Pearson Edexcel Level 3 GCE

Friday 16 May 2025

Morning (Time: 2 hours)

Paper reference **9PS0/01**

Psychology
Advanced
PAPER 1: Foundations in Psychology

You do not need any other materials.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need*.

Information

- The total mark for this paper is 90.
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question*.
- The list of formulae and statistical tables are printed at the start of this paper.
- Candidates may use a calculator.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ▶

Pearson

FORMULAE AND STATISTICAL TABLES

Standard deviation (sample estimate)

$$\sqrt{\left(\frac{\sum(x-\bar{x})^2}{n-1}\right)}$$

Spearman's rank correlation coefficient

$$1 - \frac{6\sum d^2}{n(n^2-1)}$$

Critical values for Spearman's rank

	Level of significance for a one-tailed test				
	0.05	0.025	0.01	0.005	0.0025
	Level of significance for a two-tailed test				
N	0.10	0.05	0.025	0.01	0.005
5	0.900	1.000	1.000	1.000	1.000
6	0.829	0.886	0.943	1.000	1.000
7	0.714	0.786	0.893	0.929	0.964
8	0.643	0.738	0.833	0.881	0.905
9	0.600	0.700	0.783	0.833	0.867
10	0.564	0.648	0.745	0.794	0.830
11	0.536	0.618	0.709	0.755	0.800
12	0.503	0.587	0.678	0.727	0.769
13	0.484	0.560	0.648	0.703	0.747
14	0.464	0.538	0.626	0.679	0.723
15	0.446	0.521	0.604	0.654	0.700
16	0.429	0.503	0.582	0.635	0.679
17	0.414	0.485	0.566	0.615	0.662
18	0.401	0.472	0.550	0.600	0.643
19	0.391	0.460	0.535	0.584	0.628
20	0.380	0.447	0.520	0.570	0.612
21	0.370	0.435	0.508	0.556	0.599
22	0.361	0.425	0.496	0.544	0.586
23	0.353	0.415	0.486	0.532	0.573
24	0.344	0.406	0.476	0.521	0.562
25	0.337	0.398	0.466	0.511	0.551
26	0.331	0.390	0.457	0.501	0.541
27	0.324	0.382	0.448	0.491	0.531
28	0.317	0.375	0.440	0.483	0.522
29	0.312	0.368	0.433	0.475	0.513
30	0.306	0.362	0.425	0.467	0.504

The calculated value must be equal to or exceed the critical value in this table for significance to be shown.

Chi-squared distribution formula

$$X^2 = \sum \frac{(O-E)^2}{E} \qquad df = (r-1)(c-1)$$

Critical values for chi-squared distribution

	Level of significance for a one-tailed test					
	0.10	0.05	0.025	0.01	0.005	0.0005
	Level of significance for a two-tailed test					
df	0.20	0.10	0.05	0.025	0.01	0.001
1	1.64	2.71	3.84	5.02	6.64	10.83
2	3.22	4.61	5.99	7.38	9.21	13.82
3	4.64	6.25	7.82	9.35	11.35	16.27
4	5.99	7.78	9.49	11.14	13.28	18.47
5	7.29	9.24	11.07	12.83	15.09	20.52
6	8.56	10.65	12.59	14.45	16.81	22.46
7	9.80	12.02	14.07	16.01	18.48	24.32
8	11.03	13.36	15.51	17.54	20.09	26.12
9	12.24	14.68	16.92	19.02	21.67	27.88
10	13.44	15.99	18.31	20.48	23.21	29.59
11	14.63	17.28	19.68	21.92	24.73	31.26
12	15.81	18.55	21.03	23.34	26.22	32.91
13	16.99	19.81	22.36	24.74	27.69	34.53
14	18.15	21.06	23.69	26.12	29.14	36.12
15	19.31	22.31	25.00	27.49	30.58	37.70
16	20.47	23.54	26.30	28.85	32.00	39.25
17	21.62	24.77	27.59	30.19	33.41	40.79
18	22.76	25.99	28.87	31.53	34.81	42.31
19	23.90	27.20	30.14	32.85	36.19	43.82
20	25.04	28.41	31.41	34.17	37.57	45.32
21	26.17	29.62	32.67	35.48	38.93	46.80
22	27.30	30.81	33.92	36.78	40.29	48.27
23	28.43	32.01	35.17	38.08	41.64	49.73
24	29.55	33.20	36.42	39.36	42.98	51.18
25	30.68	34.38	37.65	40.65	44.31	52.62
26	31.80	35.56	38.89	41.92	45.64	54.05
27	32.91	36.74	40.11	43.20	46.96	55.48
28	34.03	37.92	41.34	44.46	48.28	56.89
29	35.14	39.09	42.56	45.72	49.59	58.30
30	36.25	40.26	43.77	46.98	50.89	59.70
40	47.27	51.81	55.76	59.34	63.69	73.40
50	58.16	63.17	67.51	71.42	76.15	86.66
60	68.97	74.40	79.08	83.30	88.38	99.61
70	79.72	85.53	90.53	95.02	100.43	112.32

The calculated value must be equal to or exceed the critical value in this table for significance to be shown.

Mann-Whitney U test formulae

$$U_a = n_a n_b + \frac{n_a(n_a+1)}{2} - \sum R_a$$

$$U_b = n_a n_b + \frac{n_b(n_b+1)}{2} - \sum R_b$$

(U is the smaller of U_a and U_b)

Critical values for the Mann-Whitney U test

N_a	N_b 5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.05$ (one-tailed), $p \leq 0.10$ (two-tailed)																
5	4	5	6	8	9	11	12	13	15	16	18	19	20	22	23	25
6	5	7	8	10	12	14	16	17	19	21	23	25	26	28	30	32
7	6	8	11	13	15	17	19	21	24	26	28	30	33	35	37	39
8	8	10	13	15	18	20	23	26	28	31	33	36	39	41	44	47
9	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54
10	11	14	17	20	24	27	31	34	37	41	44	48	51	55	58	62
11	12	16	19	23	27	31	34	38	42	46	50	54	57	61	65	69
12	13	17	21	26	30	34	38	42	47	51	55	60	64	68	72	77
13	15	19	24	28	33	37	42	47	51	56	61	65	70	75	80	84
14	16	21	26	31	36	41	46	51	56	61	66	71	77	82	87	92
15	18	23	28	33	39	44	50	55	61	66	72	77	83	88	94	100
16	19	25	30	36	42	48	54	60	65	71	77	83	89	95	101	107
17	20	26	33	39	45	51	57	64	70	77	83	89	96	102	109	115
18	22	28	35	41	48	55	61	68	75	82	88	95	102	109	116	123
19	23	30	37	44	51	58	65	72	80	87	94	101	109	116	123	130
20	25	32	39	47	54	62	69	77	84	92	100	107	115	123	130	138

	N_b															
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
N_a																

$p \leq 0.01$ (one-tailed), $p \leq 0.02$ (two-tailed)

N_a	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
5	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
6	2	3	4	6	7	8	9	11	12	13	15	16	18	19	20	22
7	3	4	6	7	9	11	12	14	16	17	19	21	23	24	26	28
8	4	6	7	9	11	13	15	17	20	22	24	26	28	30	32	34
9	5	7	9	11	14	16	18	21	23	26	28	31	33	36	38	40
10	6	8	11	13	16	19	22	24	27	30	33	36	38	41	44	47
11	7	9	12	15	18	22	25	28	31	34	37	41	44	47	50	53
12	8	11	14	17	21	24	28	31	35	38	42	46	49	53	56	60
13	9	12	16	20	23	27	31	35	39	43	47	51	55	59	63	67
14	10	13	17	22	26	30	34	38	43	47	51	56	60	65	69	73
15	11	15	19	24	28	33	37	42	47	51	56	61	66	70	75	80
16	12	16	21	26	31	36	41	46	51	56	61	66	71	76	82	87
17	13	18	23	28	33	38	44	49	55	60	66	71	77	82	88	93
18	14	19	24	30	36	41	47	53	59	65	70	76	82	88	94	100
19	15	20	26	32	38	44	50	56	63	69	75	82	88	94	101	107
20	16	22	28	34	40	47	53	60	67	73	80	87	93	100	107	114

	N_b															
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
N_a																

$p \leq 0.025$ (one-tailed), $p \leq 0.05$ (two-tailed)

N_a	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
5	2	3	5	6	7	8	9	11	12	13	14	15	17	18	19	20
6	3	5	6	8	10	11	13	14	16	17	19	21	22	24	25	27
7	5	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
8	6	8	10	13	15	17	19	22	24	26	29	31	34	36	38	41
9	7	10	12	15	17	20	23	26	28	31	34	37	39	42	45	48
10	8	11	14	17	20	23	26	29	33	36	39	42	45	48	52	55
11	9	13	16	19	23	26	30	33	37	40	44	47	51	55	58	62
12	11	14	18	22	26	29	33	37	41	45	49	53	57	61	65	69
13	12	16	20	24	28	33	37	41	45	50	54	59	63	67	72	76
14	13	17	22	26	31	36	40	45	50	55	59	64	67	74	78	83
15	14	19	24	29	34	39	44	49	54	59	64	70	75	80	85	90
16	15	21	26	31	37	42	47	53	59	64	70	75	81	86	92	98
17	17	22	28	34	39	45	51	57	63	67	75	81	87	93	99	105
18	18	24	30	36	42	48	55	61	67	74	80	86	93	99	106	112
19	19	25	32	38	45	52	58	65	72	78	85	92	99	106	113	119
20	20	27	34	41	48	55	62	69	76	83	90	98	105	112	119	127

N_a	N_b															
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20

$p \leq 0.005$ (one-tailed), $p \leq 0.01$ (two-tailed)

N_a	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
5	0	1	1	2	3	4	5	6	7	7	8	9	10	11	12	13
6	1	2	3	4	5	6	7	9	10	11	12	13	15	16	17	18
7	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24
8	2	4	6	7	9	11	13	15	17	18	20	22	24	26	28	30
9	3	5	7	9	11	13	16	18	20	22	24	27	29	31	33	36
10	4	6	9	11	13	16	18	21	24	26	29	31	34	37	39	42
11	5	7	10	13	16	18	21	24	27	30	33	36	39	42	45	48
12	6	9	12	15	18	21	24	27	31	34	37	41	44	47	51	54
13	7	10	13	17	20	24	27	31	34	38	42	45	49	53	56	60
14	7	11	15	18	22	26	30	34	38	42	46	50	54	58	63	67
15	8	12	16	20	24	29	33	37	42	46	51	55	60	64	69	73
16	9	13	18	22	27	31	36	41	45	50	55	60	65	70	74	79
17	10	15	19	24	29	34	39	44	49	54	60	65	70	75	81	86
18	11	16	21	26	31	37	42	47	53	58	64	70	75	81	87	92
19	12	17	22	28	33	39	45	51	56	63	69	74	81	87	93	99
20	13	18	24	30	36	42	48	54	60	67	73	79	86	92	99	105

The calculated value must be equal to or less than the critical value in this table for significance to be shown.

Wilcoxon Signed Ranks test process

- Calculate the difference between two scores by taking one from the other

- Rank the differences giving the smallest difference Rank 1

  Note: do not rank any differences of 0 and when adding the number of scores, do not count those with a difference of 0, and ignore the signs when calculating the difference

- Add up the ranks for positive differences

- Add up the ranks for negative differences

- T is the figure that is the smallest when the ranks are totalled (may be positive or negative)

- N is the number of scores left, ignore those with 0 difference

Critical values for the Wilcoxon Signed Ranks test

	Level of significance for a one-tailed test		
	0.05	0.025	0.01
	Level of significance for a two-tailed test		
n	0.1	0.05	0.02
N=5	0	–	–
6	2	0	–
7	3	2	0
8	5	3	1
9	8	5	3
10	11	8	5
11	13	10	7
12	17	13	9

The calculated value must be equal to or less than the critical value in this table for significance to be shown.

Answer ALL questions. Write your answers in the spaces provided.

SECTION A

Social Psychology

1 In your studies of social psychology, you will have learned about the British Psychological Society (BPS) code of ethics and conduct (2009).

Describe **two** ethical guidelines from the British Psychological Society (BPS) code of ethics and conduct (2009).

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(Total for Question 1 = 4 marks)

2 Mr Jennings is a teacher who was instructing a group of 15 students to line up quietly in a queue during lunchtime in the school canteen. All of the students, except one, did as they were asked.

(a) Using social impact theory, state **two** reasons why 14 out of 15 of the students followed Mr Jennings' instruction.

(2)

1 ....

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2 ....

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(b) Explain **one** weakness of social impact theory.

(2)

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(Total for Question 2 = 4 marks)

3 Evaluate realistic conflict theory as an explanation of prejudice.

(8)

(Total for Question 3 = 8 marks)

TOTAL FOR SECTION A = 16 MARKS

P 7 8 6 8 4 A 0 1 1 4 0

SECTION B

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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(Total for Question 4 = 2 marks)

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QUESTION 5 BEGINS ON THE NEXT PAGE.

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)

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

(3)

Title

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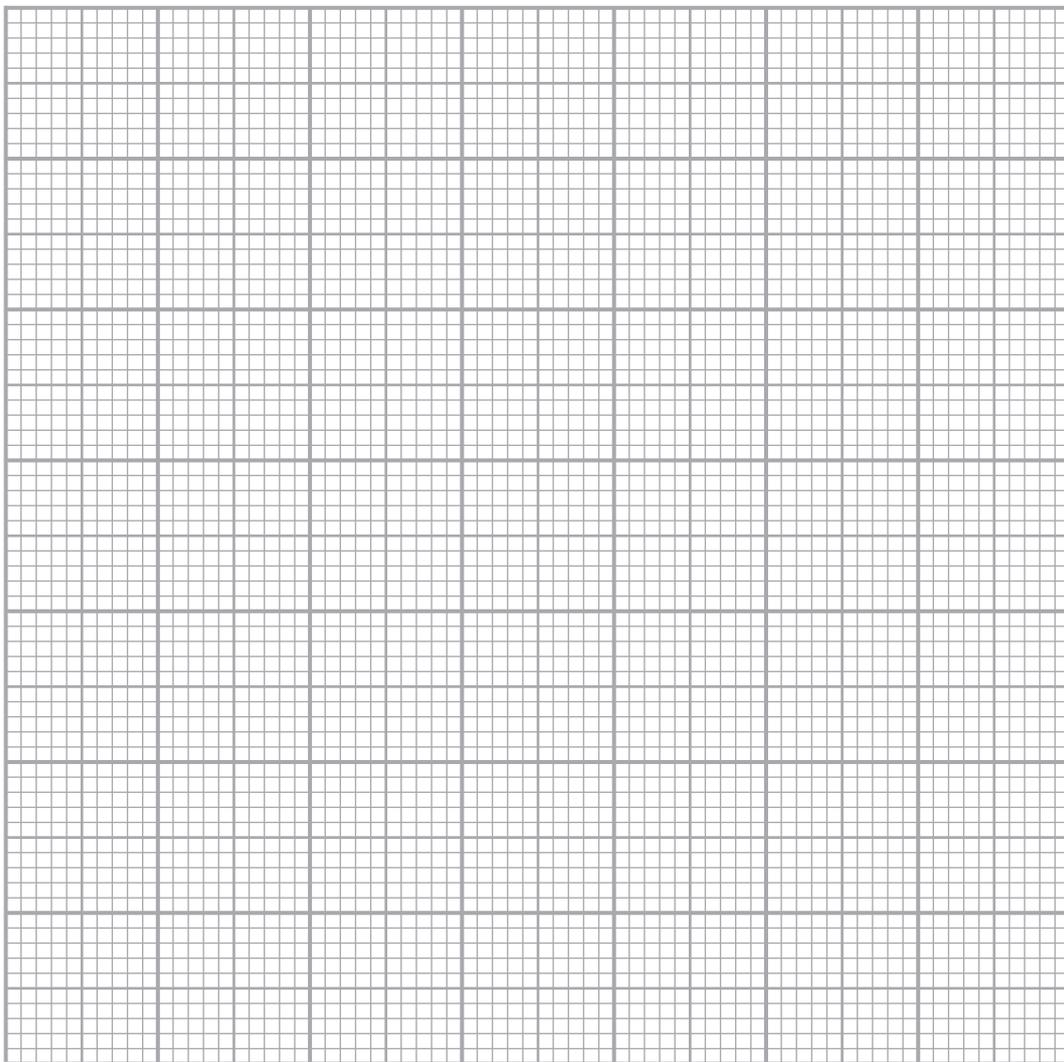
(Total for Question 5 = 4 marks)

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

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Weakness

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(Total for Question 6 = 4 marks)

P 7 8 6 8 4 A 0 1 6 4 0

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QUESTION 7 BEGINS ON THE NEXT PAGE.

P 7 8 6 8 4 A 0 1 7 4 0

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)

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(Total for Question 7 = 8 marks)

TOTAL FOR SECTION B = 18 MARKS

SECTION C

Biological Psychology

8 You will have learned about one of the following contemporary studies in biological psychology:

- Li et al. (2013)

- Brendgen et al. (2005)

- Van den Oever et al. (2008)

(a) State **one** finding of your chosen contemporary study.

(1)

Chosen study

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(b) Explain **one** weakness of your chosen contemporary study.

(2)

Chosen study

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(Total for Question 8 = 3 marks)

9 Mandy is investigating whether there is a relationship between time spent outdoors and quality of sleep. She used a volunteer sampling technique to gather her participants from her university campus.

The students were required to complete a questionnaire to state how many hours they had spent outdoors in the previous week. They also had to give a self-rated score for quality of sleep, with 0 being very poor sleep and 10 being excellent sleep.

(a) Describe how Mandy could use a volunteer sampling technique to gather participants for her investigation.

(2)

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(b) Mandy analysed her results using Spearman's rho.

State **two** reasons why Mandy used Spearman's rho to analyse her data.

(2)

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(c) Explain **one** improvement that Mandy could make to her investigation.

(2)

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(Total for Question 9 = 6 marks)

10 In your studies of biological psychology, you will have learned about an adoption study.

Evaluate **one** adoption study you have learned about in biological psychology.

(8)

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(Total for Question 10 = 8 marks)

TOTAL FOR SECTION C = 17 MARKS

P 7 8 6 8 4 A 0 2 5 4 0

SECTION D

Learning Theories

11 As a child, Petunia loved cats. One day, when she was playing in her garden a cat scratched her arm, frightening her. This caused Petunia to develop a phobia of cats.

Identify the unconditioned stimulus (UCS) and the neutral stimulus (NS) for Petunia's phobia.

Unconditioned stimulus (UCS)

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Neutral stimulus (NS)

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(Total for Question 11 = 2 marks)

12 Spencer is 12 years old, and his brother Mark is 16 years old. Spencer watched Mark wash their mum's car and receive £5.00. The next time Mark was asked to wash his mum's car, Spencer asked if he could help Mark. Mark showed Spencer how to wash one of the wheels with the sponge and soapy water, and then Spencer washed the other three wheels of the car.

Spencer helped Mark wash the car several times. One day, Spencer was asked by his mum if he would like to wash the car on his own. Spencer washed the car and received £5.00.

Describe how social learning theory could account for Spencer learning to wash the car.

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(Total for Question 12 = 4 marks)

13 Rahul conducted an observation to investigate whether car size affects driving behaviour. He collected data from observing cars on a nearby road.

Rahul stood near a sign which displayed the speed of cars approaching the sign. He recorded whether the car was driving above or below the speed limit and also whether the car was a large car (5 doors) or a small car (3 doors).

The results from Rahul's investigation are shown in **Table 2**.

Size of car	Speed of car	
	Below the speed limit	**Above the speed limit**
Large car	10	12
Small car	19	6

Table 2

(a) Complete **Table 3** to calculate the chi-squared test for Rahul's investigation. You must give your answer to **two** decimal places.

(4)

		Observed	Expected	O–E	$(O-E)^2$	$(O-E)^2/E$
Large car	**Below the speed limit**	10	13.57			
	Above the speed limit	12	8.43			
Small car	**Below the speed limit**	19	15.43			
	Above the speed limit	6	9.57			

Chi-squared =

Table 3

SPACE FOR CALCULATIONS

Chi-squared (χ^2) ....

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(b) Rahul had a one-tailed (directional) hypothesis with $df = 1$ and used $p = 0.025$ as his level of significance.

Determine whether there was a significant difference between the speed at which the large and small cars were being driven.

(1)

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(Total for Question 13 = 5 marks)

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QUESTION 14 BEGINS ON THE NEXT PAGE.

14 Assess whether systematic desensitisation is an effective treatment for phobias.

(8)

(Total for Question 14 = 8 marks)

TOTAL FOR SECTION D = 19 MARKS

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SECTION E

Issues and Debates

15 Discuss the practical issues you considered in the design and implementation of your learning theories practical investigation.

(8)

P 7 8 6 8 4 A 0 3 4 4 0

(Total for Question 15 = 8 marks)

16 Evaluate whether social and cognitive psychology can be considered scientific.

(12)

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(Total for Question 16 = 12 marks)

TOTAL FOR SECTION E = 20 MARKS
TOTAL FOR PAPER = 90 MARKS

P 7 8 6 8 4 A 0 3 8 4 0

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