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PSYCHOLOGY **9990/41**

Paper 4 Specialist Options: Application **October/November 2024**

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 **33** 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 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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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

Question	Answer	Marks
1	**From the key study by Oruč et al. (1997) on mood (affective) disorders:**	
1(a)(i)	**Outline what is meant by a clinical interview.** **Syllabus** 1.2.2 Key study on association analysis of genetics of depressive disorder: Oruč et al. (1997). **Marks:** award 1 mark for each feature (up to 2 marks max). **Answers may include** (other appropriate responses to be credited). • a face-to-face interview (1 mark) • between a medical practitioner and a person/patient (1 mark) *Essential for 2 marks* • involving verbal and non-verbal exchange (1 mark) • in a medical setting (1 mark) • designed to diagnose symptoms, prescribe or assess treatment (1 mark)	**2**
1(a)(ii)	**Outline <u>one</u> reason why the participants were interviewed.** **Marks**: Award 2 marks for a detailed outline. Award 1 mark for a partial outline. **Definitive answers:** • patients had been previously assessed (1 mark) for lifetime psychopathology; the interview was done to confirm this (2 marks) • to ask about first degree relatives (1 mark) who had a history of a major affective disorder (2 marks) • to administer a psychometric test (1 mark) the SADS-L (Schedule for Affective Disorders and Schizophrenia – Lifetime Version) (2 marks)	**2**
1(b)	**The interviews were reviewed by a second psychiatrist.** **Suggest <u>one</u> effect there could have been on the results if the interviews had <u>not</u> been reviewed by a second psychiatrist.** **Marks**: Award 2 marks for an appropriate effect stated and applied to study with detail / elaboration / example. Award 1 mark for an appropriate effect identified but not applied. **Answers may include** (other appropriate responses to be credited): • the participant may not be suitable for the study (1 mark) which (i) may be bad for the person if they then participated (2 marks) (ii) it might break ethical guidelines (2 marks) • the data may be invalid (1 mark) because the first psychiatrist made an error in (i) diagnosis of BP type 1 (2 marks) (ii) checking the results of the SADS-L (2 marks)	**2**

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Question	Answer	Marks
1(c)	**Explain <u>one</u> strength and <u>one</u> weakness of a clinical interview as used in this study.** **Marks**: Up to 2 marks for each strength and up to 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: • it is used to confirm the individual circumstances (1 mark) the patient knows their family relationships, has to complete the psychometric assessment test; the practitioner only has notes of previous history (2 marks). • the individual patient can explain and answer any question (1 mark) for example about their BP disorder type 1 that may be asked; to clarify their suitability for the study (2 marks) Weaknesses: • the patient may use vague terms to describe their condition and be unable to clearly explain what the practitioner needs to know, or fully understand what the study is about (1 mark) such as BP disorder type 1, transporter genes (2 marks) • the patient may not understand medical jargon (1 mark) that is used such as BP disorder type 1, transporter genes (2 marks)	**4**

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Question	Answer	Marks
2(a)	**Explain what is meant by the term 'pyromania'.** **Syllabus** 1.3.1 diagnostic criteria (ICD-11) of impulse control disorders: – kleptomania – pyromania – gambling disorder. measure of impulse control disorders: Kleptomania Symptom Assessment Scale (K-SAS). **Marks:** Award 2 marks for a detailed explanation. Award 1 mark for a partial explanation. Full marks can be awarded for any one feature, plus the example (see below). **Answers may include** (from ICD-11) (other appropriate responses to be credited): • a recurrent failure to control strong impulses (1 mark) to set fires, resulting in multiple acts of, or attempts at, setting fire to property or other objects (2 marks). • lack of an apparent motive for the acts of, or attempts at, fire setting (1 mark) (e.g., monetary gain, revenge, sabotage, political statement, attracting recognition) (2 marks) • persistent fascination or preoccupation with fire and related stimuli (e.g., watching fires, building fires, fascination with firefighting equipment). • the individual experiences increased tension or affective arousal prior to instances of, or attempts at, fire setting. • the individual experiences pleasure, excitement, relief or gratification during, and immediately following the act of setting the fire, witnessing its effects, or participating in its aftermath. • acts of, or attempts at, fire setting are not better accounted for by a Disorder of Intellectual Development, another mental disorder (e.g., a Manic Episode), or Substance Intoxication. NB: description of any of 6 features of addiction in isolation 0 marks; can be used as elaboration.	**2**
2(b)	**Suggest <u>one</u> way in which pyromania could be measured, other than by self-report.** **Marks**: Award 2 marks for an appropriate suggestion in context with detail / elaboration / example. Award 1 mark for an appropriate suggestion identified but not applied. **Answers may include** (other appropriate responses to be credited). • observation: covert or overt; structured; non-participant, natural – or any combination of these (1 mark) over a period of time to see how many diagnostic features of pyromania are evident (2 marks). • case study of one person (1 mark) to see how many diagnostic features or pyromania are evident (2 marks). • experiment where a participant is exposed to a 'fire-setting situation' (1 mark) and their behaviour is observed for any resistance to set a fire (2 marks) NB: interviews and questionnaires are self-reports.	**2**

Question	Answer	Marks
2(c)	**Explain <u>two</u> strengths of using self-report to measure pyromania.** **Marks**: Up to 2 marks for each strength X2 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** (other appropriate responses to be credited): **Strengths:** • measuring pyromania gives the tester a measure of the extent of the problem (1 mark) such as scoring high on a pyromania questionnaire NOT K-SAS (+1 mark) then appropriate treatment for pyromania could be decided (+1 mark). • measuring pyromania and its characteristics can help understand more about it (1 mark) such as its addictive nature (+1 mark) or any other feature from the characteristics listed in (a) (+1 mark) • measuring pyromania can raise awareness/ help prevent any further occurrence of the behaviour (1 mark) such as setting fires (2 marks)	**4**

Question	Answer	Marks
3	**From the key study by Hall et al. (2010) on choice blindness for food items:**	
3(a)(i)	**Outline the sample of participants used in this study.** **Syllabus:** 2.3.3 Key study for choice blindness when tasting food items: Hall et al. (2010). **Marks**: Award 1 mark each feature (max 2 marks). A total of 180 consumers (118 female) at a supermarket in Lund, Sweden, participated in the study (three participants were removed due to recording problems). The age of the participants ranged from 16 to 80 years **Definitive answers**: • 180 customers • 118 female, 62 male • Age 16–80 years • Lived in/around Lund, Sweden	**2**

Question	Answer	Marks
3(a)(ii)	**Outline the sampling technique that was used to recruit the participants.** **Marks:** Award 2 marks for a detailed outline. Award 1 mark for a partial outline. (mean = 40.2; std = 20.0). They were recruited as they passed by a tasting venue we had set up in the store. We presented ourselves as being independent consultants contracted to survey the quality of the jam and tea assortment in the shop. The sample stand was located in one of the outer aisles in the beverage section of the supermarket, **Definitive answers**: • opportunity sample (1 mark) • participants approached as they passed the tasting venue (+1 mark) • passed the sample stand in a supermarket (+1 mark) • researchers acting as independent consultants (+1 mark) **NB:** some of these features not strictly opportunity sample**,** but give credit as they are part of sampling used by the researchers.	**2**
3(b)	**Suggest <u>one</u> sampling technique that could have been used to recruit participants for this study, other than the technique used by Hall et al.** **Marks**: Award 2 marks for an appropriate suggestion 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): • self-selecting sample: participants could have seen an advertisement in a newspaper or in the supermarket (1 mark) inviting people to volunteer to participate in a study on the quality of jam and tea (2 marks) • random sampling: participants could have been given a numbered token when entering the supermarket (1 mark) and then their number drawn randomly and then they asked to 'go to the outer aisle in the beverage section of the supermarket' (2 marks)	**2**

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Question	Answer	Marks
3(c)	**Explain <u>one</u> strength and <u>one</u> weakness of the sampling technique you suggested in (b).** **Marks:** Up to 2 marks for each strength and up to 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 • because participants have volunteered for the study they are more likely to be enthusiastic and less likely to withdraw (1 mark) related to study (2 marks). • because the participants are chosen randomly, there is no selection bias by the researchers (1 mark) related to study (2 marks). Weaknesses • because participants have volunteered they be more likely to be interested in what the study is about and may be more susceptible to demand characteristics (1 mark) related to study (2 marks) • choosing people at random does not automatically mean they will participate and the sample may be small (1 mark) related to study (2 marks)	**4**

Question	Answer	Marks
4(a)	**Explain what is meant by a 'customer-focused' sales technique.** **Syllabus:** 2.4.2 sales techniques focusing on customer-focused, competitor-focused, product-focused techniques including effect of each on buyer–seller relationship. **Marks**: Award 2 marks for a detailed explanation (or any two partial features). Award 1 mark for a partial explanation. **Answers may include** (other appropriate responses to be credited): • a customer's problems are viewed as unique, and a good salesperson will address the individual needs of the customer. • the salesperson actively engages the buyer; is a consultant rather than a persuader. • the salesperson seeks information and input from the buyer rather than telling the buyer what he or she wants.	**2**

Question	Answer	Marks
4(b)	**Suggest <u>one</u> effect a customer-focused sales technique could have on the buyer–seller relationship when buying a new car.** **Marks**: Award 2 marks for an appropriate effect stated and applied to study with detail / elaboration / example. Award 1 mark for an appropriate effect identified but not applied. **Answers may include** (other appropriate responses to be credited). • the customer's needs are focused on, so the customer feels like the seller is attentive to them, asks what they want and cares about them (1 mark) related to new car (2 marks). • this customer focus is likely to create loyal customers who rate the company highly and will recommend to others (1 mark) related to new car (2 marks). • the seller is meeting the needs of the customer, seeing what they want; they are not being forced to buy something and they are not bombarded with information as happens with other strategies (1 mark) related to new car (2 marks).	**2**
4(c)	**Explain <u>one</u> strength and <u>one</u> weakness of a competitor-focused sales technique.** **Marks**: Up to 2 marks for each strength and up to 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 • the cost of the product is very competitively priced. It is a good deal. • the salesperson needs little product information; needs to know very little/nothing about the customer. Weaknesses • this approach assumes that every person is the same; a competitive deal is all that is needed to secure a sale (1 mark) • in contrast to customer-focused, focus on the customer and their needs is unimportant.	**4**

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Question	Answer	Marks
5	**From the key study by Savage and Armstrong (1990) on the effect of practitioner style on patient satisfaction:**	
5(a)(i)	**Outline how participants were recruited for the study.** **Syllabus:** 3.1.2 key study for the effect of practitioner style on patient satisfaction: Savage and Armstrong (1990). **Marks**: Award 1 mark each feature (max 2 marks). A random number generator was used to select, in advance, four patients for the study from each surgery held by one general practitioner (RS) over four months. Patients aged 16 to 75 presenting with any symptom were eligible; they were excluded if they presented **Definitive answer:** *NB: Question is how, not identification of sampling technique.* • use of a random number generator (*essential for 2 marks*) • select four patients from each surgery of one doctor • from an inner London general practice • over a four-month period.	**2**
5(a)(ii)	**Outline how participants were randomly allocated to the conditions of the study.** **Marks:** Award 2 marks for a detailed outline. Award 1 mark for a partial outline. A set of cards was produced to allocate randomly either a directing or a shared style, and these were kept face down on the doctor's desk. Prompts covering five main parts of the consultation giving advice and treatment and the responses for each style were used to ensure uniformity of the allocated style (table I). When an eligible patient entered the consulting room a stopwatch was started and the consultation opened with a standard greeting and encouragement to describe the problem. The card that allocated the style was turned over only when the patient had completed his or her description of the initial problem and had been identified as suitable for entry to the study. **Definitive answer:** • cards used to randomly allocate directing or sharing style (done by doctor). • done after doctor had confirmed patient was suitable for participation in study.	**2**

Question	Answer	Marks
5(b)	**Suggest <u>one</u> problem if participants had not been randomly allocated to the conditions of the study.** **Marks**: Award 2 marks for an appropriate effect stated and applied to study with detail / elaboration / example. Award 1 mark for an appropriate effect identified but not applied. **Answers may include** (other appropriate responses to be credited). • the results might not be valid (1 mark) because: certain personality types may be in the sharing group or vice versa. (+1 mark). the doctors or experimenters might manipulate allocation to show that a sharing style is better (+1 mark)	**2**
5(c)	**Explain <u>two</u> strengths of the use of random allocation in this study.** **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** (other appropriate responses to be credited): **Strengths:** • no participant bias: The participant does not choose which condition they are in and so they cannot bias the study (1 mark) the participant is randomly put into a directing or sharing condition. (2 marks) • no doctor bias: The doctor presenting the style cannot bias the study (1 mark) because the doctor does not know whether a directing or sharing style is the next card to appear (2 marks).	**4**
6(a)	**Outline the psychological treatment of attention diversion to manage and control pain.** **Syllabus** 3.3.3 psychological treatments: cognitive strategies (attention diversion, non-pain imagery and cognitive redefinition). **Marks**: Award 2 marks for a detailed outline. Award 1 mark for a partial outline. **Answers may include** (other appropriate responses to be credited): • Attention diversion where a person focuses on a non-related stimulus in order to be distracted from the discomfort (1 mark). It can be passive (e.g. looking at a picture) or active (e.g. singing a song). Even watching television can distract the patient (2 marks).	**2**

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Question	Answer	Marks
6(b)	**Suggest <u>one</u> alternative treatment that could be used for managing and controlling shoulder pain, other than a biological or psychological treatment.** **Marks**: Award 2 marks for an appropriate suggestion applied to context with detail / elaboration / example. Award 1 mark for an appropriate effect identified but not applied. **Answers may include** (<u>other appropriate responses to be credited</u>). • **acupuncture** involves inserting between five and twenty fine stainless steel needles which are left in place for between ten to twenty minutes. The needle is inserted along a meridian line through which life energy or 'qi' is said to flow (1 mark) related to shoulder pain (2 marks). • **stimulation therapy** (TENS) involves electrodes placed on the skin causing stimulation (mild pain) which distracts the person from the original (worse) pain (1 mark) related to shoulder pain (2 marks).	**2**
6(c)	**Explain <u>one</u> strength and <u>one</u> weakness of using attention diversion to manage pain.** **Marks**: Up to 2 marks for each strength and up to 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 • the person is an active participant (1 mark) in the management of their own pain (2 marks). • the person can use the technique wherever they are (1 mark) and whenever they are in pain (2 marks) Weaknesses • the person may struggle to concentrate sufficiently on a non-related stimulus, especially when they are in pain (1 mark) and so any pain will not be eased (2 marks). • the person may not want a psychological treatment preferring to take a pill (1 mark) to reduce pain (2 marks).	**4**
7	**From the key study by Swat (1997) on monitoring accidents and risk events:**	

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Question	Answer	Marks
7(a)(i)	**Explain what is meant by the term 'accident frequency' as used in this study.** **Syllabus**: 4.4.3 Key study on the monitoring of accidents and risk events: Swat (1997). **Marks**: Award 1 mark for each feature. **Definitive answer:** • the number of injury accidents (not minor incidents) NB: essential for 2 mark answer • with sick leave days off work • per 100 employees in a year.	**2**
7(a)(ii)	**State which <u>two</u> industrial plants had the highest accident frequency (rate).** **Marks**: Award 1 mark for each correct example. *1. Accidents* The accident frequency (rates) in plants were: 2.8 for all plants, 5.9 for foundry, 2.1 machinery, 2.8 meat processing, 2.3 furniture, (Fig. 1A). The accident severity rate was 44.6 • Foundry 5.9 • Meat processing 2.8	**2**
7(b)	**Suggest <u>one</u> way in which accidents in industrial plants can be reduced.** **Syllabus** 4.4.3 reducing accidents at work: token economy, including a study, e.g. Fox et al. (1987). Same syllabus subsection as the Swat key study **Marks**: Award 2 marks for an appropriate suggestion applied to context with detail / elaboration / example. Award 1 mark for an appropriate suggestion identified but not applied. **Answers may include** (other appropriate responses to be credited). • use of token economy (1 mark) (as used in the e.g. study by Fox et al. (1987)). Token economy was used at two open-cast mines. Employees could earn stamps/ tokens (to gain rewards) for working without time lost for injury; not being involved in accidental damage to equipment; and behaviour that prevented accidents or injuries. Stamps were lost for unsafe behaviour that could cause accidents (2 marks). • providing information (health promotion strategy) (1 mark) maybe reference to Lewin (1992) heart health manual (2 marks)	**2**

Question	Answer	Marks
7(c)	**Explain <u>one</u> strength and <u>one</u> weakness of measuring accident frequency.** **Marks:** Up to 2 marks for each strength and up to 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: • to be categorised as an accident, the event must be formally reported to management (1 mark) and this applied to all the plants in this study (2 marks) • accident frequency rates are quantitative, and so statistics can be compiled (1 mark) for example the number of accidents in different companies/industries can be compared (2 marks) Weaknesses: • accident frequency does not take into account accidents severity (1 mark) when it is essential to measure this to take into account an accident where a worker misses one day compared to months (2 marks) • accident frequency does not take into account minor incidents (1 mark) which still raise health and safety issues, but which are often not reported officially (2 marks)	**4**

Question	Answer	Marks
8(a)	**Outline what Maslow meant by 'physiological needs' and ‘social needs’.** **Syllabus:** 4.1.1 Maslow’s hierarchy of needs including five needs, including a study, e.g. Saeednia (2011). **Marks:** Award 1 mark for each explanation. **Definitive answers** • physiological: need for food, drink, warmth, etc. • social: need for affection, relationships and family.	**2**

Question	Answer	Marks
8(b)	**Suggest <u>one</u> way in which achievement of social needs could be measured, other than by interview.** **Marks**: Award 2 marks for an appropriate suggestion applied to context 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 used to include closed questions with tick boxes (1 mark) about each stage the person has achieved (2 marks) • a questionnaire could be used to include open-questions to allow the person to talk about each stage/ their achievement of social needs (2 marks). • an observation of the person interacting with friends and family (1 mark) to show their achievement of social needs (2 marks).	**2**
8(c)	**Explain <u>one</u> strength and <u>one</u> weakness of using a telephone interview to gather data on need theories of motivation.** **Marks**: up to 2 marks for each strength and up to 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: • an interview is with a person themselves so they know about their needs (1 mark) so they can answer questions about what stage they have achieved easily and honestly (2 marks) • using a telephone means that a potentially representative sample can be contacted (1 mark) and so the needs of a diverse sample of participants can be investigated (2 marks) Weaknesses: • the participant may not tell the truth, exaggerate or underemphasise details (1 mark) which may lead the researcher to make inaccurate conclusions about the needs or stage a person is in (2 marks) • the drop-out rate for telephone interviews is quite high (1 mark) and so what is said about the need may not be detailed or may not be complete (2 marks)	**4**

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<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>9(a)</td><td>
Plan an experiment to investigate which anti-depressant drug is more effective for treating depression.

Your plan must include details about:
• experimental design
• type of experiment

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, randomised control trial
• 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
• 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>

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<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>9(b)</td><td>For <u>one</u> piece of psychological knowledge on which your plan is based:</td><td></td></tr>
<tr><td>9(b)(i)</td><td>Describe this psychological knowledge.

Syllabus: 1.2.3 biological treatments including the use of anti-depressants (tricyclics, MAOIs and SSRIs).

Description:
Biochemicals: there many types of drug that relieve the symptoms of depression:
• MAOIs inhibit the enzyme monoamine oxidase. This enzyme normally breaks down noradrenaline, serotonin and dopamine, but these neurotransmitters are not broken down, they stay at normal high levels and so ‘reduce depression’.
• SSRIs selective serotonin reuptake inhibitors act on serotonin to stop it being reabsorbed and broken down after crossing a synapse
NB: candidates could also legitimately include SNRIs (Serotonin-noradrenaline reuptake inhibitors (SNRIs), TCAs (tricyclic anti-depressants) SARIs (Serotonin antagonists and reuptake inhibitors)

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<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 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>
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</table>

Example: measure of depression for baseline (BDI). Two independent groups for IV: group 1 given MAOIs, group 2 SSRIs. Controls: no other drugs to be taken; both groups for 12 months. DV is change in level of depression (BDI again).</td><td>4</td></tr>
<tr><td>9(c)(i)</td><td>Explain <u>one</u> reason for your choice of experimental design.

Candidates should use the choice of experimental design stated in (a).

Award 2 marks if an appropriate reason is given and justified.
Award 1 mark if an appropriate reason is given but not justified.

Example:
• an independent design was chosen because it allows an experimental group to be compared directly to a control group or one treatment group with another (1 mark) related to plan (2 marks)
• a repeated design would control participant variables (1 mark) related to plan (2 marks)</td><td>2</td></tr>
</table>

Question	Answer	Marks
9(c)(ii)	**Explain <u>one</u> weakness of your choice of experimental design.** Candidates should use the design stated in (ci) Award 2 marks if a weakness is given and justified. Award 1 mark if a weakness is given but not justified. • with an independent design there is no control over participant variables (1 mark) related to study (2 marks) • a related design would not work because the same participant would do two (or more) conditions and the effect of the first might influence the second (and third) (1 mark) related to study (2 marks) • with a repeated measures design there is the possibility of order effects (1 mark) related to study (2 marks) • with a repeated measures design there is the possibility that the participant is more likely to work out the aim of the experiment (1 mark) related to study (2 marks)	**2**
9(c)(iii)	**Explain <u>one</u> reason for your choice of type of experiment.** Candidates should use the choice of experiment 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: • laboratory experiments have high levels of control, so the DV is more likely to be caused by the IV (1 mark) example from part (a) of plan (2 marks) • field experiment perhaps more difficult to control but possible to have high levels of ecological validity (1 mark) example from part (a) of plan (2 marks)	**2**

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<table>
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<tr><td>10(a)</td><td>
Plan a study using a questionnaire with closed questions to investigate the effectiveness of multiple unit pricing on purchases from a supermarket.

Your plan must include details about:
• the questionnaire technique
• descriptive statistics.

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:
• technique (paper/pencil, online, postal)
• 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
• 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>
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<table>
<tr><th>Question</th><th>Answer</th><th>Marks</th></tr>
<tr><td>10(b)</td><td>For <u>one</u> piece of psychological knowledge on which your plan is based:</td><td></td></tr>
<tr><td>10(b)(i)</td><td>Describe this psychological knowledge.

Syllabus: 2.3.2 point of purchase decisions including multiple unit pricing and suggestive selling, including a study, e.g. Wansink et al. (1998).

Description:
1 supermarket consumers are exposed to potential quantity anchors whenever multiple-unit prices are presented instead of single-unit prices (e.g., ‘On sale—6 cans for $3’ versus ‘On sale—$0.50 each’). A multiple-unit price promotion could stimulate more sales by making salient a higher than normal purchase quantity.
2 Wansink (1998): Multiple unit pricing: over 1 week, 43 stores used single unit pricing and 43 stores used multiple pricing for 13 categories of items. Results showed that, for example, for bathroom tissue, ‘buy 4 for $2 resulted in 45% more sales than ‘buy 1 for $0.50’.

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<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 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>
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Example: Study in Supermarket with shoppers. Week 1 has cans of soft drink ‘buy 1 for $1’. Week 2 has cans of soft drink ‘buy 6 for $6’. Descriptive statistics to compare numbers. Questionnaire to shoppers leaving store: Question: Why did you choose to buy 6 cans?: always buy 6/was special offer. Question: do you always buy special offers? Yes/no. descriptive stats again.
</td><td>4</td></tr>
</table>

Question	Answer	Marks
10(c)(i)	**Explain <u>one</u> reason for your choice of questionnaire technique.** Candidates should use the choice of questionnaire technique stated in (a). Award 2 marks if an appropriate reason is given and justified. Award 1 mark if an appropriate reason is given but not justified. Example: Paper/pencil • because they are face-to-face perhaps participants are more likely to complete the questionnaire and perhaps be more honest in their answers (1 mark) related to plan (2 marks). • paper/pencil because the researcher is there at the time watching and waiting and so the environment is perhaps more likely to be controlled if done in a laboratory with students for example (1 mark) related to plan (2 marks). Online • online because the sample size can be much larger and potentially much more diverse than paper/pencil or face-to-face which is probably done in a relatively restricted place (in street, laboratory) related to plan (2 marks). • online because there is no researcher waiting, watching or influencing the person in any way. The participant is more likely to be honest in their responses related to plan (2 marks). Postal • postal because the sample size can be much larger and potentially much more diverse than paper/pencil or face-to-face which is probably done in in a relatively restricted place (in street, laboratory) (1 mark) related to plan (2 marks). • postal because there is no researcher waiting, watching or influencing the person in any way. The participant is more likely to be honest in their responses (1 mark) related to plan (2 marks).	**2**
10(c)(ii)	**Explain <u>one</u> weakness of using closed questions in your study.** Candidates should use the closed questions stated in (a) Award 2 marks if a weakness is given and justified. Award 1 mark if a weakness is given but not justified. Example: participants have no opportunity to express a range of feelings or explain their behaviour. Stating ‘yes’ for example, does not allow participants to explain how they feel (1 mark) related to plan (2 marks).	**2**

Question	Answer	Marks
10(c)(iii)	**Explain <u>one</u> reason for your choice of descriptive statistics.** Candidates should use the descriptive statistics stated in (a) Award 2 marks if an appropriate reason is given and justified. Award 1 mark if an appropriate reason is given but not justified. Example: • descriptive statistics describe (summarise) data via mean, median, mode, range so outcomes can be easily identified (1 mark) related to study (2 marks) • descriptive statistics describe (summarise) data via a visual display bar chart, histogram, scatter graph (1 mark) related to study (2 marks).	**2**

Question	Answer	Marks
11(a)	**Plan a study using a face-to-face interview to investigate patients' preference for the clothing their doctors' wear.** **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 • 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**

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<tr><td>11(b)</td><td>For <u>one</u> piece of psychological knowledge on which your plan is based:</td><td></td></tr>
<tr><td>11(b)(i)</td><td>Describe this psychological knowledge.

Syllabus: 3.1.1 non-verbal communications with a focus on practitioner clothing, including a study, e.g. McKinstry and Wang (1991).

Description: McKinstry and Wang for example, compared five styles of a doctor’s dress, including a white coat. Participants were shown photographs of the same male or female and participants had to indicate their preference. Results: most acceptable was the male and female doctor wearing a white coat.
They may have included details of a different study as McKinstry and Wang is an example study or of other relevant theory.

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<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:

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Example: Face-to-face interviews conducted as patients leave a consultation. Structured interviews to all get the same questions in the same order. Open questions used e.g. ‘Describe why you prefer the doctor to wear a white coat’. Answers recorded later categorised and judged for agreement/reliability.</td><td>4</td></tr>
</table>

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Question	Answer	Marks
11(c)(i)	**Explain <u>one</u> reason for your choice of question scoring/interpretation.** Candidates should use the question scoring/interpretation stated in (a). Award 2 marks if an appropriate reason is given and justified. Award 1 mark if an appropriate reason is given but not justified. Example: • a (5-point) scale (or whatever) was used because each participant's score could be compared to other participants (1 mark) related to plan (2 marks) • quantitative data was gathered because it allowed statistical analysis (1 mark) related to plan (2 marks) • a 4-point scale was chosen so a participant could not 'opt-out' and give a neutral answer (if a 5-point or 7-point scale was used) (1 mark) related to plan (2 marks)	**2**
11(c)(ii)	**Explain <u>one</u> weakness of using a face-to-face interview in your study.** Candidates should use the face-to-face interview stated in (a). Award 2 marks if weakness is given and justified. Award 1 mark if a weakness is given but not justified. 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)	**2**
11(c)(iii)	**Explain <u>one</u> reason for your choice of interview format.** Candidates should use the interview format stated in (a). Award 2 marks if an appropriate reason is given and justified. Award 1 mark if an appropriate reason is given but not justified. Example: Answers may include structured, unstructured of semi-structured interviews. • a structured interview was used so all participants received the same questions 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)	**2**

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<table>
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<tr><td>12(a)</td><td>
Plan an experiment to investigate the effect of one physical work condition, other than temperature, on the productivity of workers.

Your plan must include details about:
• dependent variable
• ethical guidelines

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
• 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.

NB: candidates can choose any variable to investigate except for temperature. Possibilities: lighting, noise, humidity, etc.
NB: reproductions/descriptions of the Hawthorne study cannot be awarded more than Level 1 (1–2 marks).
</td><td>10</td></tr>
</table>

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<tr><td>12(b)</td><td>For one piece of psychological knowledge on which your plan is based:</td><td></td></tr>
<tr><td>12(b)(i)</td><td>Describe this psychological knowledge.

Syllabus: 4.4.1 impact of physical work conditions on productivity and the Hawthorne effect, e.g. Kompier (2006).

Description: physical working conditions include illumination, temperature and noise. The Hawthorne studies looked at illumination, but that could have easily been substituted for temperature, humidity or noise. For most work conditions there is an optimal level (baby bear’s porridge) not too hot or too cold, same for nose etc. Hawthorne studies procedure may well feature.

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

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Example: Field experiment with four IV conditions: <40 dB (no talking), 50–60 dB (normal conversation) 60–80 dB and 80–100 dB. Nothing over 100 dB which might cause harm. Workers in office completing admin tasks (or whatever). Repeated design with same workers. Control: exposed for 8 hours per day for one week. DV: number of tasks over or under average weekly number.</td><td>4</td></tr>
</table>

Question	Answer	Marks
12(c)(i)	**Explain <u>one</u> reason for your choice of dependent variable.** Candidates should use the dependent variable stated in (a). Award 2 marks if an appropriate reason is given and justified. Award 1 mark if an appropriate reason is given but not justified. Example: • explanation of why the specific DV was chosen (1 mark) related to study i.e. actual DV (2 marks) e.g. the highest and lowest noise levels (decibels, dB) was chosen to determine what workers can cope with to complete their job effectively e.g. the time (hours/mins) each worker can cope with a high (or low) noise levels and still complete their job effectively.	**2**
12(c)(ii)	**Explain <u>one</u> weakness with your choice of type of experiment.** Candidates should use the type of experiment stated in (a). Award 2 marks if a weakness is given and justified. Award 1 mark if a weakness is given but not justified. Example: • laboratory experiments have low ecological validity and behaviour may be different from that in real life (1 mark) related to plan (2 marks) • field experiments are perhaps more difficult to control but possible to have high levels of ecological validity (1 mark) related to plan (2 marks)	**2**
12(c)(iii)	**Explain <u>one</u> reason for your choice of an ethical guideline that you followed.** Candidates should use the ethical guideline stated in (a). Award 2 marks if an appropriate reason is given and justified. Award 1 mark if an appropriate reason is given but not justified. <u>NB: Any appropriate guideline applies</u> Example: • Workers have the right to withdraw from the study (1 mark) related to plan e.g. if the noise is too much (2 marks) • Workers have the right to be protected from harm (1 mark) related to plan (2 marks) • Workers may not withdraw for fear of losing their job so Management/ Experimenters need a statement to workers.	**2**

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