likely answer** (other appropriate responses to be credited): • that participants (×52) who returned the questionnaires were more likely to adhere • those who did not return the questionnaires (non-returners ×28) were less likely to adhere to medical requests **Marks:** 1 mark for partial answer, 2 marks detailed answer/elaboration/ example.	**2**
3(b)(i)	**Suggest <u>two</u> examples of how ethical guidelines reduced the number of participants in this study.** **Most likely answer** (other appropriate responses to be credited): • Informed consent: 80 of the 94 families (adolescent and parent) approached gave consent to participate • Right to withdraw: 28 non-returners did not return the postal questionnaire **Marks:** 1 mark for each correct answer. **Note:** identification of term such as 'right to withdraw' scores 0 marks. Some explanation/elaboration relating to the study is needed, although numbers are not needed for full marks.	**2**
3(b)(ii)	**Give <u>two</u> reasons why some participants were excluded from the study by the researchers.** **Most likely answer:** 1 They had been diagnosed with insulin-dependent diabetes mellitus 2 They had an additional chronic illness 3 They showed developmental delay e.g. Down's Syndrome **Marks:** 1 mark for each correct answer.	**2**
3(c)	**Explain <u>two</u> reasons why a patient might <u>not</u> adhere to medical advice.** **Most likely answer** (other appropriate responses to be credited): • rational non-adherence • factors from the health belief model **Marks:** 1 mark for identification of reason +1 mark for psychological reason detailed answer/elaboration ×2. **Note:** credit 'cost of medications' (1 mark).	**4**

Question	Answer	Marks
3(d)	**Discuss the strengths and weaknesses of gathering data about health using questionnaires to be returned by post. You should include a conclusion in your answer.** **Most likely answer** (other appropriate responses to be credited): **Strengths:** • people have more time to think about answers so better than an interview • people can read and complete at their own leisure (in their own home), think about and then make decisions (without pressure from anyone) • people may prefer to write personal answers rather than tell someone face-to-face • people have time to think about being a participant and can withdraw **Weaknesses:** • people may not receive the mailing, or receive it but never read it • people read the information but not act on it (or forget to act on it) • people may delay acting **Conclusion**: any appropriate conclusion drawn from the discussion that has been presented. 1 mark if appropriate. A conclusion is a 'decision reached by reasoning' and so a summary of points already made scores 0 marks. **Marks:** Question requires **discussion;** always **plural** of each argument, and always requires conclusion. **1 mark** for each strength/weakness (however detailed) **and** related to the question up to 4 max. **2** marks max for two strengths/weaknesses unrelated to the question. **1 mark** for conclusion.	**5**

Question	Answer	Marks
4	**Gold et al. (1992) studied the effect of shift patterns on sleep. Fig. 4.1 shows the percentage of participants in each sleep time category per 24 hours on workdays for the four types of shifts.**  	
4(a)	**Outline what is meant by a 'rotator' in this study.** **Most likely answer** (other appropriate responses to be credited): • From study: Within a month working 4 or more day or evening shifts and 4 or more-night shifts • A worker who works a pattern of rotating (alternating) shifts (days/ evenings/nights) compared to day workers, evening workers, night workers and day workers with occasional nights **Marks:** 1 mark basic answer (simple description), 2 marks detailed answer/ elaboration.	**2**
4(b)	**Give <u>two</u> findings from the data shown in Fig. 4.1.** **Most likely answer** <u>(other appropriate responses to be credited):</u> • 20% of night workers had less than 5 hours' sleep (or comment from other category about <5 hours • 3% of 'day/evening' slept <= 5 hours per 24 on workdays • 59% of day/evening workers and night workers had > 5–7 hours' sleep • Day/evening workers had 39% of >7 hours' sleep **Marks:** 2 marks each correct answer.	**4**
4(c)(i)	**Identify <u>two</u> types of error or accident that were more likely to happen to nurses on a rotator shift in this study.** **Most likely answer** (no other answers allowed): • driving accidents • medication errors • job procedural errors • work-related personal injuries **Marks:** 1 mark for each correct answer.	**2**

Question	Answer	Marks
4(c)(ii)	**Other than errors or accidents, shift work can have direct effects on health.** **Suggest <u>two</u> effects shift work could have on health.** **Most likely answer** (other appropriate responses to be credited): • **gastrointestinal disease:** more common in shift workers. Symptoms include peptic ulcers, constipation and diarrhoea • **cardiovascular disease:** increases in blood pressure and other 'heart hormones' • **cancer:** such as increased risk of breast cancer in shift workers • **diabetes and metabolic disturbances:** increase in uric acid, cholesterol, glucose which can lead to gout, diabetes and other ailments • **pregnancy:** shift work associated with premature birth and low birth weight **Note:** most physiological effects can receive credit. These answers taken from Knutsson (2003). **Marks:** 1 mark identification of effect, 2 marks detailed answer/elaboration.	**2**
4(d)	**Discuss whether the findings of the study by Gold et al. can be generalised. You should consider both sides of the argument and include a conclusion.** **Most likely answer** (other appropriate responses to be credited): **Can generalise:** • Any work involving shifts will involve loss of sleep; disruption of cycle • People doing shift work are more likely to have accidents than people not working shifts • Nurses are typical of many other occupations **Cannot generalise:** • Nurses may be different from other people/different occupations • Nurses help save people's lives. Many other workers perform boring, repetitive tasks and so are different • Nurses in this sample work a different shift pattern from other occupations such as the metropolitan or continental rota • Nurses in this sample are from Massachusetts (USA) and they might have different attitudes from people in other states/countries **Conclusion**: any appropriate conclusion drawn from the discussion that has been presented. 1 mark if appropriate. A conclusion is a 'decision reached by reasoning' and so a summary of points already made scores 0 marks. **Marks:** Question requires **discussion;** always **plural** of each argument, and always requires conclusion. **1 mark** for each strength/weakness (however detailed) **and** related to the question up to 4 max. **2** marks max for two strengths/weaknesses unrelated to the question. **1 mark** for conclusion.	**5**

Question	Answer	Marks
	Section B	
5(a)	**Design a longitudinal study using observation to investigate whether a token economy effectively manages schizophrenia.** **Marks:** use generic levels of response Design a study question part (a). **Additional**: Candidates should design the study showing evidence of design features appropriate to the named method. The named method is **observation**. **Specific features**: **Observations**: type, setting, response categories, sampling frame, number of observers. **General features of research methodology**: sampling technique and sample, type of data, ethics, reliability, validity, data analysis.	**10**
5(b)	**Explain the psychological and methodological evidence on which your study is based.** **Marks:** use generic levels of response 'Design a study' question part (b). **Note:** If **only** methodological or psychological explanation is provided max 5 marks. Candidates are expected to explain the reasons for the suggested design in part (a). Explanation should be both psychological and methodological. Psychological to include appropriate theory or research. **Additional:** candidates are expected to justify their decisions or evidence presented regarding the design made in answer to question part **(a)**. **Syllabus:** token economy (Paul and Lentz, 1977). ***Psychological****:* token economy is the use of positive reinforcement whereby tokens given for correct or appropriate behaviour can be exchanged for something desirable. Paul and Lentz (1977) used this to help people with schizophrenia. ***Methodological****:* explanation of method using general and specific features as above.	**8**

Question	Answer	Marks
6(a)	**Design an experiment to investigate gender differences in pre-cognitive decisions when buying a product.** **Marks:** use generic levels of response Design a study question part (a). **Additional**: Candidates should design the study showing evidence of design features appropriate to the named method. The named method is **experiment.** **Typical features:** Experiments: type, IV, DV, controls, experimental design. **General features of research methodology:** sampling technique and sample, type of data, ethics, reliability, validity, data analysis.	**10**
6(b)	**Explain the psychological and methodological evidence on which your study is based.** **Marks:** use generic levels of response 'Design a study' question part (b). **Note:** If **only** methodological or psychological explanation is provided max 5 marks. Candidates are expected to explain the reasons for the suggested design in part (a). Explanation should be both psychological and methodological. Psychological to include appropriate theory or research. **Additional:** candidates are expected to justify their decisions or evidence presented regarding the design made in answer to question part **(a)**. **Syllabus:** pre-cognitive decisions (Knutsson et al., 2007). ***Psychological****:* Knutsson et al. (2007) created a SHOP task (save holdings or purchase). Images of product shown for 4 seconds, then price for 4 seconds, then choice 4 seconds and participant choose yes/no to buy. This done in fMRI scanner to record 'pre-cognitive' decisions – brain knows decision before person 'thinks' it. ***Methodological****:* explanation of method using general and specific features as above.	**8**

Question	Answer	Marks
7(a)	**A child is in pain; the parent takes the child to the hospital so that a practitioner can assess the child's pain.** **Design a study to investigate whether there is a correlation between the parent's rating of the child's pain and the practitioner's rating of the child's pain.** **Marks:** use generic levels of response Design a study question part (a). **Additional**: Candidates should design the study showing evidence of design features appropriate to the named method. The named method is **any**, but data must be **correlation (i.e. able to be plotted on a scatter graph)** **Typical features:** • Observations: type, setting, response categories, sampling frame, number of observers • Questionnaires/Interviews: type, setting, example questions. Scoring/ rating scale, analysis of responses **General features of research methodology:** • sampling technique and sample, type of data, ethics, reliability, validity, data analysis • Could use observation and what is observed rated on some scale (as in UAB) • Could use visual analogue scale and compare numbers (or any similar scale) • Quantitative data must be collected and an explanation of how the data will be correlated	**10**

Question	Answer	Marks
7(b)	**Explain the psychological and methodological evidence on which your study is based.** **Marks:** use generic levels of response 'Design a study' question part (b). **Note:** If **only** methodological or psychological explanation is provided max 5 marks. Candidates are expected to explain the reasons for the suggested design in part (a). Explanation should be both psychological and methodological. Psychological to include appropriate theory or research. **Additional:** candidates are expected to justify their decisions or evidence presented regarding the design made in answer to question part **(a)**. **Syllabus:** Measuring pain: psychometric measures and visual rating scales (MPQ, visual analogue scale). Behavioural/observational measures (UAB). ***Psychological****:* Use of Turk's behavioural features may appear: • facial/audible indication of distress; distorted ambulation or posture; negative affect; avoidance of activity Use of rating scales (by adults to rate child's pain): • visual analogue, box scale, etc. Use of faces e.g. Wong-Baker (with a numerical scale) • use of MPQ, paediatric pain questionnaire receives no credit. The child would not complete these ***Methodological****:* explanation of method using general and specific features as above.	**8**

Question	Answer	Marks
8(a)	**A new machine has been designed, but it is dangerous to use. In order to reduce errors and accidents, the operator-machine system needs to be improved.** **Design an experiment to investigate <u>one</u> way that the safety of the new machine could be improved.** **Marks:** use generic levels of response Design a study question part (a). **Additional**: Candidates should design the study showing evidence of design features appropriate to the named method. The named method is **experiment.** **Typical features:** Experiments: type, IV, DV, controls, experimental design. **General features of research methodology:** sampling technique and sample, type of data, ethics, reliability, validity, data analysis.	**10**
8(b)	**Explain the psychological and methodological evidence on which your experiment is based.** **Marks:** use generic levels of response 'Design a study' question part (b). **Note:** If **only** methodological or psychological explanation is provided max 5 marks. Candidates are expected to explain the reasons for the suggested design in part (a). Explanation should be both psychological and methodological. Psychological to include appropriate theory or research. **Additional:** candidates are expected to justify their decisions or evidence presented regarding the design made in answer to question part **(a)**. **Syllabus:** accidents at work: errors and accidents in operator-machine systems ***Psychological****:* • There are many characteristics of operator-machine systems. **Controls** (knobs, switches etc.) and **displays** (visual and auditory) are also relevant, especially auditory. But what sound should the alarm have; how loud should it be? • Human decision-making also relevant. Generally there are four types of error, and error of omission (failing to do something) is relevant. Alarm could be ignored if it is too quiet/cannot be heard • Reference to decibel levels may also feature ***Methodological****:* explanation of method using general and specific features as above.	**8**

Question	Answer	Marks
	Section C	
9	***'In the future a genetic explanation of schizophrenia will be the only explanation needed'.*** **To what extent do you agree with this statement? Use examples of research you have studied to support your answer.** **Marks:** use generic levels of response in table C. **Syllabus:** genetic (Gottesman and Shields, 1972). **Most likely** (any other appropriate responses should be credited): **Only one needed:** • Genetic explanations are reductionist and can therefore be studied much more precisely than say psychodynamic explanations • Genetic findings can be replicated and generalised to everyone if a specific gene for phobias is identified • Genetic explanations provide an underlying cause for how it is possible for phobias to arise at all (an ultimate i.e. evolutionary explanation) whereas others can only provide an explanation of a specific phobia in a specific individual **Not only one needed:** • Other explanations are also 'scientific'; behavioural explanations are based on observable behaviour • Just because an explanation is based on science it does not mean that it is correct. The psychodynamic explanation has no science, yet it may be correct • Explanations should take a more holist view, rather than reducing the explanation to one factor	**12**

Question	Answer	Marks
10	***'Children should never be used as participants in studies of advertising'.*** **To what extent do you agree with this statement? Use examples of research you have studied to support your answer.** **Marks:** use generic levels of response in table C. **Syllabus:** Issue: children in psychological research; brand recognition in children (Fischer et al., 1991); product placement in films (Auty and Lewis, 2004). **Most likely** (any other appropriate responses should be credited): **Should be used:** • children are young and naïve and so are more likely to behave naturally, even in laboratory experiments • children will not question what is happening • children are consumers so studies involving children are as appropriate as adults as participants **Should never be used:** • children may not understand complex instructions and if they do… • they may not be able to explain what they are thinking or how they feel • children may not exercise the right to withdraw; they may not understand a debriefing • children may be psychologically harmed by a study which may not be evident for many years	**12**

Question	Answer	Marks
11	**'*Alternative techniques are more effective for managing pain, such as chronic pain, than biochemical pain techniques.*'** **To what extent do you agree with this statement? Use examples of research you have studied to support your answer.** **Marks:** use generic levels of response in table C. **Syllabus:** alternative techniques (acupuncture, stimulation therapy/TENS). **Most likely** (any other appropriate responses should be credited): **Are more effective**: • does not require a consultation or prescription from a qualified medical practitioner • may be possible to apply at home by the patient themselves (e.g. TENS) • does not require medicine to be taken (ingested) • no possibly addictive drugs are taken, so no withdrawal symptoms **Are not more effective:** • alternative therapies may not be as effective as medical treatments • many people do not believe that alternatives will work and never consider them • many societies have been conditioned to only accept medical techniques	**12**

Question	Answer	Marks
12	***'Quality of working life can only be measured effectively using five-point rating scales.'*** **To what extent do you agree with this statement? Use examples of research you have studied to support your answer.** **Marks:** use generic levels of response in table C. **Syllabus:** quality of working life (QWL) questionnaire (Walton, 1974). **Most likely** (any other appropriate responses should be credited): **Measured effectively:** • a five-point scale allows a wide range of responses from 'very dissatisfied' to 'very satisfied' • a five-point scale includes a mid-point, which is neutral, so any participant who really feels neutral can choose this option • a five-point scale will provide quantitative data that can be statistically analysed **Not measured effectively:** • Some participants may provide socially desirable responses; not give truthful answers; respond to demand characteristics • Closed/fixed choice questions may force people into choosing answers that do not reflect their true opinion and therefore may lower the validity • Researchers have to be careful about use of leading questions; it could affect the validity of the data collected	**12**

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