Section D
Research Methods
Answer **all** questions in this section.

A psychologist investigated the relationship between how patient people were when queuing for a theme park ride and how they rated their experience of it.

She posed as a member of staff so that she could observe people without them knowing. Every 30 minutes, the psychologist selected a person from the queue. She observed that person and measured how patient they appeared to be using a scale of 1 to 10 with 1 being 'very impatient' and 10 being 'very patient'.

Once that person had been on the ride, she explained the aim of her research. If they agreed to be part of the study, she then asked them to rate their experience of the ride on a scale of 1 to 10 with 1 being 'not exciting at all' and 10 being 'very exciting'.

20 Explain whether the data collected would be quantitative or qualitative data. Justify your answer.
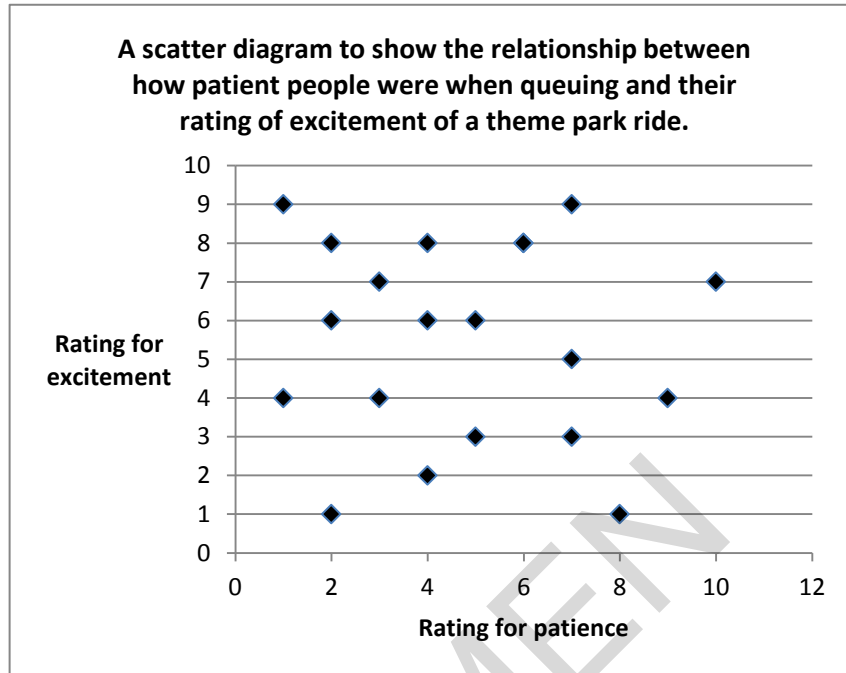
....

....**[2]**

21 Outline **one** strength of using a rating scale to measure people's experience of the ride.

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....**[2]**

22 Evaluate the use of the observation method in this study.

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....**[5]**

23 The psychologist presented her findings using a scatter diagram, as shown below.

A scatter diagram to show the relationship between how patient people were when queuing and their rating of excitement of a theme park ride.

Rating for excitement (y-axis: 0 to 10)
Rating for patience (x-axis: 0 to 12)

Explain what the psychologist would conclude from this scatter diagram.

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....**[2]**

24 Explain **two** weaknesses of **this** correlational study.

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....**[4]**

25 Outline **one** way in which this study could show gender bias.

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………**[3]**

END OF QUESTION PAPER

			0 marks: No credit worthy response.		
20			**Explain whether the data collected would be quantitative or qualitative data. Justify your answer.** 1 mark for understanding the data is quantitative. 1 mark for a justification of this answer in context of the study, e.g. patience is measured on a numerical scale.	**2** **1xAO1** **1xAO2**	If qualitative data is selected then it is still possible to earn the second mark if the explanation is actually of quantitative data.
21			**Outline one strength of using a rating scale to measure people's experience of the ride.** 1 mark for evaluation of a strength of using a rating scale 1 mark for applying this strength to the study <u>Examples of a 1 mark answer:</u> • Objectivity (1). • Easier to draw comparisons (1). • Requires less insight from participants (1). <u>Examples of a 2 mark answer:</u> • It is more objective (1) to score someone's excitement rather than asking them to describe it (1). • Easier to look for patterns (1) in this case between levels of excitement and patience (1).	**2** **1xAO2** **1xAO3**	Also credit strengths relating to self-report.
22			**Evaluate the use of the observation method in this study.** Credit evaluation points that refer to the observational method in psychology, or specific types used in this study (naturalistic, covert, non-participant). Points can be positive (e.g. high ecological validity, no observer effect) or negative (e.g. observer bias, lack of control of	**5** **2xAO2** **3xAO3**	

variables, no consent). The points should apply to the study described whether explicitly or implicitly.

Level 3 (4-5 marks):
There is a thorough evaluation of the observational method. This should be done with accuracy and clarity and clearly apply to the source. There should be evidence of coherency throughout the evaluation.

Level 2 (2-3 marks):
There is a good evaluation of the observational method. This should be done with some accuracy. Application to the source should be implicit if not explicit. There should be some evidence of coherency within the evaluation.

Level 1 (1 marks):
There is a basic attempt to evaluate the observational method. Evaluation may be more common sense than technical. Points may only apply to the source in an implicit way.

(0 marks):
No credit worthy response.

| 23 | | | **Explain what the psychologist would conclude from this scatter diagram.**

1 mark for identifying the scatter diagram shows no/zero correlation.

1 mark for a statement that recognises there is no relationship between how exciting people found the ride and how patient they were when queuing. | **2**
AO3 | |
| 24 | | | **Explain two weaknesses of this correlational study.** | **4** | 1 mark for each weakness identified (maximum of 2) |

			1 mark for a brief or basic weakness in context. 2 marks for a more detailed and developed weakness in context. Examples of 1 mark: • You cannot establish cause and effect between patience and excitement (1). • It only shows a relationship between patience and excitement (1). • There are too many uncontrolled variables e.g. other people, the quality of the ride. (1). Example of a 2 mark answer: • Researchers cannot establish cause and effect e.g. being patient causes more excitement (1) because variables are not manipulated (1).	AO3	2nd mark for context (maximum of 2). Limit of 2 marks available if not contextualized. Candidates might refer (but are not limited) to the following concepts when contextualising their answers: • Reliability • Demand characteristics • Observer effect • Gender bias • Cultural bias • Age bias • Experimenter bias • Observer bias • Social desirability • Ethical issues
25			**Outline one way in which this study could show gender bias.** 1 mark understanding of the concept of gender bias. 1 mark for the understanding possible effect(s) of gender bias. 1 mark for considering this in the context of the study. Examples of a 1 mark answer: • More males may have been studied than females (1). • The researcher may perceive males as being more impatient when they're not (1). Examples of a 2 mark answer: • The research may be gender bias if the sample has	**3** **1xAO1** **2xAO2**	

| | | | much more of one sex than another (1). For example, if the ride appeals more to females (1).
• The researcher's own biases may affect her ratings (1) as she may perceive males as being more impatient when they're not (1).

Examples of a 3 mark answer
• The research may be gender bias if the sample has much more of one sex than another (1). For example, if the ride appeals more to females (1) then they will be over-represented in the data (1).
• Males and females may want to present a different image when rating the ride (1) as males may want to come across as being more macho and rate the ride as less exciting (1) so their ratings are less valid than females (1). | | |

Section D
Research Methods – Designing an Investigation

Answer **all** questions in this section.

You have been asked to carry out an **experiment** to investigate whether noise affects reading speed. The theory is that people will take longer to read a passage from a book when there is a lot of background noise than when it is silent.

Use this space to plan your investigation.

SPECIMEN

20 State an alternative hypothesis for your investigation.

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21 (a) What experimental design would you choose in your investigation? Justify your answer.

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(b) Describe **one** strength of using this experimental design in your investigation.

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22 Outline the procedure you would use in your investigation.

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....**[4]**

23 Explain how **one** ethical issue may impact on your investigation.

Your chosen ethical issue: ....

Impact:...

.... **[3]**

24 Explain how **one** measure of central tendency could be used to analyse your data.

....

....**[2]**

25 Describe **two** weaknesses of using an experiment for your investigation.

1...

....

2...

....**[4]**

END OF QUESTION PAPER

SPECIMEN

Question	Answer	Marks	Guidance
	limited evidence.		
	0 marks: No credit worthy response.		
	AO3		
	Level 3 (5-7 marks):		
	There is a thorough evaluation which offers breadth and/or depth, providing a thorough discussion of the stated area and at least one other area of psychology. Points are coherent and relevant and the response is developed in order to reach a substantiated judgement in response to the question.		
	Level 2 (3-4 marks):		
	There is a good evaluation which offers breadth and/or depth providing a good discussion of the stated area and one other area of psychology. Points may be brief but should still be relevant and used to reach a supported judgement in response to the question.		
	Level 1 (1-2 marks):		
	There may be some basic attempt at evaluation but it will be weak and consideration of other areas of psychology may be inaccurate. Judgements will be either unclear or absent.		
	0 marks: No credit worthy response.		
20	**State an alternative hypothesis for your investigation.** 1 mark for recognising that an alternative hypothesis	**2** **AO2**	An answer that is: An aim/question/correlation/relationship is capped at 1 mark.

Question			Answer	Marks	Guidance
			predicts a difference. 1 mark for the accurate identification of **both** variables. <u>Example of a 1 mark answer:</u> • Students will take longer to read a passage from a book (1). <u>Example of a 2 mark answer:</u> • Students will take longer to read a passage from a book (1) when there is a lot of background noise than when reading a passage from a book in silence (1). Other appropriate wordings should be credited but the prediction and variables must be correct for full marks.		An answer that refers to: There being a difference/no difference is capped at 1 mark (as the source states that the theory is that it will take longer to read a passage from a book when there is a lot of background noise than when it is silent). NB: hypotheses can be phrased in either the present or future tense, but not the past tense.
21	a		**What experimental design would you choose in your investigation? Justify your answer.** Repeated measures design (1): • A small sample is needed as participants take part in both experimental conditions (1). Independent measures design (1): • Participants are unlikely to respond with demand characteristics as they will have little opportunity to work out the aim of the experiment as they only take part in one condition (1).	**2** **AO2**	1 mark for naming either repeated measures design or independent measures design. 1 mark for justification of design (small sample size required for RM).

Question			Answer	Marks	Guidance
	b		**Describe one strength of using this experimental design in your investigation.** 1 mark for stating a strength of the design identified in part (a). Example answers for a repeated measures design: Individual differences will not influence the findings as the same participants take part in both experimental conditions (1). Examples of answers for an independent measures design: • Boredom will not influence the findings as participants only take part in one condition (1). • Practice effects will not influence the findings as participants will only take part in one condition (1). Other appropriate strengths should be credited.	**1** **AO3**	If the candidate gives a strength of the design not identified in part (a) no marks can be awarded.
22			**Outline the procedure you would use in your investigation.** 1 mark for identifying a basic procedure and/or one feature of the procedure. 2 marks for a reasonably feasible procedure and/or two features of the procedure. 3 marks for describing a feasible procedure and/or three features of the procedure. 4 marks for a more detailed description of a feasible procedure and/or four or more features of the	**4** **AO2**	The emphasis is on **how** not why. Consider any of the following: • How the independent variable will be operationalised • Who will comprise the sample. • How the sample will be gathered • How the groups will be selected, e.g. random allocation into the two conditions • How reading time will be measured e.g. tape recording the reading activity and then timing how long it took to read the passage

Question	Answer	Marks	Guidance
	procedure. Examples of a 1 mark answer: • I would randomly allocate my participants to the two conditions by putting the names of all twenty participants in a hat and placing the first ten names I pull out in the noisy conditions and the second ten names in the silent condition (1). • I would measure reading times by timing (with a stop watch) how long it took each participant to read the given passage aloud (1). Examples of a 2 mark answer: • I would ask participants in both conditions to wear headphones so I could control noise levels (1). I would make sure that all participants read the same passage (1). • I would control for noise levels in the noisy condition by asking participants to wear headphones and then play the same music at the same level through the headphones (1). Participants would then read the passage aloud whilst I time how long it takes them to read it (1). Examples of a 3 mark answer: • Both conditions of the experiment would be conducted in the same classroom (1). I would ask all participants to wear headphones and then play background music over the headphones for those in the noisy condition and nothing for those in the silent condition (1). I would then ask all participants to read a given passage aloud into a		• Location of the investigation • Controls, e.g. the passage to be read, noise levels/noise, time of day • By whom (details of researcher) • Any instructions given to participants **Do NOT credit any aspect of the investigation that has been / will be awarded in separate questions.** **Be mindful of contradictory procedures in light of other information provided in other question parts.**

Question	Answer	Marks	Guidance
	tape recorder and time how long it took them (1). • I would randomly allocate my participants to the two conditions by putting the names of all twenty participants in a hat and placing the first ten names I pull out in the noisy conditions and the second ten names in the silent condition (1). I would ask all participants to wear headphones and then play background music over the headphones for those in the noisy condition and nothing for those in the silent condition (1). I would then ask all participants to read a given passage aloud into a tape recorder so I could play each recording back and time how long each one lasted (1). Examples of a 4 mark answer: • Both conditions of the experiment would be conducted in the same classroom (1). I would ask all participants to wear headphones and then play background music over the headphones for those in the noisy condition and nothing for those in the silent condition (1). I would then ask all participants to read a given passage aloud into a tape recorder and time how long it took them (1). I would then add up all the times in the noisy condition and divide by the number of participants in that condition so I could find the mean reading time. I would then do the same for the noisy condition (1). • I would randomly allocate my participants to the two conditions by putting the names of all twenty participants in a hat and placing the first ten names I pull out in the noisy conditions and the second ten names in the silent condition (1). I		

Question	Answer	Marks	Guidance
	would ask all participants to wear headphones and then play background music over the headphones for those in the noisy condition and nothing for those in the silent condition (1). I would then ask all participants to read a given passage aloud into a tape recorder so I could play each recording back and time how long each one lasted (1). I would then calculate the average reading time for each condition and display them in a bar graph so I could see whether the average reading time was quicker in the noisy condition or the silent condition (1). Other appropriate outlines should be credited.		
23	**Explain how one ethical issue may impact on your investigation.** 1 mark for identifying an appropriate ethical issue that may impact on the candidate's investigation. Likely issues will be: Stress/psychological harm, informed consent, right to withdraw, debriefing, confidentiality, deception. 1 mark for stating how the issue may impact on the investigation. 1 mark for an elaborated response explaining the consequences of the issue's impact. Examples of a 1 mark answer: Mere identification of an appropriate ethical issue e.g.	**3** **1xAO1** **2xAO3**	

Question	Answer	Marks	Guidance
	• Your chosen ethical issue: confidentiality (1). • Your chosen ethical issue: consent (1). Examples of a 2 mark answer: • Confidentiality (1) may impact on my investigation if participant's names become known (1). • Stress (1) may impact on my investigation if participants become worried by the noise / have difficulty reading the text (1). Examples of a 3 mark answer: • Confidentiality (1) may impact on my investigation if participants are not assured that their names will not be disclosed (1). If anonymity is not assured, they may not want to take part and withdraw from the investigation (1). • Stress (1) may impact on my investigation if participants become worried by the noise / have difficulty reading the text (1). This may make them perform badly and so affect my findings (1). Other appropriate explanations should be credited.		
24	**Explain how one measure of central tendency could be used to analyse your data.** 1 mark for identifying a measure of central tendency. 1 mark for application of how the chosen measure of central tendency would be calculated. Examples of a 1 mark answer: • I would use the mean (1). • I would use the mode (1).	**2** **1xAO1** **1xAO2**	

Question			Answer	Marks	Guidance
			• I would use the median (1). <u>Examples of a 2 mark answer:</u> • I would use the mean (1) by adding all the scores in the data set together and then dividing the total by the actual number of scores in the data set (1). • I would use the mode (1) by finding the most common score in the data set (1). • I would use the median (1) by calculating the middle score once I have put all the scores in the data set in numerical order (1). Other appropriate descriptions should be credited.		
25			**Describe two weaknesses of using an experiment for your investigation.** 1 mark for identifying a weakness of an experiment. 1 mark for explaining the identified weakness in the context of the investigation. <u>Examples of a 1 mark answer:</u> • One weakness of an experiment is that you might get demand characteristics (1). • One weakness of an experiment is that it may lack ecological validity (1). <u>Examples of a 2 mark answer:</u> • One weakness of an experiment is that you might get demand characteristics (1). In this	**4** **2xAO2** **2xAO3**	

Question			Answer	Marks	Guidance
			investigation the students may work out that the effect of noise (on reading time) is being measured (especially if they take part in both conditions) and then purposely read slower/faster in the noisy/silent condition to please the experimenter (1). • One weakness of an experiment is that it may lack ecological validity,(1) In this investigation being timed whilst reading a passage from a book is not a real-life situation and so may not reflect actual reading times in either noisy or silent conditions (1). Other appropriate, contextualised weaknesses should be credited.		