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EDEXCEL A LEVEL PSYCHOLOGY: QUESTIONS BY TOPIC

Cognitive Psychology (Topic 2)

AS and A Level Psychology Topic 2

71 questions · 441 marks · Mark schemes included

Pearson Edexcel AS (8PS0) and A Level (9PS0) Psychology, June 2016 - June 2025

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HOW TO USE THIS BOOKLET

Questions are grouped by sub-topic and run from the lowest mark tariff to the highest.

Click any heading or question row below to jump straight to it.

On every question page, click ANSWER in the top-right corner to jump to its mark scheme.

Diagrams, graphs, tables and data are printed exactly as they appeared in the original papers.

QUESTION	SOURCE	MARKS	PAGE
MODELS OF MEMORY		58 questions · 350 marks	4
1. Q3	A Level Paper 1 June 2019	2	5
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14. Q5	A Level Paper 1 November 2021	4	18
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20. Q7	A Level Paper 1 June 2024	4	24
21. Q6	AS Paper 1 June 2025	4	25
22. Q8	AS Paper 1 June 2025	4	26
23. Q5	A Level Paper 1 June 2025	4	27
24. Q6	A Level Paper 1 June 2025	4	28
25. Q7	AS Paper 1 June 2016	5	29
26. Q9	AS Paper 1 June 2018	5	30
27. Q7	A Level Paper 1 October 2020	5	31
28. Q5	A Level Paper 1 June 2017	6	33
29. Q4	A Level Paper 1 June 2019	6	35
30. Q4	A Level Paper 1 November 2021	6	36
31. Q9	AS Paper 1 June 2022	6	37
32. Q5	AS Paper 1 June 2024	6	38
33. Q7	AS Paper 1 June 2022	7	39
34. Q4	A Level Paper 1 June 2022	7	43
35. Q6	AS Paper 1 June 2024	7	46



36. Q4	AS Paper 1 June 2017	8	49
37. Q7	AS Paper 1 June 2017	8	50
38. Q6	A Level Paper 1 June 2017	8	51
39. Q8	AS Paper 1 June 2018	8	52
40. Q11	AS Paper 1 June 2018	8	55
41. Q7	A Level Paper 1 June 2018	8	56
42. Q5	AS Paper 1 June 2019	8	57
43. Q9	AS Paper 1 June 2019	8	59
44. Q5	A Level Paper 1 June 2019	8	60
45. Q9	AS Paper 1 October 2020	8	61
46. Q8	A Level Paper 1 October 2020	8	62
47. Q6	A Level Paper 1 November 2021	8	63
48. Q10	AS Paper 1 June 2022	8	64
49. Q6	A Level Paper 1 June 2022	8	65
50. Q5	A Level Paper 1 June 2023	8	66
51. Q7	AS Paper 1 June 2024	8	67
52. Q8	A Level Paper 1 June 2024	8	68
53. Q10	AS Paper 1 June 2025	8	69
54. Q7	A Level Paper 1 June 2025	8	70
55. Q6	AS Paper 1 June 2016	9	71
56. Q11	AS Paper 1 June 2022	12	74
57. Q11	AS Paper 1 June 2025	12	75
58. Q8	AS Paper 1 June 2016	15	76

METHODS, STUDIES AND PRACTICAL INVESTIGATION

13 questions · 91 marks

78

59. Q8	AS Paper 1 June 2019	4	79
60. Q5	AS Paper 1 June 2017	5	80
61. Q5	A Level Paper 1 June 2018	5	81
62. Q6	AS Paper 1 June 2019	6	83
63. Q8	AS Paper 1 October 2020	6	84
64. Q7	AS Paper 1 June 2025	6	85
65. Q9	AS Paper 1 June 2025	7	87
66. Q6	AS Paper 1 June 2017	8	90
67. Q11	AS Paper 1 June 2023	8	92
68. Q4	A Level Paper 1 June 2023	8	93
69. Q8	AS Paper 1 June 2024	8	95
70. Q9	AS Paper 1 June 2023	9	96
71. Q6	AS Paper 1 October 2020	11	100



QUESTIONS

71 questions · 441 marks · grouped by sub-topic, lowest tariff first



SUB-TOPIC

MODELS OF MEMORY

58 questions in this booklet



SECTION B: COGNITIVE PSYCHOLOGY

3 Tulving (1972) proposed an explanation of long-term memory.

Describe what Tulving (1972) meant by 'semantic memory'.

(2)



- 5 Becca is trying to memorise the name and location of different organs in the human body for a Biology test.

Describe **one** feature of the working memory model (Baddeley and Hitch, 1974) that could help Becca revise effectively for her test.



Cognitive Psychology

- 5** In your studies of cognitive psychology, you will have learned about how developmental psychology looks at the influences on memory as the brain ages.

Describe **one** developmental influence on memory.



- 6 In your studies of cognitive psychology, you will have learned about how individual differences influence memory.

Describe **one** individual difference that influences memory.



Cognitive Psychology

- 4** In your studies of cognitive psychology, you will have learned about the multi-store model of memory (Atkinson and Shiffrin, 1968).

State **two** features of the short-term memory store as it is used in the multi-store model of memory.

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- 7 Elizabeth conducted a laboratory experiment to investigate the impact of brain damage on long-term memory. She showed 16 photographs of named landmarks to participants with brain damage. After 20 minutes, Elizabeth asked the participants to recall the name of each landmark.

The results of Elizabeth's experiment are shown in **Table 2**.

Participant	Number of landmarks recalled correctly
A	3
B	4
C	4

Table 2

- (a) Calculate the percentage of landmarks correctly recalled by **Participant C**.

(1)

SPACE FOR CALCULATIONS

Percentage

- (b) Elizabeth repeated her experiment with a second group of participants who did not have brain damage. She compared the results from the two experiments.

Explain why Elizabeth compared her results from the two experiments.

(2)

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5 Describe the working memory model (Baddeley and Hitch, 1974).



SECTION 2: COGNITIVE PSYCHOLOGY

- 4** There are many models used within psychology to explain how memory works.

Describe the multi-store model of memory.

(4)



7 Tulving (1972) proposed that long-term memory is comprised of episodic and semantic memory.

(a) Describe episodic memory as it is used by Tulving (1972).

(2)

(b) Explain **one** strength of Tulving's (1972) explanation of long-term memory.

(2)



10 In cognitive psychology you will have learned about Baddeley's (1966b) study.

(a) Explain **one** strength of Baddeley's (1966b) study.

(2)

(b) Explain **one** weakness of Baddeley's (1966b) study.

(2)



- 6** Mo and Akeem witness a man steal a bag in a restaurant.

Using schema theory, suggest why Mo and Akeem may recall the scene in the restaurant differently.

7 In cognitive psychology, you will have studied the working memory model (Baddeley and Hitch, 1974).

(a) Describe the visuospatial sketchpad (VSSP).

(2)

(b) Explain **one** strength of the working memory model.

(2)



- 6 (a) Using an example, describe what is meant by semantic memory as proposed by Tulving (1972).

(2)

- (b) Explain **one** strength of Tulving's (1972) explanation of long-term memory.

(2)



- 5** Ken is planning to research whether the time of day has an impact on working memory processing speed. He intends to use high school students from the city where he lives for his research.

(a) Describe how Ken would gather a stratified sample for his research.

(2)

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- (b) To test working memory processing speed, Ken intends to ask his participants to complete a series of mathematical calculations in the morning. They will then return to complete another set of mathematical calculations in the afternoon.

Ken will time (in seconds) how long each participant takes to complete the task in the morning and in the afternoon to see if there is a difference.

Explain which statistical test Ken would use for his data.

(2)

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6 In cognitive psychology you will have learned about Baddeley (1966b).

(a) Explain **one** strength of Baddeley's (1966b) study in terms of reliability.

(2)

(b) Explain **one** weakness of Baddeley's (1966b) study in terms of validity.

(2)



- 8** Jane has asked for your help to design a laboratory experiment to find out if listening to music whilst revising affects people's ability to recall facts.

Describe a procedure you could suggest to Jane for her laboratory experiment.



7 In your studies of cognitive psychology you will have learned about the working memory model (Baddeley and Hitch, 1974).

(a) Describe the phonological loop.

(2)

(b) Explain **one** weakness of the working memory model (Baddeley and Hitch, 1974).

(2)



8 Explain **two** weaknesses of using case studies of brain-damaged patients when researching memory.

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10 During your course you will have studied the multi-store model of memory (Atkinson and Shiffrin, 1968).

- (a) Describe the 'sensory register' as part of the multi-store model of memory (Atkinson and Shiffrin, 1968).

(2)

- (b) Explain **one** strength of the multi-store model of memory (Atkinson and Shiffrin, 1968).

(2)



7 Dylan is eight years old and is learning how to spell six words for a spelling test in school. He has copied out each word ten times to practise writing them. Each time Dylan copies a word out, he says each letter of the word out loud. He asks his Dad to test him on the spellings. Dylan spells five out of the six words correctly.

- (a) Using the multi-store model of memory, describe how Dylan was able to remember the spellings for five out of the six words.

(2)

- (b) Explain **one** weakness of using the multi-store model of memory to account for Dylan's memory of the words.

(2)

6 Atkinson and Shiffrin (1968) proposed the multi-store model of memory.

(a) Describe short-term memory according to the multi-store model of memory.

(2)

(b) Explain **one** weakness of the multi-store model of memory.

(2)



8 Explain **two** strengths of using case studies of brain-damaged patients when researching memory.

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- 5 Jenny investigated the influence of semantic similarity on the accuracy of recall from long-term memory. She gathered 20 participants and used an independent groups design:
- Condition A: Participants were shown 30 semantically similar words.
 - Condition B: Participants were shown 30 semantically different words.

Both groups were given an interference task of counting backwards from 500 for two minutes, and then asked to write down as many words as they could recall.

Jenny’s results are shown in **Table 1**.

Condition	Mean number of words accurately recalled (out of 30)
Condition A: Semantically similar words	10
Condition B: Semantically different words	20

Table 1

- (a) State the fully operationalised dependent variable (DV) from Jenny’s experiment. (1)

- (b) Using the data in **Table 1**, draw a bar chart to represent the data from Jenny’s experiment. (3)

Title



- 6 Colin wanted to investigate long-term memory damage. He decided to conduct a case study on a patient with long-term memory damage who had been involved in a motorcycle accident. The patient is no longer able to make new episodic memories but she is able to make new semantic and procedural memories.

Colin has used several experiments to test the patient's long-term memory skills. He has also gathered qualitative data from notes he has made from observing her interactions with family and friends. Colin conducts an unstructured interview with the patient once a week.

Explain **one** strength and **one** weakness of Colin using a case study to investigate long-term memory damage.

Strength

Weakness

7 In cognitive psychology you will have learned about one of the following contemporary studies:

- **Schmolck et al. (2002)**
- **Steyvers and Hemmer (2012)**
- **Sebastián and Hernández-Gil (2012)**

Describe the procedure used in one study from the list.

Name of study

- 9 You have been asked to design a field experiment to investigate whether poor working memory in children affects their writing speed. Your psychology teacher has asked you to make sure you are objective in your research.

(a) Define what is meant by 'objectivity'.

(1)

(b) Describe the procedure you could use in your field experiment.

(4)



- 7 Charles investigated the influence of an interference task on recall from short-term memory.

The same participants had to recall a word list after an interference task (Condition A) and later recall a word list with no interference task (Condition B).

The results from Charles's investigation are shown in **Table 1**.

- (a) Complete **Table 1** and calculate the Wilcoxon Signed Ranks test for Charles's study.

(4)

Participant	Recall after an interference task (Condition A)	Recall with no interference task (Condition B)	Difference	Rank	Rank if positive	Rank if negative
A	8	12				
B	9	11				
C	6	12				
D	8	8				
E	10	9				
F	10	11				
G	5	10				
H	5	4				
Total:						

Table 1

SPACE FOR CALCULATIONS

Wilcoxon T value



(b) Using the Wilcoxon T value that you calculated for 7(a), determine whether Charles's data were significant at $p \leq 0.025$ for a directional (one-tailed) hypothesis.

(1)



5 Louise is interested to see whether there is a difference between the number of pictures recalled by children with dyslexia and by those who do not have dyslexia. The children have been given a short recall task to see how many of the pictures they can remember out of 20.

Table 2 shows the raw data from the experiment.

Participant number	Number of pictures recalled by children with dyslexia	Number of pictures recalled by children without dyslexia
1	16	11
2	8	9
3	5	7
4	12	17
5	14	4
6	17	3
7	7	9
8	11	11
9	6	6
10	13	12
Range		

Table 2

(a) Calculate the range of scores Louise gathered in both conditions of her study and complete **Table 2** above.

(2)

SPACE FOR CALCULATIONS

- (b) Calculate the standard deviation for the number of pictures recalled by children with dyslexia. Show your working and give your answer to two decimal places.

(4)

SPACE FOR CALCULATIONS

Standard deviation

(Total for Question 5 = 6 marks)



4 During your course you will have learned about the classic study by Baddeley (1966b).

(a) State **two** findings of Baddeley (1966b).

(2)

Finding one

Finding two

(b) Explain **two** weaknesses of Baddeley (1966b).

(4)

Weakness one

Weakness two

- 4 During a psychology lesson, Saima was asked to recall the contents of her history classroom. Some of the items she recalled included; 15 tables, a clock, paper, and a calendar. However, her history classroom did not contain a clock or a calendar.

(a) Using reconstructive memory, describe why Saima incorrectly recalled some items from her history classroom.

(2)

(b) Explain **one** strength and **one** weakness of reconstructive memory as an explanation of Saima's recall of the items from her history classroom.

(4)

Strength

Weakness



9 Tulving (1972) proposed an explanation of long-term memory.

(a) Describe semantic memory as it is used by Tulving (1972).

(2)

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(b) Explain **two** strengths of Tulving's (1972) explanation of long-term memory.

(4)

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5 In your studies of cognitive psychology, you will have learned about the multi-store model of memory (Atkinson and Shiffrin, 1968).

(a) Give **two** features of the ‘long-term store’ as it is used in the multi-store model of memory.

(2)

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(b) Explain **one** strength and **one** weakness of the multi-store model of memory.

(4)

Strength

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Weakness

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- 7 Gwen conducted an experiment to investigate whether the length of words influences the number of words that could be recalled.

She recruited her participants from a Year 11 GCSE Geography class. Gwen created two word lists, each consisting of eight country names.

- List 1: Countries with short names, for example Peru and Iraq.
- List 2: Countries with long names, for example Cambodia and Indonesia.

Both lists were read to all the participants and each time they had to recall as many of the country names as they could.

The results of Gwen's experiment are shown in **Table 1**.

Participant	Number of country names recalled correctly from list 1	Number of country names recalled correctly from list 2
A	5	2
B	4	3
C	6	2
D	4	2
E	5	3
F	4	3
G	5	3
H	5	3

Table 1

- (a) Calculate the mean number of country names recalled correctly from **list 2**.

You must give your answer to **one** decimal place.

(1)

SPACE FOR CALCULATIONS

Mean



- (b) Calculate the mode for the number of country names recalled correctly from **list 2**. (1)

SPACE FOR CALCULATIONS

Mode



Participant	Number of country names recalled correctly from list 1	$(x - \bar{x})$	$(x - \bar{x})^2$
A	5	0.25	0.06
B	4	-0.75	0.56
C	6	1.25	1.56
D	4	-0.75	0.56
E	5	0.25	0.06
F	4	-0.75	0.56
G	5	0.25	0.06
H	5	0.25	0.06
Total	38	Total	
Mean $\bar{x}$	4.75		

Table 2

- (c) Gwen decided to use the standard deviation as a measure of dispersion for her data.

Calculate the standard deviation for the number of country names recalled correctly from list 1 shown in **Table 2**.

You must show your working and give your answer to **two** decimal places.

(3)

SPACE FOR CALCULATIONS

Standard deviation = ...



(d) Explain **one** improvement that could be made to Gwen's experiment.

(2)



Question 4: Cognitive Psychology

4 Lei investigated the effect of word length on short-term memory capacity. She used a volunteer sampling technique to gather 20 participants. Lei allocated her participants randomly to one of two conditions.

- Condition A: participants are given 14 monosyllabic words (words with only one syllable such as cat, tub, or red) to learn in 30 seconds.
- Condition B: participants are given 14 polysyllabic words (words with more than one syllable such as elephant, happiness, or carpet) to learn in 30 seconds.

Lei recorded the number of words recalled correctly by participants.

- (a) State the fully operationalised independent variable (IV) and dependent variable (DV) in Lei's investigation.

(2)

Independent variable (IV)

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Dependent variable (DV)

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- (b) Complete **Table 2** and calculate the Mann-Whitney U for the results of Lei's investigation.

(4)

Condition A: monosyllabic words		Condition B: polysyllabic words	
Number of words recalled correctly	Rank	Number of words recalled correctly	Rank
9	16.5	5	5
8	13.5	7	11
9	16.5	6	8
7	11	5	5
10	19	6	8
9	16.5	9	16.5
7	11	3	2
6	8	5	5
8	13.5	4	3
11	20	2	1
Total		Total	

Table 2

SPACE FOR CALCULATIONS

$$U_a = \dots\dots\dots$$

$$U_b = \dots\dots\dots$$

$$U = \dots\dots\dots$$



(c) Using the Mann-Whitney U value that you calculated for 4(b), determine whether Lei's data were significant at $p \leq 0.05$ for a directional (one-tailed) hypothesis.

(1)

(Total for Question 4 = 7 marks)



6 Sebastian conducted an experiment to see whether information being organised in a meaningful way affects memory.

He splits his participants into two groups.

- Condition A: participants are given a list of words grouped in a meaningful way to recall. For example, types of animals.
- Condition B: participants are given a list of words in a random order to recall.

Each word list contained 15 words and he used different words for each list.
Each participant only saw one list and they sat next to each other whilst carrying out the experiment.

The results of Sebastian’s experiment are shown in **Table 2**.

Participant	Number of words recalled (out of 15) in the list of words grouped in a meaningful way (condition A)	Participant	Number of words recalled (out of 15) in the list of words in a random order (condition B)
A	14	H	13
B	7	I	5
C	11	J	7
D	10	K	8
E	9	L	3
F	11	M	12
G	6	N	4

Table 2

(a) Calculate the range for the list of words grouped in a meaningful way (condition A).
(1)

SPACE FOR CALCULATIONS

Range

(b) Sebastian decided to analyse his data using a Mann-Whitney U test.

Complete **Table 3** and calculate the Mann-Whitney U test for Sebastian’s data.

You must give your answer to **one** decimal place.

(4)

Condition A: List of words grouped in a meaningful way		Condition B: List of words in a random order	
Number of words recalled correctly	Rank	Number of words recalled correctly	Rank
14	14	13	13
7	5.5	5	3
11	10.5	7	5.5
10	9	8	7
9	8	3	1
11	10.5	12	12
6	4	4	2
Total		Total	

Table 3

SPACE FOR CALCULATIONS

U_a

U_b

U

(c) Explain **one** improvement Sebastian could make to his experiment.

(2)



SECTION 2: COGNITIVE PSYCHOLOGY

- 4 Liam and Emily are both students at the same college. A new student has asked them to direct her to the food hall. Emily explains that it is near the football field, while Liam explains it is near the rugby field. Rugby and football are played on the same field.

(a) Using schema theory, explain why Liam and Emily have given different directions to the food hall.

(4)

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(b) Bartlett (1932) suggested the theory of reconstructive memory to explain how information is stored and recalled.

Explain **two** weaknesses of Bartlett's (1932) theory of reconstructive memory.

(4)

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- 7** Henry Molaison (HM) was a patient who had a brain injury as a result of a surgical procedure to help him with epileptic seizures. As a result he suffered with severe memory loss.

Evaluate the use of case studies in cognitive research, such as the case of HM.

(8)



- 6** Experiments within psychology, such as that carried out by Baddeley (1966b), have aided our understanding of cognitive functions.

Assess the usefulness of using experiments within cognitive psychology.

(8)



- 8** George tested the accuracy of memory using a fairy tale story about a princess.

He recruited 27 participants from a local university campus. They read the story once and then recalled the story 10 days later.

George found that participant recall of the fairy tale story was often inaccurate.

- (a) Using your knowledge of reconstructive memory, describe why participants in George's study may have inaccurate recall of the fairy tale story.

(2)

The number of recall errors made by each of the female participants is shown in **Table 3**.

Female participants	Number of recall errors
A	3
D	5
F	8
H	4
K	0
L	1
P	9
R	2
S	7

Table 3

(b) Calculate the range for the number of recall errors made by female participants.

(1)

SPACE FOR CALCULATIONS

Range:

(c) Calculate the ratio of male to female participants in George's study.

(1)

SPACE FOR CALCULATIONS

Ratio:



11 Evaluate Atkinson and Shiffrin's (1968) multi-store model of memory as an explanation of human memory.

(8)



7 Evaluate the working memory model (Baddeley and Hitch, 1974).

(8)



5 Atkinson and Shiffrin (1968) explained memory using the multi-store model.

(a) Give **two** features of the 'short-term store' as it is used in the multi-store model of memory.

(2)

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(b) Explain **two** weaknesses of the multi-store model as an explanation of human memory.

(4)

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(c) Case studies of brain-damaged patients have been used when researching memory.

Explain **one** strength of using case studies of brain-damaged patients when researching memory.

(2)

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9 Evaluate the working memory model (Baddeley and Hitch, 1974).

(8)



- 5** Cognitive psychology has been used to explain key questions of relevance to today's society.

Discuss the key question for society you have studied using concepts, theories and/or research from cognitive psychology.

(8)

Key question



9 Evaluate Tulving's (1972) explanation of long-term memory.

(8)



- 8** Assess whether case studies of brain-damaged patients are an effective method for investigating human memory.

(8)



6 Evaluate the multi-store model of memory (Atkinson and Shiffrin, 1968).

(8)



10 Evaluate reconstructive memory (Bartlett, 1932), including schema theory.

(8)



6 In your studies of cognitive psychology, you will have learned about one of the following contemporary studies in detail:

- Schmolck et al. (2002)
- Steyvers and Hemmer (2012)
- Sebastián and Hernández-Gil (2012).

Evaluate your chosen contemporary study.

(8)

Chosen study

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- 5** Milo and Betty had watched a film together and were talking to their friends about the film. Milo described a scene where the main character had travelled by train to a big city where there were yellow taxis and really tall buildings. Betty said that the taxis were black, not yellow.

Betty also described how the main character had arrived at a train station but said it was in a town. She said that the main character had a large suitcase, but Milo claimed there was no suitcase, just a bag. Betty disagreed with Milo, she said because the main character was staying in the town for several weeks, it must have been a suitcase.

Discuss, using reconstructive memory (Bartlett, 1932), including schema theory, Milo's and Betty's recall of the film.

(8)

- 7 Louie and Gus both watched the same film. The film was about two bank robbers. When asked to describe the film at a later date Louie described it as a comedy where the two bank robbers kept making mistakes, such as being locked in the vault and stealing a box with worthless papers in it.
- Gus described it as an action film, that involved the use of weapons to enter the vault and the fight between the two robbers when they realised the box had worthless papers in it.
- (a) Using your knowledge of reconstructive memory, explain why Louie and Gus described the film differently.
- (4)

- (b) Explain **one** strength and **one** weakness of using Bartlett’s (1932) theory of reconstructive memory to explain why Louie and Gus described the film differently.
- (4)

Strength

Weakness

8 Evaluate the use of experimental methods when researching memory.

(8)

10 Assess how useful the working memory model (Baddeley and Hitch, 1974) is as an explanation of memory.

(8)



- 7** Leoni struggles to process information during lessons at college. She finds it difficult to note down information from the board before the teacher moves on to a new topic. Leoni gets embarrassed when she is asked a question by the teacher as she is unable to give an answer quickly.

At home, Leoni forgets to complete tasks that her parents give her. Her mum had asked her to go to the shop for ten items for making dinner, but Leoni forgot two of the items.

Leoni is also learning to drive but is finding it very hard to manage to respond to what she sees in the driving environment and change gears at the same time. Her driving instructor gives her directions about where to turn, but Leoni often misses the turn as she struggles to process the directions of left and right fast enough.

Discuss how the working memory model (Baddeley and Hitch, 1974) can explain Leoni's processing of information.

You must make reference to the context in your answer.

(8)

- 6** Jared decided to investigate how many household objects could be recalled by participants when rehearsal was prevented. He conducted a laboratory experiment where he displayed 25 household objects to the participants for one minute. Jared then asked the participants to count backwards from 20 before they attempted to recall as many household objects as they could.

(a) State a fully operationalised directional (one-tailed) hypothesis for Jared's experiment.

(3)

(b) Describe an appropriate participant design that Jared could use for this experiment.

(3)

(c) **Table 1** shows the results of Jared's experiment.

	Condition 1	Condition 2
Participant	Number of items recalled when rehearsal is not prevented	Number of items recalled when rehearsal is prevented
A	5	4
B	4	3
C	6	4
D	2	2
E	5	4
F	3	3
G	10	6
H	6	4
I	2	2
J	2	2
K	7	5
L	3	1
TOTAL	55	40

Table 1



Calculate the measures of central tendency for the data Jared collected for participant recall in **Condition 1** and complete **Table 2** below with your answers. (3)

Mean number of items recalled when rehearsal is not prevented (to two decimal places)	Median number of items recalled when rehearsal is not prevented	Mode number of items recalled when rehearsal is not prevented

Table 2

SPACE FOR CALCULATIONS

- 11** Donald's friends are taxi drivers working for company A. They had to learn street names to pass a memory test to work for the company.

Donald would like to work for company A but every time he sits down to try and learn the street names from a map he gets distracted. When testing himself, Donald finds he can only remember some of the street names correctly.

Company B have offered him a job that only requires him to use a Sat Nav. He is worried his friends will become hostile towards him if he joins the rival company.

Evaluate how the multi-store model of memory and social identity theory can explain Donald's situation.

You must make reference to the context in your answer.

(12)

- 11** Marsha and Abbie are friends and are remembering a day from their childhood when they were 10 years old.

Marsha remembers they were picking apples from a tree at the bottom of her garden. The apples tasted juicy and sweet. She remembers her mum calling all the way from the house, telling them to come inside. Marsha remembers going inside.

Abbie remembers the day too. She remembers it was hot and sunny so it must have been summertime. However, Abbie remembers they were picking pears, not apples. Abbie also remembers Marsha's mum calling all the way from the house, telling them to come inside. However, Abbie remembers staying outside.

Evaluate how social impact theory and Tulving's (1972) explanation of long-term memory can explain Marsha and Abbie's memory of the day from their childhood.

You must make reference to the context in your answer.

(12)

- (c) Baddeley (1966b) conducted a laboratory experiment to investigate the influence of acoustic and semantic similarity of words on long-term memory.

Evaluate Baddeley's (1966b) study.

(8)

SUB-TOPIC

METHODS, STUDIES AND PRACTICAL INVESTIGATION

13 questions in this booklet



- 8** Ricky is planning to conduct a field experiment to test recall accuracy of a story. He wants to find out if accuracy decreases over time. Ricky has asked for your help in designing his field experiment.

Describe a procedure Ricky could use for his field experiment.

- 5** In cognitive psychology you will have studied a key question of relevance to issues in modern society.

Explain the key question you studied using relevant concepts, theories and/or research drawn from cognitive psychology.

(5)

Key question

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.....

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.....

.....



SECTION 2: COGNITIVE PSYCHOLOGY

- 5 Mr Robinson has asked geography students and mathematics students to take part in an experiment. He asked both sets of students to learn a list of 20 words. The mathematics students were given an interference task before retrieval of the word list. The geography students did not have an interference task.

Table 1 shows the results of Mr Robinson’s experiment.

Participant	Number of words correctly retrieved (out of 20) by mathematics students	Number of words correctly retrieved (out of 20) by geography students
A	15	9
B	7	10
C	9	5
D	14	8
E	12	8
F	16	5
G	10	8
H	9	11
I	9	13
J	15	8
Mean		

Table 1

- (a) Calculate the mean number of words retrieved by the mathematics and geography students and complete **Table 1** with your answers.

You **must** give your answers to one decimal place.

(1)

SPACE FOR CALCULATIONS



(b) Explain which statistical (inferential) test Mr Robinson would have used to analyse the data.

(2)

(c) Explain **one** strength of Mr Robinson using quantitative data in his experiment.

(2)

6 In your studies of cognitive psychology you will have conducted a practical investigation.

(a) Give the fully operationalised dependent variable for your practical investigation.

(2)

.....

.....

.....

(b) Explain **two** improvements that could be made to the procedure you used in your practical investigation.

(4)

1

.....

.....

.....

.....



8 In your studies of cognitive psychology, you will have conducted a practical investigation.

(a) State the hypothesis for your practical investigation in cognitive psychology.

(2)

(b) Describe **one** way you controlled for situational variables in your practical investigation in cognitive psychology.

(2)

(c) Explain **one** conclusion from your practical investigation in cognitive psychology.

(2)

7 In your studies of cognitive psychology, you will have completed a practical investigation.

- (a) State the independent variable (IV) and the dependent variable (DV) for your practical investigation in cognitive psychology.

(2)

Independent variable (IV)

Dependent variable (DV)



(b) Explain **one** strength and **one** weakness of your practical investigation in cognitive psychology.

(4)

Strength

Weakness

9 Nyasha recruited British children to take part in a memory experiment. She showed the children a five-minute cartoon that she had downloaded from a popular streaming service.

Nyasha asked the children to write a description of the cartoon on the day they watched it and again after one week. She counted the number of words that the children wrote in their descriptions of the cartoon.

Table 2 shows Nyasha’s results.

Participant	Number of words written in the description of the cartoon	
	On the day the cartoon was watched	One week after the cartoon was watched
A	45	35
B	49	26
C	29	9
D	44	22
E	22	25
F	53	39
G	41	26
H	33	17
I	28	30

Table 2

(a) Calculate the median number of words written in the description of the cartoon on the day the cartoon was watched.

(1)

SPACE FOR CALCULATIONS

Median:

(b) Nyasha used a Wilcoxon Signed Ranks test to analyse her data.

Complete **Table 3** and calculate the Wilcoxon Signed Ranks test for Nyasha’s data. (4)

Participant	Number of words written on the day the cartoon was watched	Number of words written one week after the cartoon was watched	Difference	Rank	Rank if positive	Rank if negative
A	45	35				
B	49	26				
C	29	9				
D	44	22				
E	22	25				
F	53	39				
G	41	26				
H	33	17				
I	28	30				
Total:						

Table 3

SPACE FOR CALCULATIONS

Wilcoxon T value

(c) Explain **one** improvement Nyasha could make to her experiment.

(2)



- 6 Sarah would like to research whether 15 acoustically similar words will be easier to recall than 15 acoustically dissimilar words. She has asked you to help her conduct the research.
- (a) Explain the terms ‘independent variable’ and ‘dependent variable’, using Sarah’s research as an example.

(4)

Independent variable

Dependent variable

- (b) The mean results of Sarah’s experiment are shown in **Table 2**.

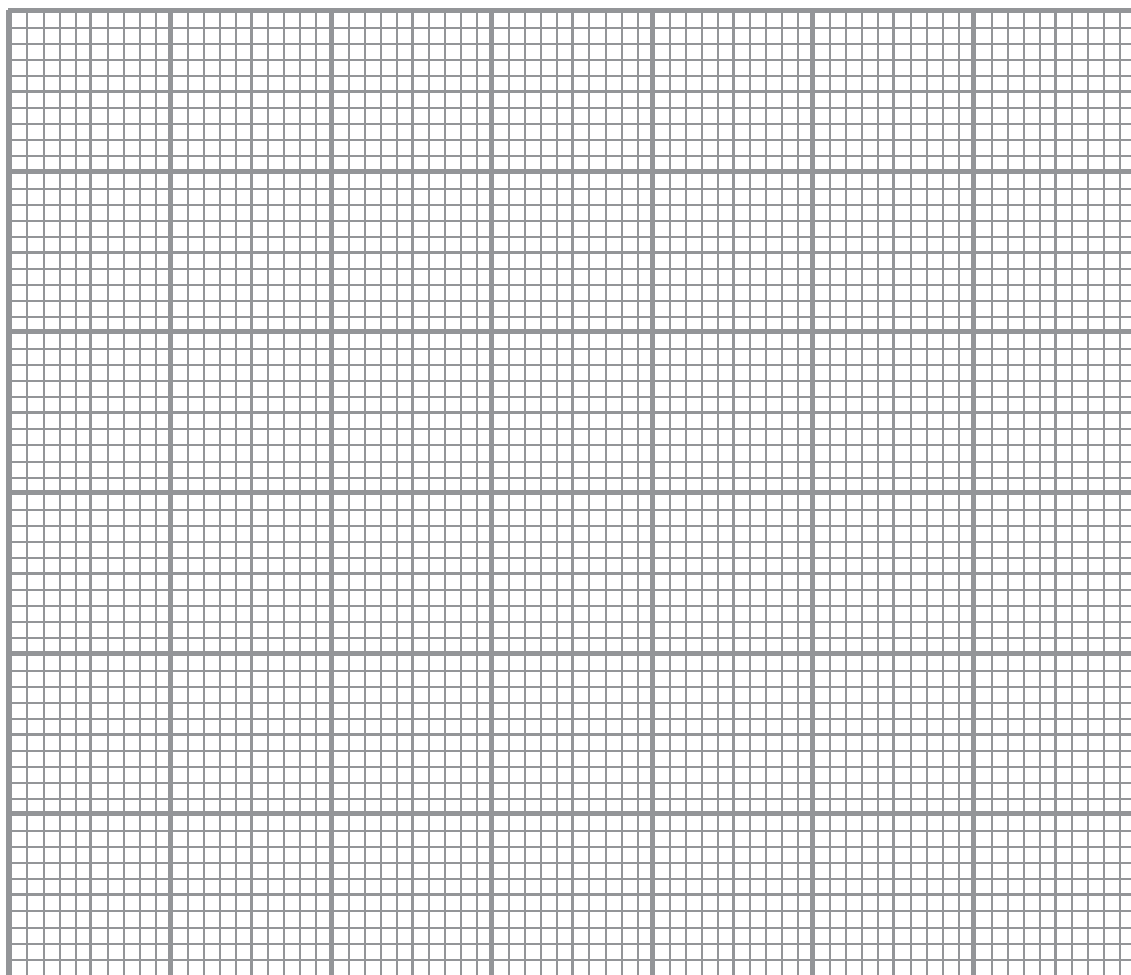
Mean number of acoustically similar words recalled	Mean number of acoustically dissimilar words recalled
5	8

Table 2

Draw an appropriate graph to show the mean results of Sarah's experiment.

(3)

Title



(c) State **one** conclusion from Sarah's results.

(1)

.....

.....

.....

(Total for Question 6 = 8 marks)



11 Assess the key question you have studied from cognitive psychology.

(8)



4 In your studies of cognitive psychology, you will have completed a practical investigation.

- (a) State the fully operationalised independent variable (IV) and the fully operationalised dependent variable (DV) for your cognitive psychology practical investigation.

(2)

Independent variable (IV)

Dependent variable (DV)



8 Evaluate laboratory experiments as they are used in cognitive psychology. **(8)**

- 9 Stefan is a psychology teacher who is investigating the influence of note-taking on the performance of his students.

He splits his students into two groups.

Group 1: Students who write summary notes of the lesson content in their own words.

Group 2: Students who do not write any summary notes of the lesson content and just use the printed notes given to them.

After a two-week period, Stefan gives his students a test on the lesson content he has taught since the students were assigned to their groups. Stefan assesses their performance on the test, which was out of 32 marks.

The results of Stefan's investigation are shown in **Table 3**.

Group 1: Students who wrote summary notes	Test performance (out of 32)	Group 2: Students who did not write summary notes	Test performance (out of 32)
A	28	I	22
B	26	J	19
C	30	K	25
D	18	L	31
E	23	M	20
F	21	N	20
G	16	O	14
H	22	P	17

Table 3



- (a) From the total number of students in **group 1**, calculate the percentage of students who scored higher than 20 in the test.

(1)

SPACE FOR CALCULATIONS

Percentage

- (b) The student participants in Stefan's sample consisted of twelve females and four males.

Calculate what fraction of Stefan's sample were female.

You must express your answer in its simplest form.

(1)

SPACE FOR CALCULATIONS

Fraction



(c) Stefan wanted to analyse his data using a Mann-Whitney U test.

Complete **Table 4** and calculate the Mann-Whitney U test for Stefan’s data.
You must give your answer to **one** decimal place.

(4)

Group 1: Students who wrote summary notes		Group 2: Students who did not write summary notes	
Test performance (out of 32)	Rank 1	Test performance (out of 32)	Rank 2
28	14	22	9.5
26	13	19	5
30	15	25	12
18	4	31	16
23	11	20	6.5
21	8	20	6.5
16	2	14	1
22	9.5	17	3
Total		Total	

Table 4

SPACE FOR CALCULATIONS

U_a = ...

U_b = ...

U = ...

- (d) Stefan was concerned about making a Type I error when analysing the results of his investigation.

Define what is meant by a Type I error.

(1)

- (e) Explain **one** improvement Stefan could have made to his investigation.

(2)

- 6 Bernadette carried out an experiment to investigate whether noise affects concentration.

She asked the participants to complete a Word Search puzzle while a radio was playing loudly. The participants were given one minute to find as many words as possible.

The same participants were given a different Word Search puzzle and once again given one minute to find as many words as possible but without the radio playing.

- (a) Identify the independent variable (IV) in the experiment conducted by Bernadette.

(1)

- (b) Bernadette used a repeated measures design in her experiment.

Explain **one** strength and **one** weakness of using a repeated measures design.

(4)

Strength

Weakness

- (c) Bernadette decided to carry out a statistical test on her data. She used a Wilcoxon Signed Ranks test.

Complete **Table 1** and calculate the Wilcoxon Signed Ranks test for Bernadette's data.

(4)

Participant	Number of words found in the Word Search puzzle with radio playing loudly	Number of words found in the Word Search puzzle without the radio playing	Difference	Rank	Rank if positive	Rank if negative
A	8	11				
B	7	7				
C	9	16				
D	11	12				
E	13	18				
F	9	8				
G	8	16				
H	5	17				
I	13	11				
J	6	17				
Total:						

Table 1

SPACE FOR CALCULATIONS

Wilcoxon T value



(d) Explain **one** improvement Bernadette could have made to her experiment.

(2)



MARK SCHEMES

official Pearson Edexcel mark schemes



Question Number	Answer	Mark
3	AO1 (2 marks) Up to two marks for description of semantic memory. For example: Semantic memory refers to facts and knowledge (1) that are like a 'mental encyclopaedia' of information (1). Look for other reasonable marking points.	(2)



5	AO2 (2 marks) Up to two marks for a description of one feature of the working memory model in relation to the scenario. For example: Becca can read the name and location of each organ and use the phonological loop to hold the information in the phonological store (1) while using repetition in the articulatory rehearsal loop until the organ names and locations are transferred to long-term memory (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(2)
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Question Number	Answer	Mark
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5	AO1 (2 marks) Up to two marks for a description of one developmental influence on memory. For example: One developmental influence is the effect of Alzheimer's disease which can result in progressive memory loss when an individual suffers with this disease (1). Individuals with Alzheimer's will first begin to lose their short-term memory functioning and eventually develop long-term memory loss (1). Look for other reasonable marking points.	(2)
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Question Number	Answer	Mark
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6	AO1 (2 marks) Up to two marks for a description of one individual difference in memory. For example: • One individual difference is the autobiographical nature of human memory where people have different memories of events to others (1) resulting from the way that individuals encode aspects of daily life into episodic or semantic memories depending on the depth of meaning they attribute to the events (1). Look for other reasonable marking points.	(2)
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Question Number	Answer	Mark
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4	Marks	Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)
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Cognitive Psychology

Question Number	Answer	Mark
4	AO1 (2 marks) One mark for stating each feature of the short-term memory store (maximum two marks). For example: • The short-term memory store has a limited capacity for storing up to 7 +/-2 chunks of information (1). • The short-term memory store has a short duration of up to 30 seconds (1). • The short-term memory uses acoustic encoding for the formation of memories (1). Look for other reasonable marking points.	(2)

Question Number	Answer	Mark
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7 (a)	AO2 (1 mark) One mark for correct answer For example: 25% Reject all other answers.	(1)
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Question Number	Answer	Mark
7 (b)	AO2 (1 mark), AO3 (1 mark) One mark for identification of why the results were compared (AO2). One mark for justification of why (AO3). For example: She can see whether the brain damaged participants recall is different to recall in participants with no brain damage (1). As Elizabeth can use the baseline data to test whether scores from participants with brain damage are significantly different from participants with no brain damage (1). Look for other reasonable marking points. Generic answers score 0 marks.	(2)

Question Number	Answer	Mark
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5	AO1 (3 marks) Up to three marks for a description of working memory model (Baddeley and Hitch, 1974). For example: The central executive is said to control the subsystems while also being involved in tasks such as problem solving and attention (1). The visuospatial sketchpad is a subsystem that processes visual input such as images or light, and spatial information such as direction (1) and the phonological loop processes auditory information using the articulatory control to subvocalise and the phonological store to temporarily hold sound (1). Look for other reasonable marking points.	(3)
Question Number	Indicative Content	Mark

4	201 (7 MARKS) One mark for each point describing the multi-store model. For example: Information primarily enters the system through a sensory experience and into the sensory register which is modality specific (1). Information is then passed to short term memory where it can be held for around 18-30 seconds before it decays (1). If this data is rehearsed to maintain the information it can be transferred to long term memory (1). Long-term memory is said to have a potentially infinite capacity and duration (1). Look for other reasonable marking points.	(4)
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Question Number	Answer	Mark
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7(a)	AO1 (2 marks) Up to two marks for description of episodic memory For example; Episodic memory is of experiences and events that happen to a person (1) so it is like a mental diary of someone's life (1). Look for other reasonable marking points.	(2)
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Question Number	Answer	Mark
7(b)	AO1 (1 mark), AO3 (1 mark) One mark for identification of strength (AO1) One mark for justification of strength (AO3) For example: Episodic and semantic memory has supporting evidence for consisting of two distinct stores (1) from brain damage patients such as KC (Rosenbaum et al. 2005) who could not make or recall episodic memories, but could recall semantic facts and information (1). Look for other reasonable marking points.	(2)

Question Number	Answer	Mark
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10(a)	AO1 (1 mark), AO3 (1 mark) One mark for identification of strength (AO1) One mark for justification of strength (AO3) Baddeley (1966b) used a standardised procedure, including standardised recorded/visual word lists (1) this allowed for replication of the study to retest the results which increases the reliability of the findings (1). Look for other reasonable marking points.	(2)
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Question Number	Answer	Mark
10(b)	AO1 (1 mark), AO3 (1 mark) One mark for identification of weakness (AO1) One mark for justification of weakness (AO3) Baddeley (1966b) used a word list recall task as a test of memory processing (1). This lacks validity as it does not represent the way in which memory is used for day-to-day functioning (1). Look for other reasonable marking points.	(2)

Question Number	Answer	Mark
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Question Number	Answer	Mark
6	AO2 (4 marks) Up to four marks for relevant suggestions using Schema theory. For example; • Schema theory states that recall of the robbery will be influenced by previous knowledge, experiences, expectations and stereotypes (1). Mo's schema for a robbery could include information he had seen in films, which he may incorporate into the event (1). Akeem may fill in gaps with information that makes sense to him when recalling the theft (1) from his own prior experience of having a bag stolen (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(4)

7 (a)	AO1 (2 marks) Up to two marks for description of the visuo-spatial sketchpad For example; The visuo-spatial sketchpad is responsible for the temporary storage and manipulation of visual and spatial information (1) and recreating images either in real time, or things we have seen in the past (1). Look for other reasonable marking points.	(2)
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Question Number	Answer	Mark
7 (b)	AO1 (1 mark), AO3 (1 mark) One mark for identification of a strength of the working memory model (AO1) One mark for justification of a strength of the working memory model (AO3) For example: The working memory model is supported by the case study of KF which shows there are separate STM components for visual and verbal information (1) as KF's impairment was mainly for verbal information whilst his memory for visual information was largely intact (1). Look for other reasonable marking points	(2)

Question Number	Answer	Mark
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6(a)	AO1 (2 marks) Up to two marks for describing semantic memory. For example: Semantic memory is the long term memory for factual information (1) for example knowing that Paris is the capital city of France (1). Look for other reasonable marking points.	(2)
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Question Number	Answer	Mark
6(b)	AO1 (1 mark), AO3 (1 mark) One mark for identification of a strength (AO1). One mark for justification of the strength (AO3). For example: There is supporting evidence that LTM has two distinct stores where episodic memories are stored separately to semantic memories (1) from Ostergaard (1987) where a boy with brain damage could not process episodic memories, but could make academic progress, showing the two stores are separate (1). Look for other reasonable marking points.	(2)

Question Number	Answer	Mark
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5 (a)	AO2 (2 marks) Up to two marks for a description of gathering a stratified sample in relation to the scenario For example: Ken would determine the strata for the high school student population demographic across the city he has chosen (1) and then select student participants to meet each strata, such as the proportions of gender for each year group (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(2)
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Question Number	Answer	Mark
5 (b)	AO2 (2 marks) Up to two marks for an explanation of an appropriate choice of test and reasoning. For example: Ken would use a Wilcoxon signed ranks test (1) because he is looking for a difference between morning and afternoon memory processing speed (1). Look for other reasonable marking points.	(2)

Question Number	Indicative Content	Mark

6 (a)	AO1 (1 mark), AO3 (1 mark) One mark for identification of a strength in terms of reliability (AO1) One mark for justification of a strength in terms of reliability (AO3) For example: Standardised controls were used, such as each participant being given the same amount of time to write out the 10-word sequence (1) which means that the task can be replicated to retest the results to assess the influence of semantic and acoustic words on long term memory (1). Look for other reasonable marking points.	(2)
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Question Number	Answer	Mark
6 (b)	AO1 (1 mark), AO3 (1 mark) One mark for identification of a weakness in terms of validity (AO1) One mark for justification of a weakness in terms of validity (AO3) For example: The task of recalling word lists to test memory is an artificial task and lacks validity (1) as learning lists of words in a sequential order in our daily life is not a true representation of how memory functions (1). Look for other reasonable marking points.	(2)

Question Number	Answer	Mark
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8	AO2 (4 marks) Up to four marks for description of a procedure for Jane's laboratory experiment. For example: Jane could create two separate lists of different facts to present to a group of participants (1). She could present the first list to the participants with music playing in the background and she could give them two minutes to revise the facts on the list (1). Jane could then give the participants one minute to recall as many facts as they can remember (1). She could then repeat the procedure with the participants using the second list of facts but without music playing in the background (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(4)
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Question Number	Answer	Mark
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7(a)	AO1 (2 marks) Up to two marks for description of the phonological loop. For example: The phonological loop is assumed to be responsible for maintaining speech-based information (1) and consists of two sub-systems, including the inner ear (storage) and the inner voice (rehearsal) (1). Look for other reasonable marking points.	(2)
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Question Number	Answer	Mark
7(b)	AO1 (1 mark), AO3 (1 mark) One mark for identification of a weakness (AO1). One mark for justification of the weakness (AO3). For example: The 1974 model has been added to over time, so it may have been incomplete and inaccurate (1) because the addition of an episodic buffer in 2000 showed that the original version of the theory could not fully explain memory, and still may do so (1). Look for other reasonable marking points.	(2)

Question Number	Answer	Mark
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8	AO1 (2 marks), AO3 (2 marks) One mark for identification of each weakness (AO1). One mark for justification of each weakness (AO3). For example: • Case studies of brain-damaged patients are unique so the memory impairment may be specific to that individual (1) so the findings about the way that memory functions have limited representativeness to the general population (1). • It is difficult to obtain informed consent from brain-damaged patients (1) as in the case study of HM who had severe amnesia and was not able to consent himself, therefore it may not be ethical to carry out the study (1). Look for other reasonable marking points.	(4)
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Question Number	Answer	Mark
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10(a)	AO1 (2 marks) Up to two marks for description of the sensory register. For example: The sensory register acquires information from the world around the individual via the senses (1). The information is encoded depending on format in which the information is received (1). Look for other reasonable marking points.	(2)
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Question Number	Answer	Mark
10(b)	AO1 (1 mark), AO3 (1 mark) One mark for identification of a strength (AO1). One mark for justification of the strength (AO3). For example: Glanzer and Cunitz (1966) provide supporting evidence that short-term memory and long-term memory stores are separate stores (1) as in their serial position effect experiment, participants recalled more words from the beginning and end of the word list suggesting two distinct memory stores (1). Look for other reasonable marking points.	(2)

Question Number	Answer	Mark
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7(a)	AO2 (2 marks) Up to two marks for a description of the multi-store model of memory in relation to the scenario. For example: Dylan used maintenance rehearsal when learning the six words by sounding out each letter as he copied the word out when practicing them (1), this would help transfer the spelling of the words from his short-term store to long-term memory for him to recall when his Dad tested his spellings (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(2)
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Question Number	Answer	Mark
7(b)	AO2 (1 mark), AO3 (1 mark) One mark for identification of a weakness in relation to the scenario (AO2). One mark for justification of the weakness (AO3). For example: One weakness is that the MSM overemphasises the process of auditory rehearsal as a mechanism for Dylan to transfer the words to LTM and does not fully explain why he could not spell one of the words (1). HM was able to make new procedural memory despite being unable to make new declarative LTM, showing that acoustic rehearsal may not be how Dylan learned his spelling, but instead he learned the procedural writing of the word shapes (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(2)

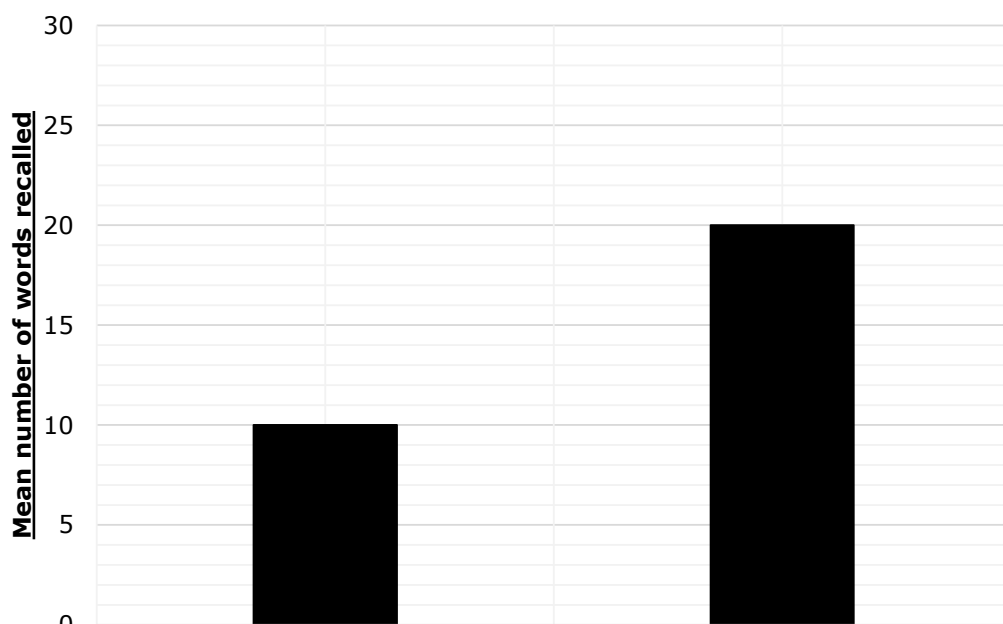
Question Number	Indicative Content	Mark
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Question Number	Answer	Mark
6 (a)	AO1 (2 marks) Up to two marks for a description of short-term memory according to the multistore model. For example: The short-term memory is a limited capacity store that can hold between 5-9 items (1), with encoding in the short-term memory being predominantly acoustic (1). Look for other reasonable marking points.	(2)

Question Number	Answer	Mark
6 (b)	AO1 (1 mark), AO3 (1 mark) One mark for identification of a weakness (AO1). One mark for justification of the weakness (AO3). For example: The multi-store model is an overly simplistic model of memory because it only has a single unitary LTM / STM (1). HM was found to improve at tasks with practice despite not remembering doing the tasks previously, which shows that there is more than one type of long-term memory (1). Look for other reasonable marking points.	(2)

Question Number	Answer	Mark
8	AO1 (2 marks), AO3 (2 marks) One mark for identification of each strength (AO1). One mark for justification of the strength (AO3). For example: Strength one - Case studies of brain-damaged patients involved studying one patient or a small group of individuals using multiple methods (1). This allows researchers to triangulate across the data gathered to increase reliability about memory functions (1). Strength two - Case studies allow us to investigate aspects of memory that would not be ethically or practically possible using experiments (1). For example, studying HM using a case study was an appropriate way to further investigate the role of the hippocampus on memory as his hippocampus had already been removed (1). Look for other reasonable marking points.	(4)

5(a)	AO2 (1 mark) One mark for stating the fully operationalised dependent variable (DV). For example: The number of words accurately recalled out of 30 (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(1)
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Question Number	Answer	Mark						
5(b)	A02 (3 marks) One mark for appropriate title. One mark for appropriate labelling of axes. One mark for correct plots. For example: A bar chart to show the mean number of words recalled (out of 30) by participants shown semantically similar or semantically different words <table><thead><tr><th>Condition</th><th>Mean number of words recalled</th></tr></thead><tbody><tr><td>Semantically similar words</td><td>10</td></tr><tr><td>Semantically different words</td><td>20</td></tr></tbody></table>	Condition	Mean number of words recalled	Semantically similar words	10	Semantically different words	20	(3)
Condition	Mean number of words recalled							
Semantically similar words	10							
Semantically different words	20							
	Look for other reasonable marking points.							

Question Number	Answer	Mark
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6	AO2 (2 marks), AO3 (2 marks) One mark for identification of a strength and a weakness in relation to the scenario (AO2). One mark for justification of the strength and the weakness (AO3). For example: Strength - Colin would be able to triangulate his data from the experiments, interviews, and observational notes of the patient's memory to gather comprehensive data about the dysfunctions of her episodic memory skills (1). This will allow him to compare the data from the different methods for similarity to ensure his findings are valid about long-term memory dysfunction (1). Weakness - The accident may have resulted in unique brain damage to the patient which may not represent long-term memory dysfunctions that are experienced by other brain damaged patients (1), which would mean Colin's results about episodic, semantic, and procedural memory are not generalisable to a wider population of brain damaged patients (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(4)
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Question Number	Indicative Content	Mark
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Question Number	Indicative Content	Mark
7	AO1 (5 marks) Up to five marks for description of procedure. For example: Schmolck et al. (2002) - The sample included 8 male controls and 1 female, 5 male participants (1). All participants were given nine tests based on the same line drawings of 24 animals and 24 objects (1). Each of the 48 items could further be assigned to one of 8 categories; e.g. 6 birds (1) For tests 8 and 9, the number of correct statements and incorrect statements calculated, they assigned a quality score (0–4) to each definition (1). Frequency of errors in test 8 recorded, including incomplete or meaningless phrases and immediate repetitions of a phrase (1). Steyvers and Hemmer (2012) There were two procedures in this study, credit any relevant information presented. Prior expectations - A verbal cue condition was used for participants to name what they expected to see in a scene (1). A random sample of 22 participants was recruited from an experimental participant pool (1). Participants had to list objects that came to mind when verbally given a particular scene (1). The frequency of objects named was recorded as a measure of prior expectation (1). There were 25 participants in a separate group who made perceptual judgements on the visual cues recalling what they could see (1). Sebastián and Hernández-Gil (2012) - A verbal digit span test was administered to 570 participants ranging from 5 to 17 years old (1). Participants were divided into five different age groups and the average digit span was recorded for each age group (1). Each participant was read increasing sequences of digits to recall in the correct order (1). The digit span for participants was recorded as the maximum digits recalled in the correct order without error (1). The results were compared to the performance in the same task undertaken by other groups such as healthy elderly and Alzheimer disease patients (1). Look for other reasonable marking points.	(5)

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9(a)	AO1 (1 mark) One mark for a definition of objectivity Objectivity is being neutral and unbiased when collecting and interpreting research data in psychology (1) Look for other reasonable marking points.	(1)
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Question Number	Answer	Mark
9(b)	AO2 (4 marks) Up to four marks for appropriate field experiment procedure. The field experiment could be undertaken using a sample of ten schools with children aged nine (1). A teacher could project a standardised story on the board for the children to copy down (1). You could measure the time it takes each child to complete the task (1). Informed consent would need to be obtained from the parents of the children in the class (1). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to the scenario.	(4)

Question Number	Answer	Mark
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7(a)

AO2 (4 marks)

(4)

Participant	Recall after an interference task (Condition A)	Recall with no interference task (Condition B)	Difference	Rank	Rank if positive	Rank if negative
A	8	12	-4	5		5
B	9	11	-2	4		4
C	6	12	-6	7		7
D	8	8	0	-	-	-
E	10	9	1	2	2	
F	10	11	-1	2		2
G	5	10	-5	6		6
H	5	4	1	2	2	
Total:					4	24

One mark for accurate completion of difference column

One mark for accurate completion of ranked difference columns

One mark for accurate calculation of sum of both ranks

One mark for correct value of **T=4**

Question Number	Answer	Mark
7(b)	AO2 (1 mark) One mark for a correct determination of significance. The calculated T value (4) is more than the critical value (2), so the results are not significant (1). Look for other reasonable marking points.	(1)

Question Number	Indicative Content	Mark
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5(a)	AO2 (4 marks) One mark for the range for the pictures recalled by children with dyslexia. One mark for the range for the pictures recalled by children without dyslexia. Range of number of pictures recalled by children with dyslexia • 12 Range of number of pictures recalled by children without dyslexia • 14 Look for other reasonable marking points.	(2)
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Question Number	Answer	Mark
5(b)	AO2 (4 marks) One mark for squaring the values of the number of pictures recalled by children with dyslexia minus the mean (10.9) for each score, $(x-\bar{x})^2$ 5.1^2, -2.9^2, -5.9^2, 1.1^2, 3.1^2, 6.1^2, -3.9^2, 0.1^2, -4.9^2, 2.1^2 One mark for calculating the sum of these values = 160.9 One mark for dividing this by 9 (n-1) = 17.87777778 One mark for calculating the square root = 4.228212125 / 4.23 to two decimal places	(4)

Question Number	Indicative content	Mark
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Question Number	Answer	Mark
4(a)	AO1 (2 marks) One mark for statement of each finding from experiment I, II or III. For example: Experiment III Finding one • Baddeley (1966b) found a tendency for acoustically similar lists to be harder than the control list during early learning/from STM (1). Finding two • Baddeley (1966b) found the semantically similar list had poorer recall than the control list on the surprise retest/from LTM (1). Look for other reasonable marking points.	(2)

Question Number	Answer	Mark
4(b)	AO1 (2 marks), AO3 (2 marks) One mark for identification of each weakness (AO1) One mark for justification of each weakness (AO3) For example: • Baddeley (1966b) provided participants with lists of words to assess memory through the recall of correct sequences which lacks task validity (1). People usually remember conversations or telephone numbers but not word lists so the findings may not represent real life memory (1). • The study took place in a laboratory where individual words were read out/shown to the participants which is a controlled, artificial situation so lacks ecological validity (1) because the participants may have changed their behaviour from real life and could have tried harder to learn the words unlike their daily use of memory (1). Look for other reasonable marking points.	(4)

4	Marks	Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)
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Cognitive Psychology

Question Number	Answer	Mark
4 (a)	AO2 (2 marks) Up to two marks for a description of reconstructive memory in relation to the scenario. For example: Saima will have an existing schema for a classroom that included a clock based on her prior knowledge of classrooms she has been taught in (1), so when recalling her History classroom she filled in gaps in her recall with expected items based on her schema therefore believing a clock was present in the room (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(2)

Question Number	Answer	Mark
4 (b)	AO2 (2 marks), AO3 (2 marks) One mark for identification of a strength and a weakness of reconstructive memory in relation to the scenario (AO2) One mark for justification of each strength and weakness (AO3) For example: Strength - Brewer and Treyens (1981) supports why Saima recalled the calendar in the classroom, finding that an 'office schema' significantly affected the accuracy of participant recall for objects in an office (1), therefore when Saima made mistakes in her recall of the calendar from the History classroom it demonstrates that she had actively reconstructed her memory based on her prior expectations of a classroom (1). Weakness - Saima's errors in recall could be a result of not rehearsing all the items in her History classroom to memorise them as she was paying attention to the teacher not the room rather than her schema for a classroom (1). The multi-store model of memory (Atkinson and Shiffrin, 1968) suggests Saima needs to use rehearsal to transfer information from her STM to her LTM or it would be lost, so mistakes in recall are due to items not being stored and not her prior expectations (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(2)

Question Number	Answer	Mark
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9a	AO1 (2 marks) Up to two marks for description of semantic memory. For example: Semantic memory is like a mental thesaurus where information is stored (1). It can be in the form of words, verbal symbols and their meanings (1). Look for other reasonable marking points.	(2)
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Question Number	Answer	Mark
9b	AO1 (2 marks), AO2 (2 marks) One mark for identification of each strength (AO1) One mark for justification of each strength (AO3) For example: Strength one - Baddeley (1966b) gives supporting evidence that part of long-term memory (LTM) works semantically (1) as he found that semantic similarity was confused in LTM as participants found difficulty with word lists that were linked by a common theme (1). Strength two - Greenberg and Verfaellie (2010) support the fact episodic memory is a separate memory store through neuropsychological investigations (1), using brain imaging techniques they found that patients with damage to medial temporal lobes have episodic memory impairment (1). Look for other reasonable marking points.	(4)

Question Number	Indicative content	Mark
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5 (a)	AO1 (2 marks) One mark for each feature of the long-term store. For example: - The duration of long-term memory can last from a few minutes to a lifetime (1). - The long-term memory has an unlimited capacity (1). Look for other reasonable marking points.	(2)
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Question Number	Answer	Mark
5 (b)	AO1 (2, marks), AO3 (2 marks) One mark for identification of one strength and one weakness (AO1) One mark for justification of the strength and the weakness (AO3) For example: Strength - Peterson and Peterson (1959) provide supporting evidence for the importance of rehearsal as critical to keeping information in the long-term (1) as the longer the interference task of counting backwards in threes, the more trigrams were forgotten, giving the theory credibility (1). Weakness - The multi-store model does not fully explain how the short term memory works as it is oversimplified and passive (1) whilst the working memory model has three stores which may be more credible than the multi store model as it includes active processes like problem solving (1). Look for other reasonable marking points.	(4)

Question Number	Answer	Mark
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7 (a)	AO2 (1 mark) One mark for correct calculation of the mean. • 2.6 Reject all other answers.	(1)
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Question Number	Answer	Mark
7 (b)	AO2 (1 mark) One mark for correct calculation of the mode. • 3 Reject all other answers.	(1)

Question Number	Answer	Mark
7 (c)	AO2 (1 mark) One mark for correct calculation of sum of squared values = 3.48 One mark for dividing the sum of squared values by 7 (n-1) = 0.50 One mark for calculating the square root = 0.71 to two decimal places Look for other reasonable marking points.	(3)

Question Number	Answer	Mark
7 (d)	AO2 (1 mark), AO3 (1 mark) One mark for identification of an improvement to the experiment (AO2) One mark for justification of improvement (AO3) For example: • Gwen could use a more representative group of participants from the whole Year 11 group rather than just one geography class (1) this would make her findings about recalling country names more generalisable to the school population (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(2)

Question Number	Answer	Mark
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4 (a)	AO2 (2 marks) One mark for stating the fully operationalised independent variable. One mark for stating the fully operationalised dependent variable. For example: Independent variable (IV) - Whether the words are monosyllabic or polysyllabic (1) Dependent variable (DV) - The number of words recalled correctly from the list of 14 (1). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to the scenario.	(2)
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Question Number	Answer	Mark
4 (b)	AO2 (4 marks)	

$$U_a = 10 \times 10 + \frac{10 \times 11}{2} - 145.5 = 9.5$$

$$U_b = 10 \times 10 + \frac{10 \times 11}{2} - 64.5 = 90.5$$

One mark for correct **totals** (both must be correct for the mark).

One mark for **10 x 10 + $\frac{10 \times 11}{2}$**

One mark for correct figure for U_b **90.5**

One mark for correct figure for U_a **9.5**

Note: U = the smaller value **9.5**

Question Number	Answer	Mark
4 (c)	A02 (1 mark) One mark for correct determination of significance. The calculated U value (9.5) is less than the critical value (27), so the results are significant (1). Look for other reasonable marking points.	(1)

Question Number	Answer	Mark
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6 (a)	AO2 (1 mark) One mark for calculation of the range. • 8	(1)
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Question Number	Answer	Mark								
6 (b)	A02 (4 marks) For example: <table border="1"><tr><td>Condition A. Meaningful list of words</td><td>Rank</td><td>Condition B. Random order of words</td><td>Rank</td></tr><tr><td>Total</td><td>61.5</td><td>Total</td><td>43.5</td></tr></table> One mark for correct totals (both must be correct for the mark). One mark for $7 \times 7 + \frac{7 \times 8}{2}$ One mark for correct figure for U_a (i.e. minus the total of the ranks). $U_a = 7 \times 7 + \frac{7(7+1)}{2} - 61.5 = \mathbf{15.5}$ One mark for correct figure for U_b (i.e. minus the total of the ranks). $U_b = 7 \times 7 + \frac{7 \times (7+1)}{2} - 43.5 = \mathbf{33.5}$ Note: U = the smaller value = 15.5.	Condition A. Meaningful list of words	Rank	Condition B. Random order of words	Rank	Total	61.5	Total	43.5	(4)
Condition A. Meaningful list of words	Rank	Condition B. Random order of words	Rank							
Total	61.5	Total	43.5							

Question Number	Answer	Mark
6 (c)	A02 (1 mark), A03 (1 mark) One mark for identification of an improvement in relation to the scenario (A02). One mark for justification of the improvement (A03). For example: Sebastian should have used the same words for the meaningful list and the random order list (1), as this would mean he is measuring the effect of how the words are presented as the words will be of the same difficulty, increasing validity of his experiment (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(2)

Question Number	Answer	Mark
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4	Marks	Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)
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SECTION B: COGNITIVE PSYCHOLOGY

Total for Section B - 29 marks

Question Number	Answer	Mark
4a	AO1 (2 marks), AO2 (2 marks) Up to two marks for understanding of schema theory (AO1) Up to two marks for exemplification in relation to the scenario (AO2) For example: Schemas are stored knowledge/mental representations. (1) Our schemas influence the way in which we recall information. (1) Liam may be a rugby player and he has developed a schema of the field from his experiences of playing rugby. (1) Emily may have developed a schema of the field from watching football. (1) Look for other reasonable marking points.	(4)

Question Number	Answer	Mark
4b	AO1 (2 marks) AO3 (2 marks) One mark for identification of each weakness (AO1) One mark for justification of each weakness (AO3) For example: - It does not account for the transference between short term and long term memory (1) so it is not fully credible as it is an incomplete explanation of memory processes (1). - Bartlett (1932) supports his theory of reconstructive memory with unreliable evidence from his 'War of the Ghosts' study (1) which had very few controls in place when the story was read or recalled meaning the data could be flawed (1). Look for other reasonable marking points.	(4)



Question Number	Indicative Content	Mark
7	AO1 (4 marks), AO3 (4 marks) AO1 - Case studies can investigate patients where brain damage has occurred that could not be intentionally caused. - Case studies can use a number of research methods, such as observations, PET scanning and experimental methods. - HM could not give fully informed consent to be studied by the researchers due to his STM/LTM impairments. - Research using case studies of brain-damaged patients can generate qualitative data that describes the memory functioning in detail. AO3 - Case studies are a more ethical way to investigate the effects of things like the removal of HM's hippocampus on memory. - Triangulation improves the consistency of the data gathered within a case study and can lead to greater reliability. - Brain damaged patients may be exploited for memory research which could be considered unethical. - The qualitative nature of the data gives the findings high validity as it represents the experiences of brain damage for individuals such as Clive Wearing in their real-life contexts. Look for other reasonable marking points.	(8)

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation / conclusion in their answer.		
	0	No rewardable material.
Level 1	1-2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	3-4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	5-6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	7-8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

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SECTION C
Total for Section C - 12 marks



6	AO1 (7 marks), AO3 (7 marks) AO1 • Laboratory experiments in cognitive psychology are conducted under highly controlled conditions. • The experimental method manipulates an IV and measures the DV to find out about memory. • Laboratory experiments often used unnatural tasks to test participant recall and memory, such as word lists. • Laboratory experiments in cognitive psychology can be replicable as they have a standardised procedure. AO3 • It could be difficult to generalise findings from studies such as Peterson and Peterson (1959) to real life memory situations from experiments because of low validity so they may not be fully useful. • Standardised procedures increase reliability so studies such as Baddeley (1966b) can be replicated, making them useful because results can be checked. • Steyvers and Hemmer (2012) used a naturalistic scenes for testing the effect of prior knowledge so experiments can be conducted with some ecological validity and be useful to cognitive psychology. • Bartlett (1932) used serial reproduction to test reconstructive memory so his research is difficult to replicate to retest the results, therefore experiments are more useful for providing empirical evidence about memory. Look for other reasonable marking points.	(8)
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Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between Knowledge and understanding vs assessment/conclusion in their answer.		
Level 0	0	No rewardable material
Level 1	1–2 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	5–6 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this may be imbalanced. (AO3)
Level 4	7–8 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

SECTION C BIOLOGICAL PSYCHOLOGY

Question Number	Answer	Marks
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8(a)	AO2 (2 marks) Up to two marks for description in relation to the scenario For example; Participants may have had a prior schema of a fairy tale about princesses (1) which would mean they replaced parts of the story with content from fairy tales they had previously read (1). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to the scenario.	(2)
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Question Number	Answer	Mark
8(b)	AO2 (1 mark) One mark for correct calculation of the range 9	(1)

Question Number	Answer	Mark
8(c)	AO2 (1 mark) One mark for correct calculation of the ratio of male to female participants 2:1	(1)

Question Number	Answer	Mark
8(d)	AO2 (1 mark), AO3 (1 mark) One mark for identification of an improvement to the study (AO2) One mark for justification of the improvement (AO3) George could use a larger sample of participants from locations other than the university (1) this would improve the representativeness of the participants to increase generalisability to a wider population (1) Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to the scenario.	(2)

Question Number	Answer	Mark
8(e)	AO2 (1 mark), AO3 (1 mark) One mark for identification of an appropriate conclusion for George's study (AO2) One mark for justification of conclusion (AO3) Females have a more accurate recall for stories than males (1) as females make an average of 2.93 less recall errors than males (1) Look for other reasonable marking points. Generic answers score 0 marks.	(2)

Question Number	Answer	Mark
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11	AO1 (4 marks), AO3 (4 marks) AO1 - The multi-store model includes the sensory register, short-term memory store and long-term memory store. - Atkinson and Shiffrin (1968) explain that rehearsal is necessary for transfer from short-term memory to long-term memory. - The short term memory is claimed to be limited in duration and capacity. - The model is a linear input-process-output model. AO3 - It is not a comprehensive model of memory as it ignores the complexities of processing like the separate stores in LTM proposed by Tulving (1972). - The case of HM supports the idea of separate stores as he had a functioning STM and LTM but could not make new LTM memories. - Peterson and Peterson (1959) and Miller (1956) provide supporting evidence that short term memory is limited. - Describing memory as an input-process-output system is over simplistic and ignores individual differences in memory. Look for other reasonable marking points.	(8)
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Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation / conclusion in their answer.		
	0	No rewardable material.
Level 1	1-2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	3-4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	5-6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	7-8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Question Number	Answer	Mark
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Question Number	Indicative content	Mark
7	AO1 (4 marks), AO3 (4 marks) AO1 - Working memory assumes there are different systems rather than a unitary system for memory. - The visuo-spatial sketchpad deals with visual and spatial information. - In 2001 the episodic buffer was added to the model by Baddeley. - The phonological loop consists of the phonological store and the articulatory control loop that holds sound information. AO3 - The KF case study supports the Working Memory Model. KF's impairment was mainly for verbal information while his memory for visual information was largely unaffected. - Smith and Jonides (1997) showed differences in brain activation with PET scans during visual and spatial tasks, which supports the visuo-spatial sketchpad not being one store. - By adding to the model later it could be suggested that the original model proposed in 1974 was incomplete and so it may still lack accuracy. - Robbins (1996) found that using chess players that it was the central executive not the phonological loop that played a role in remembering chess positions. Look for other reasonable marking points.	(8)

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer.		
	0	No rewardable material.
Level 1	1-2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	3-4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	5-6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	7-8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

SECTION C
BIOLOGICAL PSYCHOLOGY

Question Number	Answer	Mark
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5 (a)	AO1 (2 marks) One mark for each feature given. For example: The short-term store has a capacity of 5-9 items (1) and a limited duration of approximately 15-30 seconds (1). Look for other reasonable marking points.	(2)
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Question Number	Answer	Mark
5 (b)	AO1 (2 marks), AO3 (2 marks) One mark for identification of each weakness (AO1) One mark for justification of each weakness (AO3) For example: - The multi-store model is incomplete as it does not account for the storage of procedural memory (1). HM was unaware that he was able to learn new procedural skills with practice showing long-term memory has a procedural store (1). - The short-term memory store is an oversimplified and passive system (1) ignoring active processes such as problem solving so explanations like working memory may be more credible than multi-store model (1). Look for other reasonable marking points.	(4)

Question Number	Answer	Mark
5 (c)	AO1 (1 mark), AO3 (1 mark) One mark for identification of strength (AO1) One mark for justification of strength (AO3) For example: Case studies of brain-damaged patients can use a variety of methods within them to test different components of memory (1). This triangulation increases the reliability of the data gathered about memory functions (1). Look for other reasonable marking points.	(2)

Question Number	Answer	Mark
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9	AO1 (4 marks), AO3 (4 marks) AO1 - Working memory consists of the central executive, phonological loop and visuospatial sketchpad. - The visuospatial sketchpad is a unitary system that deals with all visual and spatial input. - The episodic buffer was added to the model in 2001 by Baddeley. - Understanding the role of the different components has helped develop techniques to support children with learning. AO3 - Evidence from Williams Syndrome highlights impairments in short term visuospatial ability but not language, supporting the idea that there are distinct short term memory stores. - Smith and Jonides (1997) conducted PET scans which showed differences in brain activation during visual and spatial tasks, so visuospatial sketchpad may not be one store. - Adding to the model later suggests that the original by Baddeley and Hitch (1974) was incomplete and inaccurate, so it may still lack accuracy. - Successful application of the model to society in providing direct interventions that help people with Dyslexia improve their reading skills increases the plausibility of the explanation. Look for other reasonable marking points.	(8)
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Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer.		
	0	No rewardable material.
Level 1	1-2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	3-4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	5-6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	7-8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)



SECTION C

Question Number	Indicative content	Mark
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Question Number	Indicative content	Mark
5	AO1 (4 marks), AO2 (4 marks) For example: Key question: How reliable is eyewitness testimony? AO1 • Unreliable eyewitness testimony can mean innocent individuals go to prison. • The Innocence Project (2015) identified that 72% of wrongful convictions were partly or wholly due to eyewitness misidentification showing it is a key issue for society. • Society will lose trust in the criminal justice system if innocent people are consistently being sent to jail so crimes may go unreported through fear of this continuing to happen. • Ronald Cotton was misidentified by Jennifer Thomson-Cannino and spent more than 10 years in prison for rape which could have been avoided with reliable eyewitness procedures. AO2 • Reconstructive memory theory would propose that reconstructive errors are made by eyewitnesses due to them filling in the gaps of the recall with information from their schemas. • If an eyewitness does not pay attention to a crime and later rehearse the events their testimony may be inaccurate according to multi store model. • Misinformation could be given to witnesses in the form of leading questions and could mean they incorporate errors in their recall of a crime, leading to inaccurate testimony. • Peterson and Peterson (1959) showed rehearsal was important in retaining trigrams so if eyewitnesses rehearsed events repeatedly they may be able to give a more accurate version of events. Look for other reasonable marking points.	(8)

Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs application in their answer.		
Level 0	0	No rewardable material
Level 1	1–2 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 2	3–4 marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Discussion is partially developed, but is imbalanced or superficial occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 3	5–6 marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. Candidates will demonstrate a grasp of competing arguments but discussion may be imbalanced or contain superficial material supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 4	7–8 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical balanced discussion, containing logical chains of reasoning. Demonstrates a thorough awareness of competing arguments supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). (AO2)

Section C – Biological psychology

9	AO1 (4 marks), AO3 (4 marks) AO1 • Semantic memory can work on a set of stored rules but does not rely on stored information to be retrieved. • Episodic memory is time-referenced like a mental diary that receives and stores information about events, these are linked to time and context. • Semantic memory is responsible for storing information about the world such as facts, general knowledge and the meaning of words. • Episodic memory can only be retrieved if it has been encoded and stored. AO3 • Case studies of brain damaged patients such as KC by Rosenbaum et al. (2005) found that KC could not make or recall episodic memories, but could recall semantic facts and information supporting the existence of two separate memory stores. • Squire and Zola (1998) suggest there is no support that episodic and semantic memory are affected differently in the medial temporal lobe so episodic memory may not be a distinct memory store. • Ostergaard (1987) supports Tulving's idea that there is a separate semantic store as a 10 year old boy who suffered damage to both his episodic and semantic memory was able to make academic progress. • Steyvers and Hemmer (2012) suggest that it is may not be possible to study both forms of memory separately as episodic memory relies on prior knowledge which is semantic so suggesting two separate stores may not be valid. Look for other reasonable marking points.	(8)
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Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer.		
	0	No rewardable material.
Level 1	1-2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	3-4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	5-6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	7-8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Question Number	Indicative content	Mark
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8	AO1 (4 marks), AO3 (4 marks) AO1 • Research using case studies of brain-damaged patients can give qualitative data that describes memory functioning in detail. • Brain damage is atypical and unique to the individual studied and there are rarely brain damage cases that are the same. • Case studies can combine multiple research methods, such as observations, PET scanning and experimental methods. • Case studies can follow the development of an individual with brain damage over a long period of time. AO3 • Qualitative data can increase the validity of findings from case studies making them effective for investigating the memory of individuals. • An idiographic approach to personal experiences of brain damage decreases the effectiveness of the case study method for establishing universal psychological laws of memory functioning. • Triangulation of methodology in a case study can increase the scientific credibility of the findings about memory making the findings more effective in supporting theories and explanations. • Using longitudinal methods, the individual can be reassessed several times so the data about their memory can effectively show developmental differences in degenerative disorders such as Alzheimer's. Look for other reasonable marking points.	(8)
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Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs assessment/conclusion in their answer		
	0	No rewardable material.
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this may be imbalanced. (AO3)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Section C - Biological Psychology

Question Number	Answer	Mark
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6	AO1 (4 marks), AO3 (4 marks) AO1 - The sensory register (SR) acts a buffer for sensory input from the five senses using modality specific encoding for this information. - The short-term store (STS) has a limited capacity of 5-9 items and limited duration of up to 30 seconds. - Atkinson and Shiffrin (1968) suggested that the STS encodes information acoustically. - The long-term store (LTS) stores unlimited information indefinitely using semantic encoding. AO3 - The multi-store model of memory can be considered reductionist as it views human memory merely as a system of information processing that is over simplified into three distinct stores. - Peterson and Peterson (1959) found correct recall of the trigrams began to drop rapidly between 15-18 seconds, supporting the idea that, without rehearsal, decay occurs in STM within 30 seconds. - Baddeley and Hitch (1974) argue that the STM can actively process information using acoustic, visual and spatial information and so is not the basic system proposed in the MSM. - Bahrick et al. (1975) found that identification of names from a high school year book remained accurate for up to 48 years, supporting that the LTM can store information indefinitely. Look for other reasonable marking points.	(8)
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Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer		
	0	No rewardable material.
Level 1	1-2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	3-4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	5-6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	7-8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Biological Psychology

Question Number	Answer	Mark
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10	AO1 (4 marks), AO3 (4 marks) AO1 - Reconstructive memory theory suggests memory is not a tape recorder and usually contains reconstructive errors. - Memories are grouped into categories called 'schemas' which are stored knowledge and mental representations of the world. - A feature of reconstructive memory is confabulation where people 'fill in the gaps' in recall with information that is consistent with their schema. - Rationalisation is when people change details in their recall so that it makes sense to them. AO3 - Loftus and Pickrell (1995) found that 25% of participants remembered a false memory of being lost in a shopping mall and some elaborated on their pseudomemories in great detail. - Axelrod (1973) argues that schema theory can only be used to explain changes in individuals and cannot account for how changes to memory occurs in groups. - In the 'war of the ghosts' study, Bartlett (1932), found that participants changed parts of the North American folk tale to help it make sense. - Wynn and Logie (1998) found that in natural situations that memories are not added to over time so rationalisation may only occur in artificial situations. Look for other reasonable marking points.	(8)
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Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer.		
	0	No rewardable material.
Level 1	1-2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	3-4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	5-6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	7-8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Question Number	Indicative content	Mark
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6

AO1 (4 marks), AO3 (4 marks)

(8)

Scholck et al. (2002)**AO1**

- The sample included 8 male controls and 1 female, 5 male participants with brain damage.
- All participants were given nine tests based on the same line drawings of 24 animals and 24 objects which could further be assigned to one of 8 categories; e.g. 6 birds.
- For tests 8 and 9, the number of correct statements and incorrect statements were calculated, then they assigned a quality score (0–4) to each definition.
- Scholck et al. (2002) concluded that deficits in semantic knowledge is related to damage in anterolateral temporal cortex and not medial temporal lobe structures.

AO3

- Brain damaged patients are not representative of the wider population so findings about the role of brain regions in semantic knowledge may not be generalisable to all human memory.
- The procedure was standardised with all participants seeing the same drawings which controls for variables increasing the reliability of the findings about semantic memory.
- Quantitative data is an objective measure of memory performance which reduces subjectivity in the interpretation of the data about memory functioning.
- They were unable to test semantic memory prior to brain damage so the conclusions do not consider individual differences in memory as there was no baseline measure before brain damage.

Steyvers and Hemmer (2012)**AO1**

- A random sample of 22 participants for the verbal cue condition and 25 participants for the visual cue condition was recruited from an experimental participant pool at the University of California.
- A verbal cue condition with no image was used where participants had to list objects that came to mind that they expected to see in a given scene, such as a kitchen, or hotel room.
- There was a separate group in the experimental condition who made perceptual judgements based on visual cues recalling what they could see.
- They found that participants had strong prior expectations from schemas that are in line with occurrences of the objects in natural environments.

AO3

- The sample may only be representative of university students in a western society and may not be generalisable to the way prior expectation affects schema cross-culturally.
- The verbal cue test for the prior expectations of participants gave Steyvers and Hemmer (2012) data to compare to the findings of the experimental condition increasing reliability.
- Using an independent measures design means that the impact of individual differences may have affected the results about prior expectations, reducing the validity of the findings.
- The study is supported by research from Bartlett (1932) who also found that prior expectation and schema affected the recall of information from the 'War of the Ghosts' story.



	Sebastián and Hernández-Gil (2012) AO1 - The sample was 570 volunteer, or volunteered, children aged between 5 and 17 years old from a range of schools, such as public and private, in Madrid. - Participants were divided into five different age groups and then each child was read the digits independently. - Each participant was read increasing sequences of digits to recall in the correct order with digit span recorded as the maximum digits recalled in the correct order without error. - Digit span in the Spanish population is significantly shorter than Anglo-Saxon culture, probably due to the word length effect associated with digits. AO3 - The sample is only representative of Spanish speaking children in the Madrid region, so it cannot be generalised beyond this population to speakers of other languages. - The use of cross-sectional groups allowed them to track the development of digit span over time without the extended duration of conducting a longitudinal study. - Digit sequence recall is artificial and has limited task validity as children are unlikely to learn random sequences of numbers in their day-to-day experiences. - The study can be replicated to test verbal digit span across cultures to understand cross-cultural developmental and individual differences in phonological processing in working memory. Look for other reasonable marking points.	
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Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer		
	0	No rewardable material.
Level 1	1-2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	3-4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	5-6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	7-8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Biological Psychology

Question Number	Answer	Mark
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5	AO1 (4 marks), AO2 (4 marks) AO1 • Reconstructive memory suggests that we actively try and make sense of new information based on what we already know. • Memory recall may be distorted when memories are reconstructed based on an individual's understanding from past events. • Schemas are the mental structures which hold prior knowledge that are built from personal experiences. • The concept of confabulation is where gaps in memories are filled in using pre-existing information and expectations. AO2 • Betty may have recalled the suitcase because this is something she already knows about from her own travelling and staying in a town for an extended period of time. • Milo may have distorted his recall of the colour of the taxis as yellow from past events in films he has watched where taxis in a city are yellow, not black taxis. • Betty and Milo may both have similar schemas for journeys travelling by train and arriving at train stations from their own experiences which would have influenced their memory of the film when they recalled the scene. • Milo may have confabulated the character having a bag and not a suitcase as he may expect that people visit cities for shorter periods of time, so his pre-existing knowledge would be that people only take a bag and not a suitcase. Look for other reasonable marking points.	(8)
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Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs application in their answer		
	0	No rewardable material
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Discussion is partially developed but is imbalanced or superficial occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. Candidates will demonstrate a grasp of competing arguments, but discussion may be imbalanced or contain superficial material supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures (AO2)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical balanced discussion, containing logical chains of reasoning. Demonstrates a thorough awareness of competing arguments supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). (AO2)

Biological Psychology

Question Number	Answer	Mark
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7 (a)	AO1 (2 marks), AO2 (2 marks) Up to two marks for understanding of reconstructive memory theory (AO1). Up to two marks for exemplification in relation to the scenario (AO2). For example: Reconstructive memory states that we need schemas based on past experiences to process our memories (1). Louie and Gus remembered the films differently as they used their past experiences of films, Louie may go to comedy films so he remembered this film as a comedy (1). Rationalisation is where detail from the original memory is replaced with information from the schema so that the memory makes sense (1). Louie may have used rationalisation so that the film made sense to him which is why he did not remember the guns used to enter the vault, as this would not be in a comedy (1). Look for other reasonable marking points.	(4)
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Question Number	Answer	Mark
7 (b)	AO2 (2 marks), AO3 (2 marks) One mark for identification of a strength and a weakness in relation to the scenario (AO2). One mark for justification of the strength and the weakness (AO3). For example: Strength - Bartlett (1932) found that participants rationalised The War of the Ghosts story so supporting the theory, which may explain why Gus thought there were weapons used giving it credibility (1), as they changed seal hunting to fishing in the Native American story so that it made sense to them based on their culture and this could have also happened with Gus (1). Weakness - Yuille and Cutshall (1986) found that participants recall for a real life shooting was accurate even when leading questions were asked, so may not account for Louie remembering the film as a comedy (1), so disagreeing with the theory of reconstructive memory as Louie and Gus's memories of the film were not altered so it cannot be an explanation for all our memories (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(4)

Question Number	Indicative content	Mark
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8	AO1 (4 marks), AO3 (4 marks) AO1 • A laboratory experiment takes place in a controlled, artificial environment for participants with controlled tasks so the effect of the IV on the DV can be measured. • Many of the tasks that are used to test memory, such as digit span tests or trigram recall, are not a true reflection of real life use of human memory. • Field experiments are where the researcher manipulates the IV and DV in a setting that is more natural for the participants, such as children memorising information in their normal environment. • Sacchi et al. (2007) used doctored photographs to test whether pictures that had been modified could influence the attitudes a person has towards a real past event. AO3 • Controls increase internal validity so researchers such as Baddeley (1966b) can make sure the measurement of sequential word order recall is an accurate test of acoustic and semantic similarity, not an extraneous variable such as a word familiarity. • The artificiality of experimental tasks may result in a lack of mundane realism making them an unrealistic measure of memory that result in low task validity. • Natural settings decrease the replicability of research such as Godden and Baddeley (1975) who tested the recall of divers learning word lists on land and underwater as the limited controls in place would reduce the re-test reliability of the results about memory. • The use of photographs to test reconstructive memory has good application as this can be used to challenge how the media portrays news with selective imagery, so experiments can have a real world use for understanding memory. Look for other reasonable marking points.	(8)
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Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer		
	0	No rewardable material.
Level 1	1-2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	3-4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	5-6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	7-8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Biological Psychology

Question Number	Answer	Mark
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Question Number	Indicative content	Mark
10	AO1 (4 marks), AO3 (4 marks) AO1 - The working memory model (Baddeley and Hitch, 1974) is a dynamic model of short-term memory comprising of the central executive and phonological loop and the visuospatial sketchpad. - The phonological loop processes sound-based information and is comprised of the articulatory control process and the phonological store. - The visuospatial sketchpad processes visual and spatial information necessary to visualise and mentally manipulate the positions and movement of objects. - The phonological loop and the visuospatial sketchpad have separate, limited capacities that when exceeded lead to impaired performance. AO3 - The 1974 model has since been modified with the addition of the episodic buffer (Baddeley, 2000), which indicates the original model was an incomplete explanation of memory. - Paulesu et al. (1993) showed that different areas of the brain were active when participants performed tasks designed to engage the different components of the phonological loop, showing it can be a useful explanation of memory. - Lieberman (1980) stated visual processing is not necessary for spatial processing since blind people can successfully navigate in the complete absence of visual input, suggesting the model is incomplete. - Dual tasks studies (e.g. Baddeley 1976) show that when two tasks require the same processing performance is poor but when one task requires visual and the other requires phonological processing performance is better, which shows the model is a useful explanation of memory.	(8)

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between Knowledge and understanding vs assessment/conclusion in their answer.		
	0	No rewardable material.
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this may be imbalanced. (AO3)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

7	AO1 (4 marks), AO2 (4 marks) AO1 - Working memory is an explanation of short-term memory processing that includes a central executive (CE) as the main coordinator of subsystems and also problem solving. - The phonological loop (PL) has a phonological store which holds verbal and sound information for short periods of time when processing information. - The articulatory rehearsal loop is within the PL and is responsible for subvocalising auditory sound in order to maintain acoustic information within the short-term memory. - The visuo-spatial sketchpad (VSS) processes input about location and spatial positioning data along with information about the visual field such as images and colour. AO2 - Leoni may be struggling with delays in the CE function of delegating to appropriate subsystems, resulting in her taking longer to take in the visual input from the board and write this down. - Asking a question to Leoni requires her to hold the verbal question she's asked while also processing auditory recall of an answer, so she may have slower processing speeds in the phonological loop. - When Leoni forgets things from the list of shopping items, it may indicate that she is unable to subvocalise the list of food items in order to maintain them through articulatory rehearsal. - The dual task of spatial processing during driving, of changing gears and taking directions to turn left or right, whilst also visualising the roads and other cars, may overload the capacity in Leoni's VSS causing her to miss the turns in the road. Look for other reasonable marking points.	(8)
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Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs application in their answer		
	0	No rewardable material
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Discussion is partially developed but is imbalanced or superficial occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques and procedures). (AO2)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning. Candidates will demonstrate a grasp of competing arguments, but discussion may be imbalanced or contain superficial material supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures) (AO2)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical balanced discussion, containing logical chains of reasoning. Demonstrates a thorough awareness of competing arguments supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). (AO2)

Biological Psychology

Question Number	Answer	Mark
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Question Number	Indicative Content	Mark
6 (a)	AO2 (3 marks) One mark if directional (one-tailed) hypothesis identifies IV/DV. One mark if operationalises the IV. One mark if operationalises the DV. For example; Participants will recall significantly less household objects from a selection of 25 when rehearsal is prevented by counting backwards from 20 than when rehearsal is not prevented (3). Look for other reasonable marking points.	(3)

Question Number	Indicative Content	Mark
6 (b)	AO1 (1 mark), AO2 (2 marks) One mark for knowledge of participant design (AO1) Up to two marks for relevant application to Jared's experiment (AO2) For example; Jared could use an independent measures design (1) where two different groups undertake one recall condition each (1) so that each group will only see the household items once (1). Look for other reasonable marking points.	(3)

Question Number	Indicative Content	Mark						
6 (c)	AO2 (3 marks) One mark for each correct calculation for condition 1. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <th>Mean number of items recalled</th><th>Median number of items recalled</th><th>Mode number of items recalled</th></tr> <tr> <td style="text-align: center;">4.58</td><td style="text-align: center;">4.5</td><td style="text-align: center;">2</td></tr> </table>	Mean number of items recalled	Median number of items recalled	Mode number of items recalled	4.58	4.5	2	(3)
Mean number of items recalled	Median number of items recalled	Mode number of items recalled						
4.58	4.5	2						

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11	AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) AO1 - Information can stay in the short-term store for up to 30 seconds and if rehearsed passes into the long-term store. - The multi-store model of memory suggests information is transferred from the sensory register to the short-term store by paying attention to it. - Social Identity theory suggests that social identification occurs when an individual shares common interests with the group. - Tajfel and Turner (1979) suggest that the existence of two different groups of people can cause conflict and prejudice. AO2 - Donald may not be rehearsing the street names regularly and is possibly only reading the street names once. - Donald finds it difficult to remain attentive when trying to learn the street names so they are not going to transfer to the short-term store or long-term store and will be lost. - Donald is concerned he will not be able to pass the memory test and will have to use a Sat Nav as a taxi driver which means he will not share the same skills as his friends so he will become a member of their out-group. - Donald's friends may say company A is better than company B as they are more talented and can remember the street names without a Sat Nav so compare themselves favourably to Donald. AO3 - Peterson and Peterson (1959) found that only about 10% of the trigrams could be recalled when rehearsal was prevented so this could support Donald's not being able to remember the street names. - Craik and Lockhart (1975) suggest that semantic memory is needed to remember information most accurately in the long term which could be an alternative explanation for Donald not being able to remember the street names. - Tajfel et al. (1971) found in their minimal groups study that Bristol school boys would consider those who had preference for a different painting as them in their out-group so can support why Donald may become in his friends' out group. - Realistic conflict theory could be an alternative explanation for Donald being considered in the out-group by his friends due to competition over scarce resources, such as taxi fares. Look for other reasonable marking points.	(12)
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Level	Mark	Descriptor
AO1 (4 marks), AO2 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs application vs evaluation/conclusion in their answer.		
	0	No rewardable material.
Level 1	1-3 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Provides little or no reference to relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	4-6 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Line(s) of argument occasionally supported through the application of relevant evidence from the context (scientific ideas, processes, techniques & procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	7-9 Marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques & procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	10-12 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Line(s) of argument supported throughout by sustained application of relevant evidence from the context (scientific ideas, processes, techniques or procedures). Demonstrates the ability to integrate and synthesise relevant knowledge. (AO2) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Question Number	Indicative content	Mark
11	A01 (4 marks), A02(4 marks), A03 (4 marks) A01 • In social impact theory, immediacy is the distance between the target(s) and the source(s). • In social impact theory, strength refers to the authority that the source(s) has over the target(s). • Episodic memory is highly contextualised and includes specific details such as when an event happened, the other people that were present, and how an individual felt at the time of encoding. • Semantic memory is generalised and includes our knowledge of facts and the characteristics of objects. A02 • Marsha and Abbie (the targets) were far away from the house when Marsha's mother (the source) called them to come inside, decreasing the immediacy, reducing the social force. • Marsha's mother has more authority over Marsha than Abbie, meaning the social force experienced by Marsha is greater, which could explain why Marsha goes inside but Abbie does not. • Marsha remembers the event occurred in the summer when they were 10 years old, suggesting that the memory is episodic. • Abbie remembers picking apples from a tree, showing she understands how apples grow, which is semantic memory. A03 • When a confederate doctor telephoned nurses and ordered them to give medication to a patient, 21/22 nurses obeyed (Hofling, 1966), suggesting immediacy may not be necessary for obedience. • Sedikides and Jackson (1990) found that visitors to a zoo were more likely to obey instructions not to lean on railings when they were given by a confederate dressed as a zookeeper than a confederate in casual clothing, suggesting strength is needed for obedience. • Tulving et al. (1988) describes the case of KC who was found to have no episodic memory but did have an intact semantic memory, supporting the claim that episodic memory and semantic memory are two distinct kinds of long-term memory.	(12)
	• Episodic memory may not be a complete explanation for what Marsha and Abbie say because they do not agree about which fruit they were eating, reconstructive memory (Bartlett, 1932) could be used to explain this difference.	

Question Number	Indicative Content	Mark
8 (a)	AO1 (3 marks) Up to three marks for explaining function of central executive. For example; The central executive function is to monitor the overall memory systems (1) rather than acting as an information storage system (1). This means it allocates the cognitive memory tasks to the appropriate subsystems (1) such as the phonological loop. Look for other reasonable marking points.	(3)

Question Number	Indicative Content	Mark
8 (b)	AO1 (2 marks), AO3 (2 marks) One mark for each strength/weakness identified. (AO1) One mark for justification of that strength/weakness. (AO3) For example; Strength - The model is supported with evidence from PET scans (1) where different brain activity is shown during memory tasks shows which increases the credibility of model (1). Weakness - The model only explains memory in the short term (1) so the model is not a complete explanation of how memory works as it does not explain long term memory (1). Look for other reasonable marking points.	(4)

Question Number	Indicative Content	
8 (c)	AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation / conclusion in their answer. Read the candidate response and apply the appropriate level. AO1 - Standardised controls using word lists; - Extraneous variables were well controlled as it is laboratory experiment; - Laboratory setting learning words not real life context/mundane realism; - Only tested word recall/word lists; AO3 - Standardised controls increase the reliability of the results as the same semantic and acoustic influences on STM/LTM can be retested/replicated. - Controlling extraneous variables increases the internal validity of the test that semantic and acoustic processing were the only influences on memory. - Controlling extraneous variables increases the reliability of cause and effect conclusions about acoustic and semantic processing. - Learning word lists decreases the ecological validity of the results, as people do not usually learn word lists in real life. - The study cannot be applied to other forms of memory, such as visual. Look for other reasonable marking points.	
Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1-2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	3-4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	5-6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	7-8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

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SECTION C
Total for Section C - 12 marks



8	AO2 (4 marks) Up to four marks for description of a procedure. For example: Ricky could ask participants to read the folk tale three times in their own time (1), then the participants can be asked to return at each time-period to write out the story in as much detail as they can remember (1). Ricky can read each of the participant versions to see which parts are accurate and not accurate to identify common changes (1) and compare the stories at six months to one and three months to see if accuracy reduced over time (1). Look for other reasonable marking points. Generic answers score 0 marks.	(4)
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Question Number	Indicative content	Mark
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Question Number	Answer	Mark
5	AO2 (5 marks) Up to five marks for explanation of the key question. For example: How can knowledge of working memory be used to inform the treatment of dyslexia? • Having a poor working memory means that children with dyslexia find it difficult to hold information in working memory (1). They also have phonological deficits, causing problems with learning things like new languages (1). Snowling and Hulme (2011) found that children should be trained in letter-sound recognition to help improve phonological coding in working memory (1). Simplifying tasks for children avoids overloading the central executive processing capacity (1), so helping children to increase processing speed and strategies for remembering with interventions such as Cogmed can enhance working memory to aid Dyslexia (1). Look for other reasonable marking points.	(5)

5a

AO2 (1 mark)

(1)

One mark for the correct calculation of both mean scores to one decimal place.

Number of words correctly retrieved (out of 20) by mathematics students	Number of words correctly retrieved (out of 20) by geography students
11.6	8.5

Reject all other answers

Question Number	Answer	Mark
5b	AO2 (2 marks) Up to two marks for appropriate choice of test and reasoning. For example; Mr Robinson would have used a Mann Whitney test to analyse his data (1) as he used an independent groups design with an interference task and without interference task (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(2)

Question Number	Answer	Mark
5c	AO2 (1 mark), AO3 (1 mark) One mark for identification of a strength (AO2) One mark for justification of the strength (AO3) For example; • Mr Robinson does not need to personally interpret the numerical data regarding the number of words recalled (1) which means his analysis will be more objective as he cannot interpret the mean number of words differently to other researchers (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(2)

6 (a)	AO2 (2 marks) Two marks for giving a fully operationalised dependent variable One mark for giving a partially operationalised dependent variable For example: - The dependent variable was the number of digits from a list of 20 digits that could be recalled (2). - The dependent variable was the number of digits that could be recalled (1). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to the cognitive practical (a laboratory experiment to collect quantitative data)	(2)
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Question Number	Answer	Mark
6 (b)	AO2 (2 marks), AO3 (2 marks) One mark for identification of each improvement (AO2) One mark for justification of each improvement (AO3) For example: - We could use a sample of students of different ages from across the school instead of just sixth formers (1) this would improve generalisability of the data to the memory skills of students of different ages (1). - We could put a notice on the classroom door to prevent teachers walking into the classroom during the experiment (1) this would control the extraneous variable of distraction from memorising the words which confounded our results for the recall test (1). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to the cognitive practical (a laboratory experiment to collect quantitative data). PE Brief: Practical investigation must adhere to ethical guidelines, check any ethical improvements suggested, most will not be creditable. Add examples to PE brief of what could be credited, if any.	(4)

Question Number	Answer	Mark
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8 (a)	AO2 (2 marks) One mark for a basic hypothesis Two marks for an operationalised hypothesis For example: • Participants will recall more acoustically dissimilar words (1). • Participants will recall more acoustically dissimilar words out of 10 compared to acoustically similar words (2). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to their cognitive practical investigation.	(2)
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Question Number	Answer	Mark
8 (b)	AO2 (2 marks) Up to two marks for description of a way that situational variables were controlled for. For example: We placed a 'do not disturb' sign on the door to make sure no one entered the room (1) to prevent interruptions disrupting the participants whilst undertaking the memory test (1). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to their cognitive practical investigation.	(2)

Question Number	Answer	Mark
8 (c)	AO2 (1 mark), (AO3) 1 mark One mark for identification of a conclusion (AO2). One mark for justification of the conclusion (AO3). For example: Acoustically similar words were more difficult to recall (1) as the students recalled a mean average of five fewer acoustically similar sounding words to dissimilar sounding words from our word list (1). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to their cognitive practical investigation.	(2)

Question Number	Indicative content	Mark
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Question Number	Answer	Mark
7 (a)	A02 (2 marks) One mark for stating the independent variable (IV) for their practical investigation in cognitive psychology. One mark for stating the dependent variable (DV) for their practical investigation in cognitive psychology. For example: Independent Variable (IV) - The independent variable was word length / whether the words in the list were long words or short words (1). Dependent Variable (DV) - The dependent variable was how many words were recalled (1). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to the cognitive practical (an experiment to collect quantitative data).	(2)

Question Number	Answer	Mark
7 (b)	A02 (2 marks), A03 (2 marks) One mark for identification of one strength and one weakness of their practical investigation in cognitive psychology. One mark for justification of the strength and the weakness of their practical investigation in cognitive psychology. For example: Strength - We used controls, such as ensuring that the long and short words were presented at the rate of one per 3 seconds (1). This would allow other researchers to repeat our experiment using the same procedure in order to check for reliability (1). Weakness - Our participants were individuals who responded to an advertisement asking for people to take part in an experiment on word length meaning they were interested in the investigation so tried hard (1). This means that our findings about the effect of word length may not be generalisable to all students in our college who did not volunteer to take part (1). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to the cognitive practical (an experiment to collect quantitative data).	(4)

Question Number	Answer	Mark
9 (a)	AO2 (1 mark) One mark for correct calculation of the median score. 41	(1)

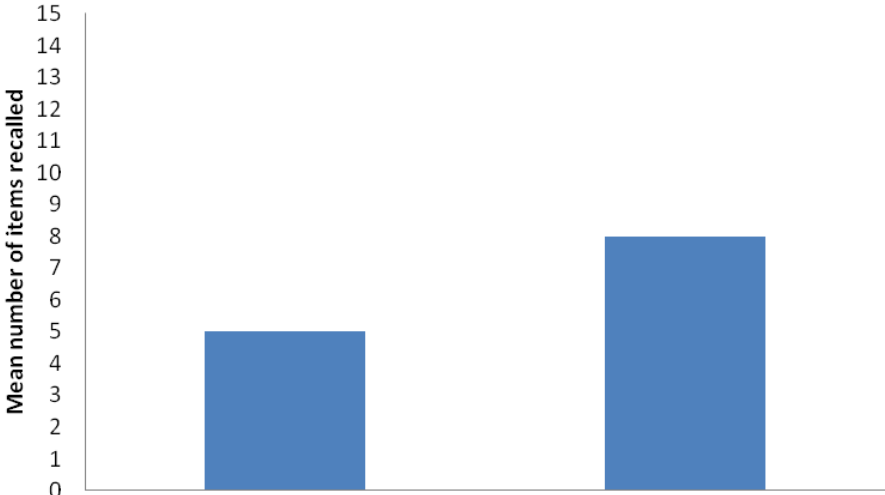
Question Number	Answer	Mark																																																																													
9 (b)	AO2 (4 marks) One mark for correct completion of the difference column. One mark for correct completion of the ranked difference columns. One mark for correct completion of the sum of both ranks. One mark for correct answer T = 3 <table><tr><th>Participant</th><th>Number of words written on the day the cartoon was watched</th><th>Number of words written one week after the cartoon was watched</th><th>Difference</th><th>Rank</th><th>Rank if positive</th><th>Rank if negative</th></tr><tr><td>A</td><td>45</td><td>35</td><td>10</td><td>3</td><td>3</td><td></td></tr><tr><td>B</td><td>49</td><td>26</td><td>23</td><td>9</td><td>9</td><td></td></tr><tr><td>C</td><td>29</td><td>9</td><td>20</td><td>7</td><td>7</td><td></td></tr><tr><td>D</td><td>44</td><td>22</td><td>22</td><td>8</td><td>8</td><td></td></tr><tr><td>E</td><td>22</td><td>25</td><td>-3</td><td>2</td><td></td><td>2</td></tr><tr><td>F</td><td>53</td><td>39</td><td>14</td><td>4</td><td>4</td><td></td></tr><tr><td>G</td><td>41</td><td>26</td><td>15</td><td>5</td><td>5</td><td></td></tr><tr><td>H</td><td>33</td><td>17</td><td>16</td><td>6</td><td>6</td><td></td></tr><tr><td>I</td><td>28</td><td>30</td><td>-2</td><td>1</td><td></td><td>1</td></tr><tr><td colspan="5">Total:</td><td>42</td><td>3</td></tr></table> Look for other reasonable marking points.	Participant	Number of words written on the day the cartoon was watched	Number of words written one week after the cartoon was watched	Difference	Rank	Rank if positive	Rank if negative	A	45	35	10	3	3		B	49	26	23	9	9		C	29	9	20	7	7		D	44	22	22	8	8		E	22	25	-3	2		2	F	53	39	14	4	4		G	41	26	15	5	5		H	33	17	16	6	6		I	28	30	-2	1		1	Total:					42	3	(4)
Participant	Number of words written on the day the cartoon was watched	Number of words written one week after the cartoon was watched	Difference	Rank	Rank if positive	Rank if negative																																																																									
A	45	35	10	3	3																																																																										
B	49	26	23	9	9																																																																										
C	29	9	20	7	7																																																																										
D	44	22	22	8	8																																																																										
E	22	25	-3	2		2																																																																									
F	53	39	14	4	4																																																																										
G	41	26	15	5	5																																																																										
H	33	17	16	6	6																																																																										
I	28	30	-2	1		1																																																																									
Total:					42	3																																																																									

Question Number	Answer	Mark
9(c)	AO2 (1 mark), AO3 (1 mark) One mark for identification of an improvement to her experiment (AO2). One mark for justification of the improvement (AO3). For example: - The cartoon Nyasha used was available on a popular streaming service so she could check that the children have not watched it before (1). This would ensure that previous knowledge of the cartoon did not affect the number of words the children were able to write in their descriptions of the cartoon, improving the validity of Nyasha's experiment (1). - Nyasha could assess memory of the cartoon using a series of questions rather than count the number of words in descriptions (1). This could give a more accurate measure of the children's memories of the cartoon (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(2)

Question Number	Answer	Mark
6a	AO1 (2 marks), AO2 (2 marks) One mark for each definition of IV and DV (AO1) One mark for each application to scenario (AO2) For example; • The independent variable is the variable that is manipulated by the researcher (1), in Sarah's experiment this is similar and dissimilar the word lists (1). • The dependent variable is the variable that is measured (1), which would be the total number of words recalled (1). Look for other reasonable marking points.	(4)

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Question Number	Answer	Mark						
6b	AO2 (3 marks) One mark for appropriate title. One mark for appropriate labelling of axes. One mark for correct plots in two bars. For example: A bar graph to show the mean number of acoustically similar and dissimilar words recalled by participants <table border="1"><thead><tr><th>Category</th><th>Mean number of items recalled</th></tr></thead><tbody><tr><td>acoustically similar words</td><td>5</td></tr><tr><td>acoustically dissimilar words</td><td>8</td></tr></tbody></table> Look for other reasonable marking points.	Category	Mean number of items recalled	acoustically similar words	5	acoustically dissimilar words	8	(3)
Category	Mean number of items recalled							
acoustically similar words	5							
acoustically dissimilar words	8							

Question Number	Answer	Mark
6c	AO3 (1 mark) One mark for an appropriate conclusion For example: Acoustically similar words are more difficult to recall than acoustically dissimilar words (1). Look for other reasonable marking points.	(1)

11

AO1 (4 marks), AO3 (4 marks)

(8)

e.g. How reliable is eyewitness testimony?**AO1**

- Eyewitness testimony has been identified as the leading factor in misidentifications which have led to innocent people being wrongfully convicted of crime (Innocence Project, 2015).
- Wrongful conviction of innocent individuals through eyewitness testimony can lead to them being in prison for years so they cannot work and contribute to society.
- If someone innocent goes to prison for a crime they did not commit due to eyewitness misidentification, the guilty go free and can continue to commit crimes in society and harm members of the public.
- Ronald Cotton was convicted of the rape of Jennifer Thompson-Cannino who wrongfully identified him and he spent more than 10 years in prison, which could have been avoided with reliable eyewitness procedures.

AO3

- Bartlett's (1932) war of the ghosts shows the reconstructive nature of memory when participants changed details in the story over reproductions, so could explain why eyewitness testimony is unreliable.
- Peterson and Peterson (1959) showed that when rehearsal was prevented participants forgot the majority of trigrams within 18 seconds, and eyewitnesses to a violent crime may not want to rehearse the incident so can explain the unreliability of their testimony.
- Loftus (1974) found evidence to suggest that leading questions can influence the testimony of a witness, so misinformation like this could account for why an eyewitness might misidentify a suspect, leading to the innocent individual going to jail.
- Studies testing eyewitness testimony, such as Loftus (1974), occur in laboratory settings with artificial tasks so may not represent real life eyewitness testimony, and studies should therefore use real eyewitnesses with real interviewing procedures.

Look for other reasonable marking points.

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between Knowledge and understanding vs assessment/conclusion in their answer.		
	0	No rewardable material.
Level 1	1–2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	3–4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a generic or superficial assessment being presented. (AO3)
Level 3	5–6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to an assessment being presented which considers a range of factors. Candidates will demonstrate understanding of competing arguments/factors but unlikely to grasp their significance. The assessment leads to a judgement but this may be imbalanced. (AO3)
Level 4	7–8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates an awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)

Question Number	Answer	Mark
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4	Marks	Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)
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Cognitive Psychology

Question Number	Answer	Mark
4 (a)	AO2 (2 marks) One mark for stating the fully operationalised independent variable for their cognitive psychology practical investigation. One mark for stating the fully operationalised dependent variable for their cognitive psychology practical investigation. For example: Independent variable (IV) - Whether there was an interference task of 30 seconds or no interference task (1) Dependent variable (DV) - The number of trigrams recalled correctly from a list of 15 (1). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to their cognitive psychology practical investigation.	(2)

Question Number	Answer	Mark
4 (b)	AO2 (2 marks), AO3 (2 marks) One mark for identification of each strength in relation to their cognitive psychology practical investigation (AO2). One mark for justification of each strength (AO3). For example: - We conducted the practical in a controlled setting with the classroom windows closed and blinds down to prevent any distractions to the students making the experiment reliable (1) so we can be more certain that any changes in the number of trigrams recalled were due to the interference task and not extraneous variables confounding the results (1). - The trigram list was checked against the initials of the students taking part in the experiment to be sure the list did not include initials, increasing construct validity (1) so we had a valid test of recall of trigrams from STM and not recall from existing LTM making sure we accurately measured the effect of interference on STM (1). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to their cognitive psychology practical investigation.	(4)

Question Number	Answer	Mark
4 (c)	A02 (1 mark), A03 (1 mark) One mark for identification of an improvement in relation to their cognitive psychology practical investigation (A02). One mark for justification of the improvement (A03). For example: One improvement we could make would be to gather a more representative sample of participants aged from 18 to 60 years old to represent memory recall across different ages (1). This would increase the generalisability of our findings about the duration of STM and the effects of interference tasks to a wider target population (1). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to their cognitive psychology practical investigation.	(2)

Question Number	Indicative Content	Mark
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8

AO1 (4 marks), AO3 (4 marks)

(8)

AO1

- A laboratory experiment is carried out in a controlled setting, such as Baddeley (1966b) who carried out his experiment in a laboratory at Cambridge university.
- The independent variable is the variable that is manipulated, such as how long participants see photographs for, and the dependent variable is measured, such as how many details can be recalled from the photographs.
- Extraneous variables are controlled so they are the same for all groups, Loftus and Palmer (1974) showed all participants the same seven videos of car accidents.
- Laboratory experiments can use different experimental designs, such as independent groups where there are different participants in each group, as used by Steyvers and Hemmer (2012).

AO3

- As laboratory experiments are carried out in a controlled setting, they lack ecological validity so the results may not reflect memory in everyday life.
- Due to the independent and dependent variables being operationalised laboratory experiments can be replicated to check for consistency of results, as the same number of details about the photographs recalled, so increasing reliability.
- Controlling extraneous variables increases the validity of laboratory experiments, for example, Loftus and Palmer (1974) can be sure the videos did not affect the estimated speed as all participants saw the same videos.
- Laboratory experiments often use artificial tasks such as learning list of words, so lack task validity and the results do not reflect how more complex memories may work.

Look for other reasonable marking points.

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) Candidates must demonstrate an equal emphasis between knowledge and understanding vs evaluation/conclusion in their answer.		
	0	No rewardable material.
Level 1	1-2 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A conclusion may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	3-4 Marks	Demonstrates mostly accurate knowledge and understanding. (AO1) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material, leading to a superficial conclusion being made. (AO3)
Level 3	5-6 Marks	Demonstrates accurate knowledge and understanding. (AO1) Arguments developed using mostly coherent chains of reasoning leading to a conclusion being presented. Candidates will demonstrate a grasp of competing arguments but evaluation may be imbalanced. (AO3)
Level 4	7-8 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical evaluation, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments, presenting a balanced conclusion. (AO3)

Section C

Question Number	Indicative content	Mark
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9(a)	AO2 (1 mark) One mark for correct calculation. 75% Reject all other answers.	(1)
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Question Number	Answer	Mark
9(b)	AO2 (1 mark) One mark for correct calculation. $\frac{3}{4}$. Reject all other answers.	(1)

Question Number	Answer	Mark												
9(c)	AO2 (4 marks) <table><tr><td colspan="2">Group 1: Students who wrote summary notes</td><td colspan="2">Group 2: Students who did not write summary notes</td></tr><tr><td>Test performance (out of 32)</td><td>Rank 1</td><td>Test performance (out of 32)</td><td>Rank 2</td></tr><tr><td>Total</td><td>76.5</td><td>Total</td><td>59.5</td></tr></table> - One mark for correct totals (both group 1 and group 2 must be correct for mark). - One mark for $8 \times 8 + \frac{8 \times 9}{2}$ - One mark for correct figure for U_a (i.e. minus the total of the ranks). $U_a = 8 \times 8 + \frac{8 \times 9}{2} - 76.5 = 23.5$ - One mark for correct figure for U_b (i. e. minus the total of the ranks). $U_b = 8 \times 8 + \frac{8 \times 9}{2} - 59.5 = 40.5$ Note: U = the smaller value, i.e. = 23.5.	Group 1: Students who wrote summary notes		Group 2: Students who did not write summary notes		Test performance (out of 32)	Rank 1	Test performance (out of 32)	Rank 2	Total	76.5	Total	59.5	(4)
Group 1: Students who wrote summary notes		Group 2: Students who did not write summary notes												
Test performance (out of 32)	Rank 1	Test performance (out of 32)	Rank 2											
Total	76.5	Total	59.5											

Question Number	Answer	Mark
9(d)	AO2 (1 mark) One mark for accurate definition of a Type I error. For example: A Type I error is when the researcher incorrectly rejects the null hypothesis when they should have accepted the null hypothesis (1). Look for other reasonable marking points.	(1)

Question Number	Answer	Mark
9(e)	AO2 (1 mark), AO3 (1 mark) One mark for identification of an improvement to the study (AO2). One mark for justification of the improvement (AO3). For example: Stefan could have used students for other subjects, such as Geography, rather than just using psychology students (1) so that his results into the influence of writing summary notes could be more representative of students as a population in general than just for a single subject (1). Look for other reasonable marking points. Generic answers score 0 marks. Answers must relate to the scenario.	(2)

Question Number	Answer	Mark
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6 (a)	AO2 (1 mark) One mark for correct identification of the independent variable For example: Completing the Word Search whilst the radio is playing or not playing (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks.	(1)
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Question Number	Answer	Mark
6 (b)	AO1 (2 marks), AO3 (2 marks) One mark for identification of the strength/weakness (AO1) One mark for justification of the strength/weakness (AO3) For example: Strength - The same participants are used in both conditions which makes the results more valid as there are no differences between participants (1) so the researcher can be sure it was not differences in the participants' ability that may have affected the results (1). Weakness - Participants may experience practice effects as they complete the same task twice which could reduce validity (1) because repeated exposure to the same task may mean their improved performance is due to completing the same task twice rather than due to the manipulation of the IV (1). Look for other reasonable marking points.	(4)

Question Number	Answer	Mark																																																																																				
6 (c)	AO2 (4 marks) One mark for correct completion of difference column One mark for correct completion of ranked difference columns One mark for correct completion of sum of both ranks One mark for correct answer T = 4.5 For example: <table><tr><th>Participant</th><th>Number of words found in the Word Search puzzle with radio playing loudly</th><th>Number of words found in the Word Search puzzle without the radio playing</th><th>Difference</th><th>Rank</th><th>Rank if positive</th><th>Rank if negative</th></tr><tr><td>A</td><td>8</td><td>11</td><td>-3</td><td>4</td><td></td><td>4</td></tr><tr><td>B</td><td>7</td><td>7</td><td>0</td><td>-</td><td></td><td></td></tr><tr><td>C</td><td>9</td><td>16</td><td>-7</td><td>6</td><td></td><td>6</td></tr><tr><td>D</td><td>11</td><td>12</td><td>-1</td><td>1.5</td><td></td><td>1.5</td></tr><tr><td>E</td><td>13</td><td>18</td><td>-5</td><td>5</td><td></td><td>5</td></tr><tr><td>F</td><td>9</td><td>8</td><td>1</td><td>1.5</td><td>1.5</td><td></td></tr><tr><td>G</td><td>8</td><td>16</td><td>-8</td><td>7</td><td></td><td>7</td></tr><tr><td>H</td><td>5</td><td>17</td><td>-12</td><td>9</td><td></td><td>9</td></tr><tr><td>I</td><td>13</td><td>11</td><td>2</td><td>3</td><td>3</td><td></td></tr><tr><td>J</td><td>6</td><td>17</td><td>-11</td><td>8</td><td></td><td>8</td></tr><tr><td colspan="5">Total:</td><td>4.5</td><td>40.5</td></tr></table> Look for other reasonable marking points.	Participant	Number of words found in the Word Search puzzle with radio playing loudly	Number of words found in the Word Search puzzle without the radio playing	Difference	Rank	Rank if positive	Rank if negative	A	8	11	-3	4		4	B	7	7	0	-			C	9	16	-7	6		6	D	11	12	-1	1.5		1.5	E	13	18	-5	5		5	F	9	8	1	1.5	1.5		G	8	16	-8	7		7	H	5	17	-12	9		9	I	13	11	2	3	3		J	6	17	-11	8		8	Total:					4.5	40.5	(4)
Participant	Number of words found in the Word Search puzzle with radio playing loudly	Number of words found in the Word Search puzzle without the radio playing	Difference	Rank	Rank if positive	Rank if negative																																																																																
A	8	11	-3	4		4																																																																																
B	7	7	0	-																																																																																		
C	9	16	-7	6		6																																																																																
D	11	12	-1	1.5		1.5																																																																																
E	13	18	-5	5		5																																																																																
F	9	8	1	1.5	1.5																																																																																	
G	8	16	-8	7		7																																																																																
H	5	17	-12	9		9																																																																																
I	13	11	2	3	3																																																																																	
J	6	17	-11	8		8																																																																																
Total:					4.5	40.5																																																																																

Question Number	Answer	Mark
6 (d)	AO2 (1 mark), AO3 (1 mark) One mark for identification of an improvement in the context of the study (AO2) One mark for justification of the improvement (AO3) For example: Bernadette could have used an independent groups design to avoid practice effects whilst completing the Word Search puzzle to improve validity (1) as any increase in words found would not be due to practice as each participant would only take part in one condition of the IV (1). Look for other reasonable marking points. Answers must relate to the scenario. Generic answers score 0 marks	(2)

Question Number	Answer	Mark
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