edexcel

A Level Psychology

Specimen Papers

Pearson Edexcel Level 3 Advanced GCE in Psychology (9PS0)

ALWAYS LEARNING

PEARSON

Write your name here

Surname	Other names

Pearson Edexcel Level 3 GCE

Centre Number	Candidate Number

Psychology

Advanced
Paper 1: Foundations in Psychology

Sample assessment materials for first teaching September 2015
Time: 2 hours

Paper Reference
9PS0/01

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 value 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.
- Check your answers if you have time at the end.

Turn over ▶

S56501A

1/1/1/1/1/1/1/1

S 5 6 5 0 1 A 0 1 3 3

PEARSON

FORMULAE AND STATISTICAL VALUE 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_b															
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
N_a																
***p* ≤ 0.05 (one-tailed), *p* ≤ 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_a \ N_b	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.01$ (one-tailed), $p \leq 0.02$ (two-tailed)																
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_a \ N_b	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.025$ (one-tailed), $p \leq 0.05$ (two-tailed)																
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* ≤ 0.005 (one-tailed), *p* ≤ 0.01 (two-tailed)**																
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.

SECTION A: SOCIAL PSYCHOLOGY

1 Describe the influence of culture on obedience.

.....

.....

.....

.....

.....

.....

(Total for Question 1 = 2 marks)

2 (a) Describe the findings of **one** contemporary study you have learned about as part of social psychology.

(2)

(b) Explain **one** strength and **one** weakness of the contemporary study you described in (a).

(4)

Strength

Weakness

(Total for Question 2 = 6 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

3 Social psychology has been used to explain key questions of relevance to today's society.

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

(8)

Key question .....

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 3 = 8 marks)

TOTAL FOR SECTION A = 16 MARKS

SECTION B: COGNITIVE PSYCHOLOGY

4 Teddy and Chanel are investigating selective attention within the auditory system. Teddy predicts that participants will recall more words presented in the right ear than in the left ear.

Participants were presented with stimuli in the form of a word list containing 60 words. Using headphones, 30 words were presented to their left ear, and 30 words were presented to their right ear. The participants were later asked to recall the words they had heard.

The data gathered in the experiment is shown in **Table 1** below.

Participant number	Number of words recalled (out of 30) when presented in the left ear	Number of words recalled (out of 30) when presented in the right ear
1	20	30
2	29	30
3	10	7
4	30	26
5	5	30
6	17	12
7	25	23
8	11	20
9	27	3
10	8	23
Mean score		

Table 1

(a) Calculate the mean number of words recalled for the left ear and right ear and complete **Table 1** with your answer. You must give your answers to **one** decimal place.

(2)

SPACE FOR CALCULATIONS

(b) Complete **Table 2** and calculate the Wilcoxon Signed Ranks test for Teddy and Chanel's data.

(4)

Participant number	Number of words recalled (out of 30) when presented in the left ear	Number of words recalled (out of 30) when presented in the right ear	Difference	Rank	Rank if positive	Rank if negative
1	20	30				
2	29	30				
3	10	7				
4	30	26				
5	5	30				
6	17	12				
7	25	23				
8	11	20				
9	27	3				
10	8	23				
				Total:		

Table 2

SPACE FOR CALCULATIONS

Wilcoxon T value .....

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(c) Teddy and Chanel used a one-tailed (directional) test in their study.

Explain whether Teddy and Chanel's data was significant at $p<0.05$ and if the research hypothesis should be accepted.

(2)

.....

.....

.....

.....

.....

.....

(Total for Question 4 = 8 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

5 Case studies of brain-damaged patients, such as Henry Molaison (HM), have been useful in providing evidence for cognitive functioning.

Assess the usefulness of case studies within cognitive psychology.

(8)

(Total for Question 5 = 8 marks)

TOTAL FOR SECTION B = 16 MARKS

BLA NK PAGE

SECTION C: BIOLOGICAL PSYCHOLOGY

6 Describe how hormones could affect human behaviour.

(Total for Question 6 = 2 marks)

7 When studying biological psychology, you will have learned about different brain areas and brain functioning as an explanation of human behaviour.

Describe how the limbic system could affect human behaviour.

(Total for Question 7 = 2 marks)

8 Alan noticed that a lot of people listen to music while exercising at the gym. He wanted to see if the tempo of the music had an influence on their motivation to exercise.

Alan went to his school gym and gave a group of student volunteers different tempos of music, from very slow to very fast. The tempo of the music was measured in beats per minute (BPM).

Whilst listening to the music during exercise, Alan asked his volunteers to rate their level of motivation to exercise, on a scale where 10 was high motivation and 1 was low motivation.

(a) State a fully operationalised non-directional (two-tailed) experimental hypothesis for Alan's study.

(2)

(b) Alan's friend told him he should have used a control group in his study.

State how Alan could have used a control group for his study.

(1)

Alan drew a scatter diagram of his results, which is shown in **Figure 1** below.

Scatter diagram to show the relationship between tempo of music and motivation to exercise

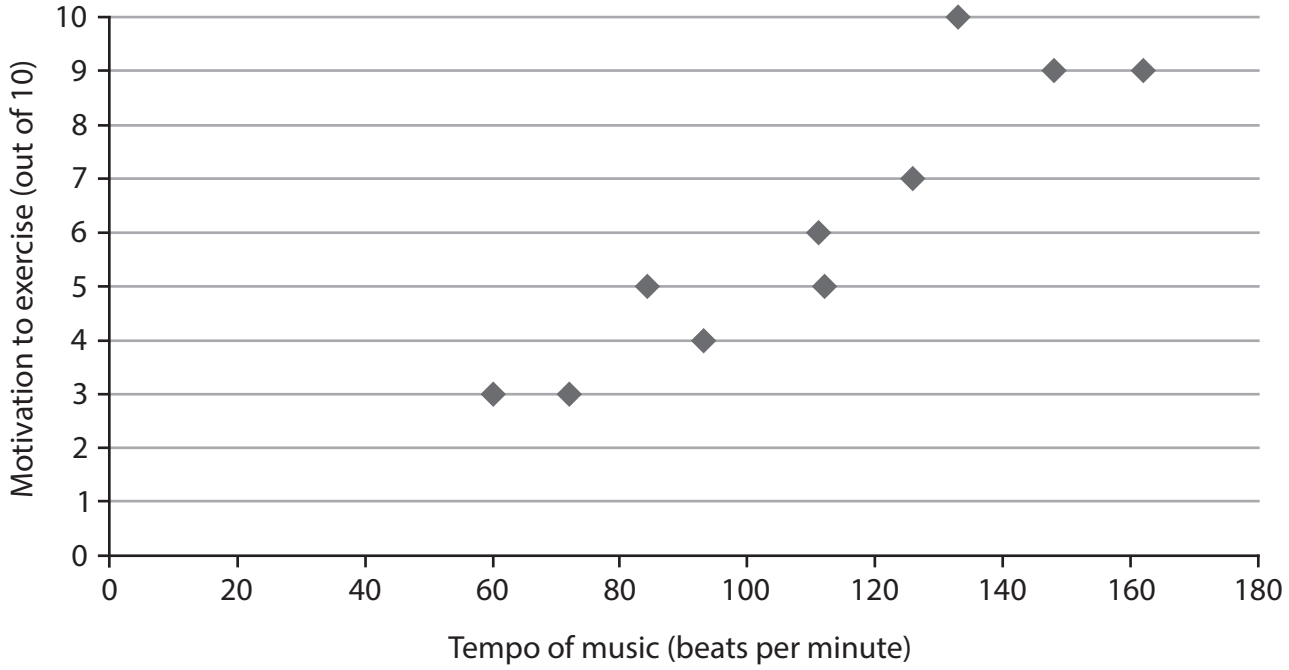


Figure 1

(c) Explain **one** conclusion that Alan could make from his scatter diagram.

(2)

(d) Explain **one** way Alan could have improved his study.

(2)

(Total for Question 8 = 7 marks)

9 Jo is watching a television programme where individuals in relationships are invited to attempt to resolve their disputes. In the episode she is watching, a man and a woman are arguing, and the man accuses the woman of having an affair.

A second man appears on stage and a fight breaks out between the two men. It is later revealed in the episode that the second man is now living with the woman in the first man's house and is using his car.

Discuss how evolution can explain human behaviour. You must make reference to the context in your answer.

(8)

(Total for Question 9 = 8 marks)

TOTAL FOR SECTION C = 19 MARKS

SECTION D: LEARNING THEORIES

10 As part of your psychology specification, you were required to carry out a practical investigation when studying learning theories.

(a) Describe the aim of the practical investigation you carried out when studying learning theories.

(2)

(b) As part of your practical investigation, you were required to gather quantitative data.

Describe how you gathered your quantitative data for the practical investigation you carried out when studying learning theories.

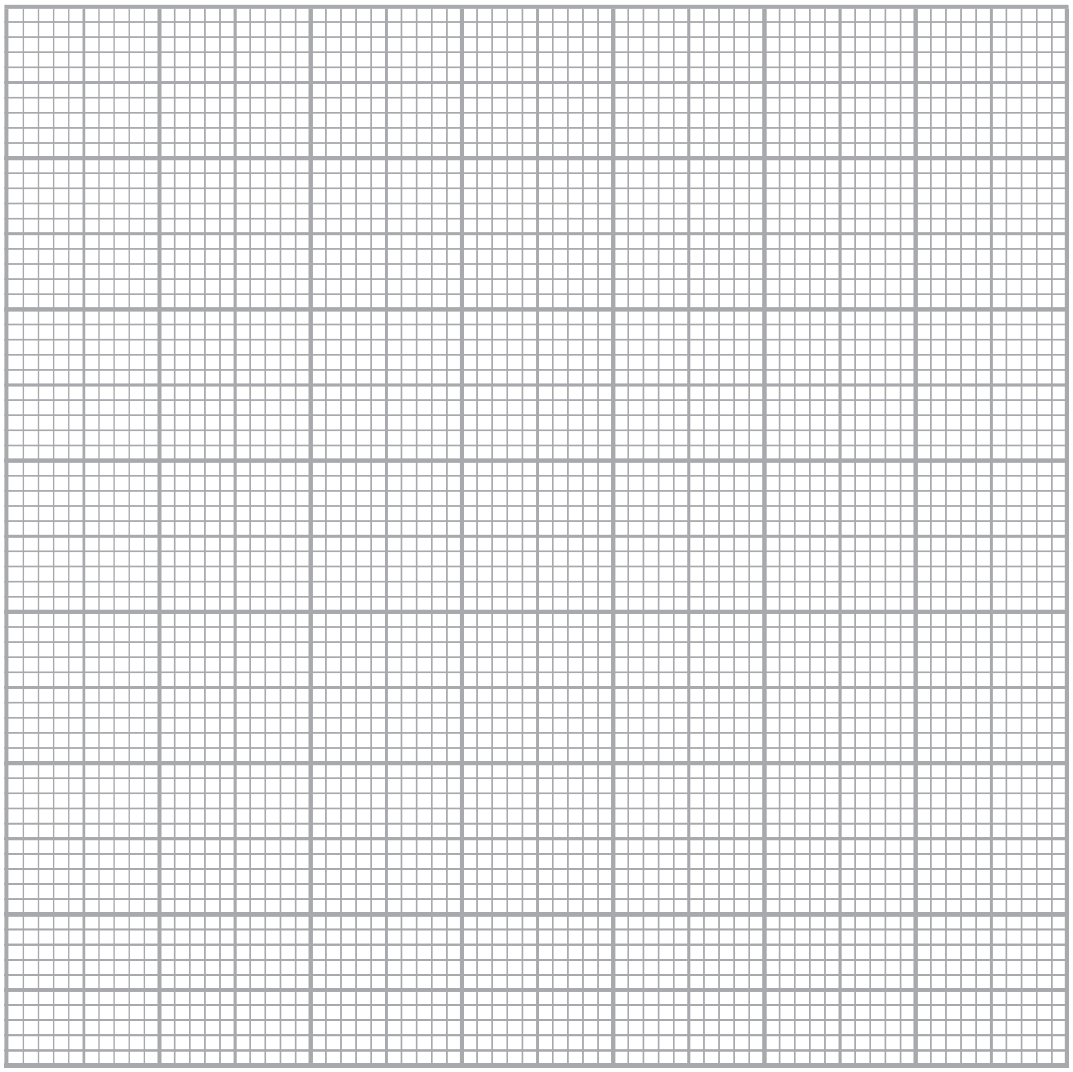
(2)

(c) As part of your practical investigation, you were required to write up the results of the quantitative data you gathered, including the use of an appropriate graph.

Plot the quantitative data you gathered from your practical investigation when studying learning theories in an appropriate graph below.

(3)

Title



(d) Explain **one** strength of the practical investigation you carried out when studying learning theories.

(2)

(e) Explain **one** improvement you could make to the practical investigation you carried out when studying learning theories.

(2)

(Total for Question 10 = 11 marks)

11 Stuart is 16 years old and enjoys watching television programmes about new clothes, reading internet blogs about make-up, and watching videos on the internet about how to apply nail varnish.

Stuart has recently started wearing make-up and has changed the way he dresses. He now goes to college wearing nail varnish and some of his peers have commented on how much they like it.

Discuss how social learning theory can explain human behaviour such as wearing make-up and nail varnish. You must make reference to the context in your answer.

(8)

(Total for Question 11 = 8 marks)

TOTAL FOR SECTION D = 19 MARKS

SECTION E: ISSUES AND DEBATES

12 Evaluate the issues related to conducting socially sensitive research within social and biological psychology.

(8)

(Total for Question 12 = 8 marks)

13 To what extent has psychology helped our understanding of human behaviour within society?

(12)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 13 = 12 marks)

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

GCE Advanced-Level Psychology Paper 1 Mark Scheme

Question Number	Answer	Mark
1	**AO1 (2 marks)** Up to two marks for description of the influence of culture on obedience. For example: • Individuals who belong to an individualistic culture may behave more independently and maybe more likely to resist an instruction from an authority figure (1). However, replications of Milgram's procedure cross-culturally have shown very little or no difference in levels of obedience (1). **Look for other reasonable marking points**.	**(2)**

Question Number	Answer	Mark
2 (a)	**AO1 (2 marks)** One mark for each point describing the findings of one contemporary study from social psychology. For example: Burger (2009) • Within the base line condition 70% (28) of participants continued (went to continue but were prevented) after 150 volts (1). In the modelled refusal condition 63.3% (19) of male and female participants continued (were prevented to go beyond 150v) (1). Cohrs et al. (2012) • They found that if an individual is less open to experience they are more likely to be RWA and prejudiced (1). Another result was that individuals that are less agreeable are more likely to be SDO and prejudiced (1). Reicher and Haslam (2006) • After a prisoner was promoted on day 3, the prisoners started to identify as a group (1). By day 6 the group identity of the prisoners had become strong enough and they were able to overthrow the guards and a break out occurred (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
2 (b)	**AO1 (2 marks), AO3 (2 marks)** One mark for identifying each strength/weakness (AO1) One mark for justification of each strength/weakness (AO3) For example: **Burger (2009)** Strength • Burger (2009) used the same controls as Milgram so can be tested for reliability (1). For example, the same pre-determined schedule of correct and incorrect responses from the confederate was used so it can be directly compared (1). Weakness • There are some ethical problems that still exist within the study, such as shocking another individual (1). The participants may still have experience distress which violates the BPS code of ethics and conduct. (1). **Cohrs et al (2012**) Strength • Cohrs et al (2012) used standardised scales such as the Big Five for personality (1). By using standardised scales the responses between the participants can be compared to look for reliability (1). Weakness • There may have been evidence of social desirability by the peer rater on behalf of the participant (1). If there was bias in the data then the prejudice scores may not be valid (1). **Reicher and Haslam (2006)** Strength • Reicher and Haslam's research gathered both qualitative and quantitative data through psychometric tests and observational data (1). This means that triangulation could take place so reliability regarding the prisoner/guard behaviour can be assessed (1).	**(4)**

	Weakness • As the research was carried out in a television studio and was being filmed for the BBC, this reduced the ecological validity of the study (1). The prisoners/guards may have changed their behaviour compared to how they may have normally have acted in a prison setting (1). **Look for other reasonable marking points.** **Generic answers score 0 marks.**	

Question Number	Indicative content	Mark
3	**AO1 (4 marks), AO2 (4 marks)** For example: Key question: How can social psychology be used to reduce anti-social behaviour such as football hooliganism? **AO1** • Football hooliganism relates to crowd behaviour that is negative and can cause violence. • Hooliganism is not only a problem in the UK. It has also been seen at international level between English fans and Russian fans during the 2016 European Championships. • Rivalry between fans can be seen prior/after matches outside a stadium as supporters often wear their team's colours, making themselves identifiable. • When crowd behaviour such as hooliganism or rioting becomes violent it has a wider cost to society in the form of emotional factors and financial implications. **AO2** • Social identity theory would explain hooliganism through the process of categorisation, identification and comparison. Identifying with their in-group and seeing the opposing teams' supporters as inferior. • When supporters form a group they may experience deindividuation, therefore no longer feeling responsible for their actions. • As there is competition involved, whether that is to become top of a league or the better team in a city, realistic conflict theory suggests that this form of behaviour may arise due to the competitive nature of sport. • Social impact theory might explain the behaviour as a football fan sees a football manager sharing a negative view of the other team and adopt this as the manager is an expert in the field. **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)

<table>
<tr><th>Question Number</th><th>Answer</th><th>Mark</th></tr>
<tr><td>4 (a)</td><td>AO2 (2 marks)

One mark for correct calculation of each mean score.

<table><tr><th>Number of words recalled (out of 30) when presented in the left ear</th><th>Number of words recalled (out of 30) when presented in the right ear</th></tr><tr><td>18.2</td><td>20.4</td></tr></table></td><td>(2)</td></tr>
</table>

Question Number	Answer	Mark
4(b)	**AO2 (4 marks)**	**(4)**

Participant number	Number of words recalled (out of 30) when presented in the left ear	Number of words recalled (out of 30) when presented in the right ear	Difference	Rank	Rank if positive	Rank if negative
1	20	30	**-10**	**7**		**7**
2	29	30	**-1**	**1**		**1**
3	10	7	**3**	**3**	**3**	
4	30	26	**4**	**4**	**4**	
5	5	30	**-25**	**10**		**10**
6	17	12	**5**	**5**	**5**	
7	25	23	**2**	**2**	**2**	
8	11	20	**-9**	**6**		**6**
9	27	3	**24**	**9**	**9**	
10	8	23	**-15**	**8**		**8**
				Total	**23**	**32**

One mark for accurate completion of difference column.

One mark for accurate completion of rank column.

One mark for accurate completion of sum of rank if positive and rank if negative

One mark for correct value of **T = 23**

Question Number	Answer	Mark
4(c)	**AO2 (1 mark), AO3 (1 mark)** One mark for identifying a correct critical value (AO2) One mark for accurate judgement of significance (AO3) For example: • The T value (23) is greater than the critical value (8) as shown in the table where n=10 (1). Therefore there was no difference in number of words correctly recalled between left and right ear presentation (1). **Answers must relate to the scenario.** **Look for other reasonable marking points.**	**(2)**

Question Number	Indicative content	Mark
5	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Case studies are in-depth investigations of a single person, or a small group such as brain-damaged patients. • Data are gathered using several different methods (e.g. MRI scans, medical records & experiments). • Blakemore's investigation of HM involved learning short lists of words to test STM. • The data gathered relates to events in the individual's past as well as the present. **AO3** • It could be difficult to generalise findings from case studies because people with damage to the brain are unique individuals which limits their use. • Case studies such as that of HM is time consuming as they can take place over many years which can make them an expensive method. • Case studies can be useful as they often provide detailed information that would be impractical to study in other ways. • If multiple patients are found with similar damage and similar performance case study findings can be more useful as they show increased reliability. **Look for other reasonable marking points.**	**(8)**

Level	Mark	Descriptor
AO1 (4 marks), AO3 (4 marks) **Ccandidates 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)

Question Number	Answer	Marks
6	**AO1 (2 marks)** One mark for each point related to how hormones could affect human behaviour. For example: • Hormones are secreted from a variety of organs in the body such as the pineal gland (1). The pineal gland releases higher levels of melatonin when it is dark which makes someone feel sleepy (1) **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Marks
7	**AO1 (2 marks)** One mark for each point related to how the limbic system could affect human behaviour. For example: • The limbic system has a role in self-preservation, for example, the fight or flight response to danger (1). Therefore, if someone was faced with a confrontation the limbic system might lead to them creating an anger response to the perceived threat (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
8 (a)	**AO2 (2 marks)** One mark for a basic two-tailed experimental hypothesis Two marks for a fully operationalised two-tailed experimental hypothesis For example: • There will be a relationship between music and motivation. (1) • There will be a relationship between tempo of music (beats per minute) and motivation for exercise (out of 10). (2) **Answers must relate to the scenario.** **Look for other reasonable marking points.** **Generic answers score 0 marks**	**(2)**

Question Number	Answer	Mark
8 (b)	**AO2 (1 mark)** One mark for stating how Alan could have used a control group. For example: • Alan could have asked a group of volunteers to rate their motivation for exercise with no music (1). **Answers must relate to the scenario.** **Look for other reasonable marking points.** **Generic answers score 0 marks**	**(1)**

Question Number	Answer	Mark
8 (c)	**AO2 (1 mark) AO3 (1 mark)** One mark for use of the graph in an appropriate way (AO2) One mark for an appropriate conclusion (AO3). For example: • As the tempo of music increases so does the motivation for exercise (1) which shows that there was a positive correlation between tempo of music and motivation for exercise (1). **Answers must relate to the scenario.** **Look for other reasonable marking points.** **Generic answers score 0 marks**	**(2)**

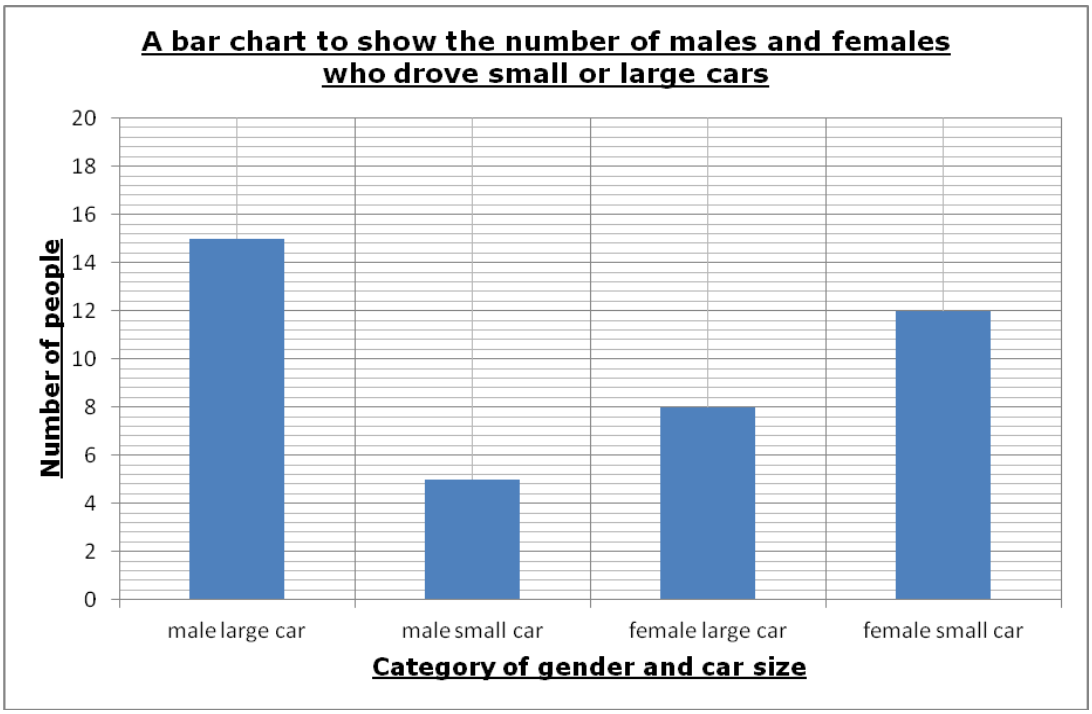
Question Number	Answer	Mark
8 (d)	**AO2 (1 mark) AO3 (1 mark)** One mark for identification of an appropriate improvement (AO2) One mark for justification of an appropriate improvement (AO3) For example: • Alan only used students from his school gym so he could have conducted his study at different gyms in a variety of areas (1). This would mean that he had a greater variety of participants in terms of age and/or ethnicity which would have increased the generalisability of his results (1). **Answers must relate to the scenario.** **Look for other reasonable marking points.** **Generic answers score 0 marks**	**(2)**

Question Number	Indicative content	Marks
9	**AO1 (4 marks), AO2 (4 marks)** **AO1** • Evolution is the impact of how inherited characteristics change throughout generations. • 'Survival of the fittest' means that organisms who are suited to their environment will survive in order to reproduce. • It is the combination between the genotype and environment that lead to the phenotype which is what is passed on through time to subsequent generations. • Aggression could be an evolved solution to adaptive problems so individuals act aggressively to protect themselves. • Fighting is an evolved strategy to assert dominance on a rival. • Aggressive behaviour may be due to inheritance of an aggressive gene combined with abusive upbringing. • Aggression has evolved to increase status against competing males to make the aggressor more attractive to the female. • Appropriating resources of a rival makes them weaker and the aggressor stronger so they have a survival advantage. **AO2** • The males may have been fighting to show who was the most dominant. • The males may have wanted to act aggressively to increase their social status with the woman and also with the audience and friends watching at home. • The second man is living in the first males house and using his car so has acquired their resources which gives him an advantage over the first man. • The men may have wanted to fight to inflict damage to their rival man with the victor being more attractive to the woman. • The first man may not have wanted to fight but felt obliged to defend against the attack of the second man to uphold his honour and reputation with the woman. **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)

Question Number	Answer	Marks
10 (a)	**AO2 (2 marks)** Up to two marks for the aim of their practical investigation. For example: • The aim was to see whether gender affected car size (1). • The aim was to see whether males or females drove a larger (4 door) or smaller (2 door) car using an observation collecting quantitative and qualitative data. (2). **Look for other reasonable marking points.** **Answers must relate to their practical investigation.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Marks
10 (b)	**AO2 (2 marks)** Up to two marks for a description of how they gathered their quantitative data for their practical investigation. For example: • A 2 x 2 matrix was created with male and female, small and large car and spaces for tallies for each (e.g. male-large, male-small) (1). We then stood by the road during lunch at college and tallied 20 males and 20 females and judged the size of the car they were driving using the number of doors (1). **Look for other reasonable marking points.** **Answers must relate to their practical investigation.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Marks
10 (c)	**AO2 (3 marks)** One mark for correct/appropriate title. One mark for correct/appropriate labelling on axes. One mark for correct plots of data. For example:  **Graph must relate to their practical investigation and to quantitative data.**	**(3)**

Question Number	Answer	Marks
10 (d)	**AO2 (1 mark), AO3 (1 mark)** One mark for a strength identified for their practical investigation (AO2). One mark for justification of the strength for their practical investigation (AO3). For example: • A strength was that we judged all 40 cars with the same interpretation of large and small car so it was easily replicable (1). This means I could easily repeat my observation of male/female preference for car size on another day so can test for reliability (1). **Look for other reasonable marking points.** **Answers must relate to their practical investigation.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Marks
10 (e)	**AO2 (1 mark), AO3 (1 mark)** One mark for a identifying an improvement that is appropriate to their practical investigation (AO2). One mark for justification of the improvement for their practical investigation (AO3). For example: • One improvement I could make would be to observe a different set of males and females driving their cars on a different day (1). This would enable me to test the reliability of my observation into male/female car size preference because I would be able to compare the results and assess if the findings are consistent (1). **Look for other reasonable marking points.** **Answers must relate to their practical investigation.** **Generic answers score 0 marks.**	**(2)**

Question Number	Indicative content	Marks
11	**AO1 (4 marks), AO2 (4 marks),** **AO1** • Social learning involves an individual admiring a role model and modelling their behaviour. • Social learning involves attention which is the process of noticing and being interested in the learned behaviour. • If a role model or an individual is rewarded they are more likely to reproduce the learned behaviour and continue displaying it in future. • The learned behaviour may make the individual feel proud or good internally so serve as self-reinforcement. **AO2** • Stuart may look up to the people in the television programmes or on the internet and see them as a role model. • Stuart will notice and be interested in the TV/videos about how new clothes and how to apply nail varnish. • The peers commenting on their liking of Stuart's nail varnish will serve as a reward to him which will encourage him to do it again. • Stuart may feel more attractive and confident wearing make-up and nail varnish which will provide self-reinforcement. **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)

Question Number	Indicative content	Mark
12	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Socially sensitive research refers to research that has ethical implications beyond the research situation and may affect individuals or groups within society. • Racism and cultural issues could arise in social psychology through research into prejudice. • The role of the brain or genes in human behaviour and could admonish responsibility for deviant behaviour. • Using case studies to investigate brain structure, functioning or addiction can be sensitive if confidentiality is not maintained. **AO3** • Social psychological research has shown little cultural differences in obedience (for example, Blass, 2012) so this could encourage a diffusion of responsibility for blind obedience and may increase harmful acts in society. • Research (for example, Cohrs et al., 2012) suggests personality factors such as RWA and SDO are indicators of prejudice which could lead to screening the population for people with those traits so could lead to racism. • Raine et al. (1997) found differences in murderers' brains compared controls which could be used in society as evidence that violent acts are beyond their responsibility, which may increase violent acts. • With no confidentiality the participants of research into brain functioning or genes may be targeted by the media or public and labelled as violent or extreme, which may lead to little/no future participation and also could put the participant in danger. **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)

Question Number	Indicative content	Mark
13	**AO1 (6 marks), AO3 (6 marks)** **AO1** • Learning theories have helped to develop techniques that can shape behaviour in schools. • Learning theories have created an understanding of phobias and how to treat them using classical conditioning techniques. • Cognitive psychology has informed our understanding of how memory works that could aid students for revision. • Issues surrounding memory impairment can be used to aid the effectiveness patients diagnosed with dementia. • Social psychology helps our understanding of how prejudice occurs with the formation of in-groups and out-groups. • Biological psychology can aid our understanding of why individuals may become addicted to drugs such as heroin or why they may relapse. **AO3** • Schools can use strategies such as token economy programmes to change the behaviour of pupils in schools which helps society to some extent. • Systematic desensitisation has been a useful strategy for the use with phobias, for example Capafons et al. (1998) for fear of flying. • Peterson and Peterson (1959) demonstrated the importance of rehearsal, but they used trigrams which is an artificial stimulus so may not help with more complex real life stimuli. • Use of a photo could help to encode a memory or retrieve a memory for those with dementia which is a big issue in society. • Social identity theory does not consider the role of personality (for example, RWA), which has been linked to prejudice so may have limited help when trying to explain and/or reduce prejudice. • The use of methadone treatment to help treat those with heroin addiction can reduce the impact of addiction on society, but is only helpful to treat the addiction and not prevent it. **Look for other reasonable marking points.**	**(12)**

Level	Mark	Descriptor
AO1 (6 marks), AO3 (6 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs judgement/conclusion in their answer.**		
	0	No rewardable material.
Level 1	1–3 Marks	Demonstrates isolated elements of knowledge and understanding. (AO1) A judgement/decision 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) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material leading to a judgement/decision being presented. Candidates will demonstrate a grasp of competing arguments but response may be imbalanced. (AO3)
Level 3	7–9 Marks	Demonstrates accurate knowledge and understanding. (AO1) Displays a mostly developed and logical argument, containing mostly coherent chains of reasoning. Demonstrates an awareness of competing arguments, presenting a judgement/decision which may be imbalanced. (AO3)
Level 4	10–12 Marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical argument, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments and presents a balanced response, leading to an effective nuanced and balanced judgement/decision. (AO3)

Write your name here

Surname	Other names

Pearson Edexcel Level 3 GCE

Centre Number	Candidate Number

Psychology

Advanced
Paper 2: Applications of Psychology

Sample assessment materials for first teaching September 2015
Time: 2 hours

Paper Reference
9PS0/02

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 in Section **A**. Answer ALL questions from **one** of the three options in Section **B**.
- 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 value 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.
- Check your answers if you have time at the end.

Turn over ▶

S56502A

1/1/1/1/1/1/1/1/1

S 5 6 5 0 2 A 0 1 5 6

PEARSON

FORMULAE AND STATISTICAL VALUE 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_b															
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
N_a																
***p* ≤ 0.05 (one-tailed), *p* ≤ 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_a \ N_b	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.01$ (one-tailed), $p \leq 0.02$ (two-tailed)																
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_a \ N_b	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.025$ (one-tailed), $p \leq 0.05$ (two-tailed)																
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* ≤ 0.005 (one-tailed), *p* ≤ 0.01 (two-tailed)**																
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.

SECTION A: CLINICAL PSYCHOLOGY

1 (a) You will have learned about Carlsson et al. (2000) Network interactions in schizophrenia – therapeutic implications.

Describe the role of neurotransmitters in schizophrenia, according to the review by Carlsson et al. (2000).

(2)

(b) Explain **one** weakness of Carlsson et al. (2000).

(2)

(Total for Question 1 = 4 marks)

2 You will have carried out a content analysis on attitudes to mental health whilst studying clinical psychology.

(a) Describe how you carried out the content analysis for your practical investigation in clinical psychology.

(4)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(b) Explain **one** strength of the content analysis for your practical investigation in clinical psychology.

(2)

(Total for Question 2 = 6 marks)

3 Leonard has carried out an experiment to determine the effectiveness of a new drug in treating a mental health disorder. He recruited his participants through random sampling from a local health authority.

He gave half the participants the new drug and half the participants a placebo (sugar pill). The participants did not know whether they received the new drug or the placebo, however Leonard did know.

(a) State the independent variable (IV) of Leonard's experiment.

(1)

(b) State the dependent variable (DV) of Leonard's experiment.

(1)

(c) State a fully operationalised null hypothesis for Leonard's experiment.

(2)

(d) **Table 1** shows the percentage of reduction in symptoms from Leonard's experiment.

	% of reduction in symptoms
New drug	25%
Placebo	10%

Table 1

Calculate Leonard's results as a ratio.

You must express the ratio to the lowest whole numbers.

(1)

SPACE FOR CALCULATIONS

Ratio.....

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(e) Leonard concluded that the new drug was more effective in reducing symptoms than the placebo.

Explain how Leonard's interpretation of the results of his experiment may have been been influenced by subjectivity.

(3)

(Total for Question 3 = 8 marks)

4 Evaluate **one** biological explanation of schizophrenia **other than** the function of neurotransmitters.

(8)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 4 = 8 marks)

5 Katerina is a clinical psychologist with two patients.

Patient A is being cared for in the community. Patient A has told Katerina that he is going to harm himself, and has previously been hospitalised due to self-harm.

Patient B is being cared for in a hospital and Katerina manages patient B's care team. Patient B experiences breaks from reality and does not understand why she is in hospital.

Discuss Katerina's use of the Health and Care Professions Council (HCPC) guidelines in relation to patient A and patient B. You must make reference to the context in your answer.

(8)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 5 = 8 marks)

6 Alison has been diagnosed with a mental health disorder using a classification system, such as the DSM or ICD. Her family insists that she goes to another doctor to get a second opinion. Alison does not want to get a second opinion as she is happy with the diagnosis as it allows her to start treatment to help reduce her symptoms.

Alison's symptoms include hearing voices that no one else can hear, feeling sad all the time for no reason and checking her mobile phone every minute to make sure she has not missed any messages.

To what extent can diagnosis of mental disorders be considered reliable and valid? You must make reference to the context in your answer.

(20)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 6 = 20 marks)

TOTAL FOR SECTION A = 54 MARKS

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

BLANK PAGE

SECTION B

Answer questions from ONE option in this section.

Indicate which question you are answering by marking a cross in the box ☒. If you change your mind, put a line through the box ☒ and then indicate your new question with a cross ☒.

If you answer the questions in Option 1 put a cross in the box ☒.

OPTION 1: CRIMINOLOGICAL PSYCHOLOGY

Answer ALL questions.

7 Describe **two** areas of interest you have studied in criminological psychology.

(Total for Question 7 = 4 marks)

8 Sofia carried out an experiment investigating the effects of a defendant's clothing on the decision making of juries.

Sofia had two groups of participants. Group A saw the guilty defendant wearing a suit, and group B saw the guilty defendant wearing jogging bottoms and a t-shirt. She asked her participants to decide how long, in months, the defendant should spend in jail.

(a) Identify the level of measurement Sofia used in her experiment.

(1)

.....

Sofia's results are shown in **Table 2** below.

Participant	Group A Number of months that should be spent in jail when defendant was wearing a suit	Group B Number of months that should be spent in jail when defendant was wearing jogging bottoms and a t-shirt
1	4	6
2	3	8
3	12	2
4	2	12
5	5	8
6	6	9
7	2	5

Table 2

(b) Calculate the median number of months the defendant should spend in jail when wearing jogging bottoms and a t-shirt.

(1)

SPACE FOR CALCULATIONS

Median number of months for group B.....

(c) Explain why Sofia used the median rather than the mean as a measure of central tendency.

(2)

.....

.....

.....

.....

.....

.....

Sofia carried out a Mann-Whitney U test on her data to see if there was a significant difference between the two groups.

Table 3 shows the ranked results.

(d) Complete **Table 3** and calculate the Mann-Whitney U for the data in **Table 3**.

(4)

Group A **Number of months that should be spent in jail when defendant was wearing a suit**	**Rank**	**Group B** **Number of months that should be spent in jail when defendant was wearing jogging bottoms and a t-shirt**	**Rank**
4	5	6	8.5
3	4	8	10.5
13	14	2	2
2	2	12	13
5	6.5	8	10.5
6	8.5	9	12
2	2	5	6.5
Total		**Total**	

Table 3

SPACE FOR CALCULATIONS

U_a = ...

U_b = ...

U = ...

(Total for Question 8 = 8 marks)

9 Assess the use of psychological formulation to understand the function of offending behaviour in the individual.

(8)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 9 = 8 marks)

10 You will have learned about social explanations of crime and antisocial behaviour.

Evaluate social learning theory as an explanation of crime and antisocial behaviour.

(16)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 10 = 16 marks)

TOTAL FOR SECTION B: OPTION 1 = 36 MARKS

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

OPTION 2: CHILD PSYCHOLOGY

If you answer the questions in Option 2 put a cross in the box ☒

Answer ALL questions.

11 Bowlby's work aimed to explain attachment.

(a) Define what is meant by the terms 'deprivation' and 'privation'.

(2)

(b) Describe Bowlby's work on attachment.

(2)

(Total for Question 11 = 4 marks)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

BLANK PAGE

12 Sofia carried out an experiment investigating the effects of day care on children's social development.

She went to two local primary schools. The children in school A had all attended full-time day care, and the children in school B had not attended day care. She asked the teachers from both schools how many friends each of the children had.

(a) Identify the level of measurement Sofia used in her experiment.

(1)

Sofia's results are shown in **Table 4** below.

Child	School A Attended full-time day care	School B Did not attend day care
1	4	6
2	3	8
3	12	2
4	2	12
5	5	8
6	6	9
7	2	5

Table 4

(b) Calculate the median number of friends for the children in school B who did not attend day care.

(1)

SPACE FOR CALCULATIONS

Median number of friends for the children in school B.....

(c) Explain why Sofia used the median rather than the mean as a measure of central tendency.

(2)

.....

.....

.....

.....

.....

.....

Sofia carried out a Mann-Whitney U test on her data to see if there was a significant difference between the two groups.

Table 5 shows the ranked results.

(d) Complete **Table 5** and calculate the Mann-Whitney U for the data in **Table 5**.

(4)

School A **Attended full-time day care**	**Rank**	**School B** **Did not attend day care**	**Rank**
4	5	6	8.5
3	4	8	10.5
13	14	2	2
2	2	12	13
5	6.5	8	10.5
6	8.5	9	12
2	2	5	6.5
Total		**Total**	

Table 5

SPACE FOR CALCULATIONS

U_a = ...

U_b = ...

U = ...

(Total for Question 12 = 8 marks)

13 Evaluate the credibility of Ainsworth's work using the Strange Situation Procedure.

(8)

(Total for Question 13 = 8 marks)

14 Evaluate how useful quantitative and qualitative data are when conducting observations and interviews in child psychology.

(16)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 14 = 16 marks)

TOTAL FOR SECTION B: OPTION 2 = 36 MARKS

OPTION 3: HEALTH PSYCHOLOGY

If you answer the questions in Option 3 put a cross in the box ☒.

Answer ALL questions.

15 Describe **two** issues around drug taking.

(Total for Question 15 = 4 marks)

BLANK PAGE

16 Sofia has carried out an experiment investigating the effects of alcohol on mice.

She had two groups of mice. Group A had access to alcohol before completing a maze, and group B had no access to alcohol before completing a maze. Sofia recorded how long it took the mice to compete the maze in seconds.

(a) Identify the level of measurement Sofia used in her experiment.

(1)

.....

Sofia's results are shown in **Table 6** below.

Mouse	Group A Mice who had access to alcohol before completing the maze	Group B Mice who had no access to alcohol before completing the maze
1	4	6
2	3	8
3	12	2
4	2	12
5	5	8
6	6	9
7	2	5

Table 6

(b) Calculate the median number of seconds it took to complete the maze for the mice who had no access to alcohol.

(1)

SPACE FOR CALCULATIONS

Median number of seconds for the mice in group B .....

(c) Explain why Sofia used the median rather than the mean as a measure of central tendency.

(2)

.....

.....

.....

.....

.....

.....

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Sofia carried out a Mann-Whitney U test on her data to see if there was a significant difference between the two groups.

Table 7 shows the ranked results.

(d) Complete **Table 7** and calculate the Mann-Whitney U for the data in **Table 7**.

(4)

Group A **Mice who had access to alcohol before completing the maze**	**Rank**	**Group B** **Mice who had no access to alcohol before completing the maze**	**Rank**
4	5	6	8.5
3	4	8	10.5
13	14	2	2
2	2	12	13
5	6.5	8	10.5
6	8.5	9	12
2	2	5	6.5
Total		**Total**	

Table 7

SPACE FOR CALCULATIONS

U_a = ...

U_b = ...

U = ...

(Total for Question 16 = 8 marks)

17 Evaluate the classic study by Olds and Milner (1954) in terms of validity and reliability.

(8)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 17 = 8 marks)

18 Evaluate the use of **two** treatments for nicotine addiction.

(16)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 18 = 16 marks)

TOTAL FOR SECTION B: OPTION 3 = 36 MARKS
TOTAL FOR PAPER = 90 MARKS

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

BLANK PAGE

BLANK PAGE

GCE Advanced-Level Psychology Paper 2 Mark Scheme

SECTION A: Clinical Psychology

Question Number	Answer	Mark
1(a)	**AO1 (2 marks)** Up to two marks for description of the role of neurotransmitters in schizophrenia from Carlsson et al. (2000). For example: • The changes in dopamine function could be due to other neurotransmitters such as serotonin, which may be the cause of the initial changes (1). Reduced glutamate may lead to an increase in the release of dopamine (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
1(b)	**AO1 (1 mark), AO3 (1 mark)** One mark for identification of weakness. (AO1) One mark for justification of weakness. (AO3) For example: • A lot of the studies in the review are based on animal research, such as animals being give NMDA antagonists (1) as such the results may not be generalisable to humans as our brain structures and neurotransmitters are not identical (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
2(a)	**AO2 (4 marks)** Up to four marks for description of their practical investigation. For example: • We got two newspaper articles from The Sun and The Daily Express that commented on issues with mental health (1). We read through each article first to decide on general themes relating to attitudes to mental health (1). We then decided on what specific categories we were going to class as positive attitudes and negative attitudes to mental health (1). An example of a positive attitude to mental health was 'Patients used their understanding of mental health to help others with similar issues' (1). **Answers must relate to the practical.** **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(4)**

Question Number	Answer	Mark
2 (b)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of strength of their practical investigation. (AO2) One mark for justification of strength of their practical investigation. (AO3) For example: • We all read the same newspaper articles and recorded our tallies separately before comparing results, which were similar (1). Therefore this shows our definitions of the categories were appropriate as we had good inter-rater reliability (1). **Answers must relate to the practical.** **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
3(a)	**AO2 (1 mark)** One mark for statement of independent variable (IV). For example: • Whether the participants were given the new drug or the placebo. (1) **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable ways of expressing the IV.**	**(1)**

Question Number	Answer	Mark
3(b)	**AO2 (1 mark)** One mark for statement of dependent variable (DV). For example: • The reduction of symptoms. (1) **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable ways of expressing the DV.**	**(1)**

Question Number	Answer	Mark
3(c)	**AO2 (2 marks)** One mark for a basic null hypothesis. Two marks for a fully operationalised null hypothesis. For example: • There will be no difference in the symptoms after taking the drugs. (1). • There will be no difference in the reduction of symptoms between the new drug and the placebo. Any difference will be due to chance (2). **Answers must relate to the scenario.** **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
3(d)	**AO2 (1 mark)** One mark for accurate calculation. • 2:5 (1) **Reject all other answers.**	**(1)**

Question Number	Answer	Mark
3(e)	**AO2 (1 mark), AO3 (2 marks)** One mark for identification of subjectivity in Leonard's experiment. (AO2) Up to two marks for justification of how subjectivity may have influenced his interpretation of the results. (AO3) For example: • Leonard knew which participants took which pill so he may have been expecting a reduction of symptoms in the experimental group (1). This means that where symptom reduction was uncertain, Leonard may have used his own opinion and said it was a symptom when it may not have been, so the results are subjective (1). This may then reduce the validity of his results as the new drug may not have reduced the symptoms as much as Leonard reported (1). **Answers must relate to the scenario.** **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(3)**

Question Number	Indicative content	Mark
4	**AO1 (4 marks), AO3 (4 marks)** **AO1** **Example – genetic theory** • Schizophrenia occurs in 1% of the population but if you have a first degree relative with schizophrenia the chances of getting it increase, suggesting there is a genetic factor. • Multiple genes are thought to be responsible for schizophrenia, rather than one specific gene. • Deletion of 22q11 has been linked to a higher risk of schizophrenia. • Adoption studies have been used to separate nature from nurture and have linked genes with schizophrenia. **Example – brain structure** • Schizophrenic patients may have enlarged ventricles compared with healthy controls. • Schizophrenia might be caused by smaller superior temporal lobe volume. • Lateral ventricular differences may cause schizophrenia and is measured using CT or MRI scans. • Grey and white matter is affected, with the changes likely before the onset of the symptoms in the cortical regions, particularly those responsible for language processing. **AO3** **Example – genetic theory** • Gottesman and Shields (1966) found a 42% concordance rate between monozygotic twins and schizophrenia. • Joseph (2003) only found a concordance rate of 22.4% for MZ twins, suggesting other factors play an important role. • Joseph (2004) criticised twin studies into schizophrenia as they expanded the definition of schizophrenia to include non-psychotic schizophrenia spectrum disorders. • One weakness of this explanation is that no gene/s have been conclusively found to be the cause of schizophrenia, reducing the validity of the explanation. **Example – brain structure** • Johnstone et al. (1976) found chronic schizophrenic patients had significant enlargement in ventricles to healthy controls when using CT scans. • Not all of those with schizophrenia have the same brain structure differences with healthy controls which weakens the explanation. • Differences in brain structure in schizophrenic patients to	**(8)**

	that of healthy controls may be an effect of schizophrenia, rather than the cause. • Van den Horn et al. (1992) conducted a meta-analysis on 39 studies and found a difference in the ventricle:brain ratio (VBR) in schizophrenic patients compared with controls. **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)

Question Number	Indicative content	Mark
5	**AO1 (4 marks), AO2 (4 marks)** **AO1** • Patient details must be kept confidential, so their cases should not be discussed where others may hear you. • There must be good communication with other service providers so that the client is given the best help they can get from all agencies involved. • To be able to keep accurate, comprehensive and comprehensible records in accordance with applicable legislation and guidelines. • Patients should be told of any risks of any treatment they may receive so they can give informed consent to the treatment. **AO2** • Because Katerina believes patient A is a risk to himself she can break confidentiality to get him the help he may need. • Katerina must liaise with the community mental health team (CMHT) to help them understand patient A's needs so they can take these into account when dealing with his case. • Katerina should ensure that any information about patients A and B that her or her team keep is accurate and in accordance with the relevant legislation and guidelines. • Patient B experiences breaks from reality so may not understand what Katerina tells her, therefore Katerina may not be able to get informed consent, but she should still try to explain everything to patient B. **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.**		
	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)

Question Number	Indicative content	Mark
6	**AO1 (8 marks), AO2 (4 marks), AO3 (8 marks)** **AO1** • Reliability of diagnosis refers to whether the same set of symptoms would get the same diagnosis from different psychiatrists. • As the same symptoms occur over several different disorders, psychiatrists may diagnose a different disorder, so the diagnosis is unreliable. • A diagnosis is reliable if the diagnosis is consistent over two different time periods for the same patient using the same psychiatrist. • Reliability of diagnosis has improved over the years as newer, improved versions of DSM have been published. • A diagnosis can be said to have validity if two different diagnostic systems agree about the symptoms of mental health disorders. • A valid diagnostic system will operationalise the symptoms and behaviours that make up a mental health disorder. • If the diagnosis leads to a treatment and can be used to predict how that treatment will work on the patient, it has predictive validity. • A valid diagnostic tool should also be able to identify the causes of a mental health disorder. **AO2** • Alison's diagnosis could be considered reliable if she sees the second doctor and he makes the same diagnosis. • The reliability of Alison's diagnosis may be affected if she focused on the voices she hears with the first doctor, but focused on feeling sad all the time with the second doctor. • Alison's diagnosis can be considered valid if the treatment her doctor has proposed helps alleviate her symptoms. • If Alison's symptoms overlap several disorders, such as hearing voices may be a symptoms of more than one disorder, then her diagnosis may not be valid. **AO3** • Rosenhan's (1973) study showed that DSM-III was reliable as all but one of the pseudo-patients were diagnosed with schizophrenia in remission. • Goldstein (1988) found high levels of inter-rater reliability when patients were diagnosed in relation to schizophrenia. • Studies such as Brown et al. (2003) used surveys to gather their data, often using interviewers who were not adequately trained so the data collection may be flawed.	**(20)**

	• Brown et al. (2001) found that reliability of diagnoses depended on the type of disorder, such as PTSD, which was underdiagnosed due to symptom overlap. • Rosenhan (1973) found that DSM-III was not a valid diagnostic tool as all of the patients were diagnosed incorrectly with having a mental disorder. • Jansson et al. (2002) compared ICD-10 with DSM-IV and found a high rate of agreement between the two suggesting ICD-10 is a valid diagnostic system. • Breaking a mental disorder into features and symptoms can be seen as reductionist, and an approach that looks at all aspects of a person's life may be more valid. • DSM-V includes information about how disorders relate to each other and cultural guidance on diagnosing, so trying to make diagnosis of mental disorders more valid. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (8 marks), AO2 (4 marks), AO3 (8 marks) **Candidates must demonstrate an equal emphasis between knowledge and understanding vs judgement/conclusion in their answer.** **Application to the scenario is capped at maximum 4 marks.**		
	0	No rewardable material.
Level 1	1–4 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) A judgement/decision may be presented, but will be generic and the supporting evidence will be limited. Limited attempt to address the question. (AO3)
Level 2	5–8 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 and procedures). (AO2) Candidates will produce statements with some development in the form of mostly accurate and relevant factual material leading to a judgement/decision being presented. Candidates will demonstrate a grasp of competing arguments but response may be imbalanced. (AO3)
Level 3	9–12 Marks	Demonstrates accurate knowledge and understanding. (AO1) Line(s) of argument supported by applying relevant evidence from the context (scientific ideas, processes, techniques and procedures). Might demonstrate the ability to integrate and synthesise relevant knowledge. (AO2) Displays a mostly developed and logical argument, containing mostly coherent chains of reasoning. Demonstrates an awareness of competing arguments, presenting a judgement/decision which may be imbalanced. (AO3)
Level 4	13–16 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 throughout the skills of integrating and synthesising relevant knowledge with consistent linkages to psychological concepts and/or ideas. (AO2) Displays a well-developed and logical argument, containing logical chains of reasoning throughout. Demonstrates an awareness of competing arguments and presents a balanced response, leading to a balanced judgement/decision. (AO3)
Level 5	17–20 Marks	Demonstrates accurate and comprehensive 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 consistently the skills of integrating and synthesising relevant knowledge with thorough, accurate linkages to psychological concepts and/or ideas. (AO2) Displays a well-developed and logical argument, containing logical chains of reasoning throughout. Demonstrates a full awareness of competing arguments and presents a fully balanced response, leading to an effective nuanced and balanced judgement/decision. (AO3)

SECTION B
Option 1: Criminological Psychology

Question Number	Answer	Mark
7	**AO1 (4 marks)** Up to **two** marks for description of each area of interest. For example: • Criminological psychology studies the causes of criminal and antisocial behaviour, whether they are biological or social (1). Biological causes of crime may include the contribution of gene(s) like the so called 'warrior gene', which could make someone more susceptible to aggressive and impulsive behaviour (1). • Criminological psychologists are interested in ways to treat offenders, such as anger management (1). Anger management uses cognitive-behavioural techniques to reduce anger as a cause of crime and provides skills to try and prevent recidivism (1). **Look for other reasonable marking points.** **Answers must relate to criminological psychology.** **Generic answers score 0 marks.**	**(4)**

Question Number	Answer	Mark
8(a)	**AO2 (1 mark)** One mark for identification of the level of measurement. For example: • Interval data. (1) **Look for other reasonable marking points.**	**(1)**

Question Number	Answer	Mark
8(b)	**AO2 (1 mark)** One mark for accurate median. • 8 (1) **Reject all other answers**	**(1)**

Question Number	Answer	Mark
8(c)	**AO2 (1 mark), A03 (1mark)** One mark for identification of why the median was chosen rather than the mean. (A02) One mark for justification of why the median was chosen rather than the mean. (A03) For example: • Sofia may have preferred to use the median as it is not affected by extreme scores such as the participant who said 12 months when the defendant was wearing a suit (1) which is six months more than the next score of 6 months and so would have skewed the mean as this is a lot higher than the remainder of the scores (1). **Answers must relate to the scenario.** **Look for other reasonable marking points.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
8(d)	**AO2 (4 marks)** One mark for correct totals (both group A and group B must be correct for mark). **Group A** — **Number of months that should be spent in jail when defendant was wearing a suit**: **Rank** **Total** **42** **Group B** — **Number of months that should be spent in jail when defendant was wearing jogging bottoms and a t-shirt**: **Rank** **Total** **63** $U_a = 7 \times 7 + \frac{7 \times 8}{2} - 42$ $U_b = 7 \times 7 + \frac{7 \times 8}{2} - 63$ 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). One mark for correct figure for U_b (i. e. minus the total of the ranks). Note: U = the smaller value, i.e. = 14. No marks for this but if given and no other working then, full marks credited.	**(4)**

Question Number	Indicative content	Mark
9	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Case formulations say how criminal behaviour develops and why it is maintained. • They look at the offender's past and present relationships, biological and social circumstances, life events, and how the offender interpreted these events. • Case formulation is used when the offender has complex problems and the treatment is unclear. • It is often part of the court process to help determine if the person is capable of committing the offence, if they knew what they were doing and how likely it is that the offender would reoffend. **AO3** • Whitehead et al. (2007) found that case formulation did work with the case of Mr C, due to the fact it worked towards goals that were valued by Mr C. It helped him keep on track once he was released. • A case formulation takes into account all aspects of the offender's life, so it is a holistic approach, making it more likely to be more successful than therapies based on one factor only. • It can be hard to come up with a treatment for an offender on a case formulation when there is a lot of detailed data that may contradict itself. • There is an issue when several different people are involved in creating a case formulation and implementing it, as it is not just the psychologists that need to be trained, but everyone who is involved with the offender. **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 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	Indicative content	Mark
10	**AO1 (6 marks), AO3 (10 marks)** **AO1** • Social learning theory states that to learn criminal behaviour a person has to observe a role model carrying out the criminal behaviour. • The role model may be someone who has gained status due to their criminal activities. • The observer is more likely to copy if the role model is vicariously reinforced, such as gaining money from shoplifting. • The behaviour must be paid attention to, such as a robbery, which may include a lot of shouting so gaining the observer's attention. • In order to imitate the behaviour the observer must remember the behaviour, e.g. how to pick a car lock. • If the observer is reinforced after imitation through praise from peers, then they are more likely to repeat the criminal behaviour. **AO3** • Bandura, Ross and Ross (1961) found that children will imitate the behaviour of an aggressive adult towards a Bobo doll. • Bandura's studies involve the use of a Bobo doll, which is not the same as being aggressive to another human being. • Bastian et al. (2011) found that playing violent video games against other people led to seeing them as less human, so may lead to more antisocial behaviour towards others. • Social learning theory ignores biological factors, such as differences in brain functioning, that may also cause criminal behaviour. • Raine et al. (1997) found that murderers had differences in the functioning of their pre-frontal brain regions. • Anderson and Dill (2000) found that participants who played violent video games were more likely to punish an opponent than those who played a non-violent video game. • A lot of studies on social learning theory are done in controlled conditions making the findings more reliable when supporting the theory. • A lot of the research finds correlations between violent media and aggression, it could be that aggressive people watch more violent television. • Freud would say that seeing violence is cathartic and so would lead to a person being less aggressive. • Williams (1986) found that two years after the introduction of television, participants were twice as aggressive as two control groups. **Look for other reasonable marking points.**	**(16)**

Level	Mark	Descriptor
AO1 (6 marks), AO3 (10 marks) Candidates must demonstrate a greater emphasis on evaluation/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 6 marks.		
	0	No rewardable material.
Level 1	1-4 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	5-8 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	9-12 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	13-16 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 B
Option 2: Child Psychology

Question Number	Answer	Mark
11(a)	**AO1 (2 marks)** One mark for each correct definition. For example: • Deprivation is when an attachment has been made and is then broken. (1) • Privation is when an attachment has never been made. (1) **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
11(b)	**AO1 (2 marks)** Up to two marks for description of Bowlby's work on attachment. For example: • Bowlby proposed that children and parents form attachments in order to help the child survive and therefore pass on the parents' genes to future generations (1). He said that attachment behaviours such as crying are adaptive behaviours to gain adult attention and preserve the infants from dangers in the environment (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
12(a)	**AO2 (1 mark)** One mark for identification of the level of measurement. For example: • Interval data. (1) **Look for other reasonable marking points.**	**(1)**

Question Number	Answer	Mark
12 (b)	**AO2 (1 mark)** One mark for accurate median. • 8 (1) **Reject all other answers**	**(1)**

Question Number	Answer	Mark
12 (c)	**AO2 (1 mark), A03 (1mark)** One mark for identification of why the median was chosen rather than the mean. (A02) One mark for justification of why the median was chosen rather than the mean. (A03) For example: • Sofia may have preferred to use the median as it is not affected by extreme scores such as the child who had 12 friends when they attended full-time day care (1) which is six friends more than the next score of 6 friends and so would have skewed the mean as this is a lot higher than the remainder of the scores (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
12 (d)	**AO2 (4 marks)** One mark for correct totals (both school A and school B must be correct for mark). **School A** – **Attended full-time day care** – **Rank**: **Total** **42** **School B** – **Did not attend day care** – **Rank**: **Total** **63** $U_a = 7 \times 7 + \frac{7 \times 8}{2} - 42$ $U_b = 7 \times 7 + \frac{7 \times 8}{2} - 63$ 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). One mark for correct figure for U_b (i. e. minus the total of the ranks). Note: U = the smaller value, i.e. = 14. No marks for this but if given and no other working then, full marks credited.	**(4)**

Question Number	Indicative content	Mark
13	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Ainsworth used the Strange Situation Procedure which involves a child of about 12 months old, the child's mother and a stranger. • There are eight three-minute episodes where the stranger and mother enter and leave the child. • The child's anxiety at being separated from its mother was measured by Ainsworth thorough its level of distress. • Ainsworth concluded that there were three types of attachment: secure, avoidant and resistant. **AO3** • The Strange Situation Procedure does not look at attachment to other family members so may not be credible. • In real life, the mother will leave the child alone in a room for short periods so it can be seen as a credible measurement. • Levels of distress are subjective measurements, and the same amount of crying may not indicate the same level of distress between children. • The Strange Situation Procedure has been used across a variety of cultures, with most cultures showing the three types of attachment, increasing the procedure's credibility. **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)

Question Number	Indicative content	Mark
14	**AO1 (6 marks), AO3 (10 marks)** **AO1** • Quantitative data is data collected in the form of numbers. • It can be collected through tallying the children's behaviour in observations. • Quantitative data is gained through fixed response answers in interviews. • Qualitative data is collected in the form of words. • When carrying out observations, qualitative data could be a detailed description of what the children are doing. • The use of open questions in interviews allows children/parents to say as much or as little as they want in response to the questions. **AO3** • Quantitative data is more objective as it is dealing in numbers. • When using quantitative data in observations in children, there is still some subjectivity as the observers have to decide what behaviours fit what categories. • Quantitative data is easier to analyse in interviews as there are a set number of responses, whilst if qualitative data is collected there may be no similar responses. • Inferential tests can be done with quantitative data to assess the statistical significance of difference in children's behaviour. • Quantitative data can give restrictive information about why a parent has picked that option. • When using qualitative data in observations of children, behaviours might be missed if the observer spends too long writing down a previous behaviour that they saw. • Qualitative data can provide the reasons why a parent gave an answer, which makes the data more valid. • Qualitative data can be turned into quantitative data, e.g. through a content analysis of the answers, so it can give the depth and also has the statistical analysis. • Analysis of qualitative data from interviews with parents can be a time-consuming process so can be more costly compared to using quantitative data. • Qualitative analysis is a subjective process as the researcher has to decide the themes and may misrepresent the data regarding the children. **Look for other reasonable marking points.**	**(16)**

Level	Mark	Descriptor
AO1 (6 marks), AO3 (10 marks) Candidates must demonstrate a greater emphasis on evaluation/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 6 marks.		
	0	No rewardable material.
Level 1	1-4 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	5-8 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	9-12 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	13-16 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 B
Option 3: Health Psychology

Question Number	Answer	Mark
15	**AO1 (4 marks)** Two marks for a description of each issue around drug taking. For example: • Tolerance is when the person needs to take more of the drug to get the same effect (1). This is because the body has adapted to the presence of the drug due to down regulation (1). • Withdrawal is unpleasant symptoms that occur when the person has not taken the drug (1). For example, heroin addicts will experience muscle and bone pain if they have not taken heroin for a few hours (1). **Look for other reasonable marking points.**	**(4)**

Question Number	Answer	Mark
16(a)	**AO2 (1 mark)** One mark for identification of the level of measurement. For example: • Interval data (1)**.** **Look for other reasonable marking points.**	**(1)**

Question Number	Answer	Mark
16(b)	**AO2 (1 mark)** One mark for accurate median. • 8 (1). **Reject all other answers**	**(1)**

Question Number	Answer	Mark
16(c)	**AO2 (1 mark), A03 (1mark)** One mark for identification of why the median was chosen rather than the mean. (A02) One mark for justification of why the median was chosen rather than the mean. (A03) For example: • Sofia may have preferred to use the median as it is not affected by extreme scores such as the mouse who completed the maze in 12 seconds (1) which is six seconds longer than the next score of 6 seconds and so would have skewed the mean as this is a lot higher than the remainder of the scores (1). **Answers must relate to the scenario.** **Generic answers score 0 marks.** **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
16(d)	**AO2 (4 marks)** One mark for correct totals (both group A and group B must be correct for mark). **Group A** — **Mice who had access to alcohol before completing the maze**: **Rank** **Total** **42** **Group B** — **Mice who had no access to alcohol before completing the maze**: **Rank** **Total** **63** $U_a = 7 \times 7 + \frac{7 \times 8}{2} - 42$ $U_b = 7 \times 7 + \frac{7 \times 8}{2} - 63$ 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). One mark for correct figure for U_b (i. e. minus the total of the ranks). Note: U = the smaller value, i.e. = 14. No marks for this but if given and no other working then, full marks credited.	**(4)**

Question Number	Indicative content	Mark
17	**AO1 (4 marks), AO3 (4 marks)** **AO1** • Fifteen rats were fitted with implanted electrodes that delivered a current to the brain every time a lever was pressed. • The rats had about 3 ½ hours a day when the electrical current was on and ½ an hour a day when the current was not on. • The percentage of time the rat pressed the bar during the acquisition period was counted. • After the testing took place the rats' brains were removed and cut into frozen sections to determine where the tip of the electrode had been. **AO3** • The population validity of the study is low as rats' brains are not as complex as human brains so the results may not be true for humans. • The timings for the electrical current being on when the lever was pressed were the same for all the rats, increasing reliability. • Olds and Milner (1954) assumed the rats pressed the lever because they were rewarded by the electrical current but this is subjective as the rats cannot say why they pressed the lever. • Due to dissecting the rats' brains Olds and Milner (1954) were able to accurately identify which areas of the brain had been stimulated, increasing validity. **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)

Question Number	Indicative content	Mark
18	**AO1 (6 marks), AO3 (10 marks)** **AO1** • Aversion therapy aims to associate nicotine with the feeling of being sick. • Smokers should rapidly smoke cigarettes making sure to inhale with each puff. • Silver acetate can be used to create an unpleasant metallic taste in the mouth when paired with nicotine. • Nicotine replacement therapy provides the smoker with nicotine to help stop the withdrawal symptoms. • The replacement can come in the form of e-cigarettes, gum and nasal spray. • The nicotine replacement releases nicotine at a steady rate into the blood stream and avoids the other additives found in cigarettes. **AO3** • Smith (1988) found that a commercial 5 day smoke aversion therapy produced a 52% success rate. • If smokers go back to a house where someone else smokes the failure rate of aversion therapy is 72.2% • Juliano et al. (2006) found rapid smoking was effective in reducing the craving for smoking, but it did not increase the likelihood of abstinence. • Lancaster et al. (2000) found no evidence of benefit for the use of silver acetate for nicotine. • Hajek and Stead (2000) found little effect of non-specific aversive stimuli and limited evidence that rapid smoking reduced nicotine use. • Adkinson et al. (2013) found that the use of e-cigarettes did reduce the number of cigarettes smokers had during a day. • Nicotine replacement therapies do not treat the addiction to nicotine; just replace the source of the nicotine. • Moore et al. (2006) found that twice as many participants who had nicotine replacement therapy had stopped smoking for six months compared to those given a placebo drug. • Silagy et al. (2000) found nicotine replacement therapy increased chances of quitting about one and a half to two times whatever the level of additional support and encouragement. • Skin irritation caused by nicotine patches may discourage some from using them, so it has been suggested using them in combination with other nicotine replacement to be most effective. **Look for other reasonable marking points.**	**(16)**

Level	Mark	Descriptor
AO1 (6 marks), AO3 (10 marks) Candidates must demonstrate a greater emphasis on evaluation/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 6 marks.		
	0	No rewardable material.
Level 1	1-4 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	5-8 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	9-12 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	13-16 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)

Write your name here

Surname	Other names

Pearson Edexcel Level 3 GCE

Centre Number | | | | | |

Candidate Number | | | | |

Psychology

Advanced

Paper 3: Psychological Skills

Sample assessment material for first teaching September 2015
Time: 2 hours

Paper Reference
9PS0/03

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 80.
- 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 value 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.
- Check your answers if you have time at the end.

Turn over ▶

S56503A

1/1/1/1/1

S 5 6 5 0 3 A 0 1 3 2

Pearson

FORMULAE AND STATISTICAL VALUE 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_b															
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
N_a																
***p* ≤ 0.05 (one-tailed), *p* ≤ 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_a \ N_b	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.01$ (one-tailed), $p \leq 0.02$ (two-tailed)																
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_a \ N_b	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.025$ (one-tailed), $p \leq 0.05$ (two-tailed)																
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* ≤ 0.005 (one-tailed), *p* ≤ 0.01 (two-tailed)**																
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.

SECTION A: RESEARCH METHODS

1 Do memory techniques improve recall?

Memory techniques are tools that individuals use in an attempt to increase the accuracy of their memory recall.

Researchers wanted to see whether memory techniques had an influence on recall. They recruited 20 participants using volunteer sampling from a local university. None of the participants had ever used memory techniques before. Each participant was given 20 trigrams to learn and later recall under two different conditions. A trigram is a set of three consecutive consonant letters, for example PLR.

The researchers decided to use counterbalancing so split the participants into two groups.

- Group A recalled the trigrams using memory techniques (condition 1) in the morning and then recalled the trigrams without using memory techniques (condition 2) in the afternoon.
- Group B recalled the trigrams without using memory techniques(condition 2) in the morning and then recalled the trigrams without using memory techniques (condition 1) in the afternoon.

The mean recall of words (out of 20) for group A and group B for each condition are shown in **Table 1**.

	Group A **Morning: Condition 1** **Afternoon: Condition 2**	**Group B** **Morning: Condition 2** **Afternoon: Condition 1**
Condition 1 – with memory techniques	12.6	18.2
Condition 2 – without memory techniques	12.7	12.1

Table 1

(a) The researchers used counterbalancing in their study.

Explain why they chose to use counterbalancing in their study.

(2)

(b) The researchers decided to use a statistical test on their data.

Explain which statistical test would be the most appropriate for their study.

(2)

(c) Explain **two** conclusions that can be made from the data in **Table 1**.

(4)

Conclusion one

Conclusion two

The recall performance of participants when using memory techniques is displayed on a histogram in **Figure 1**.

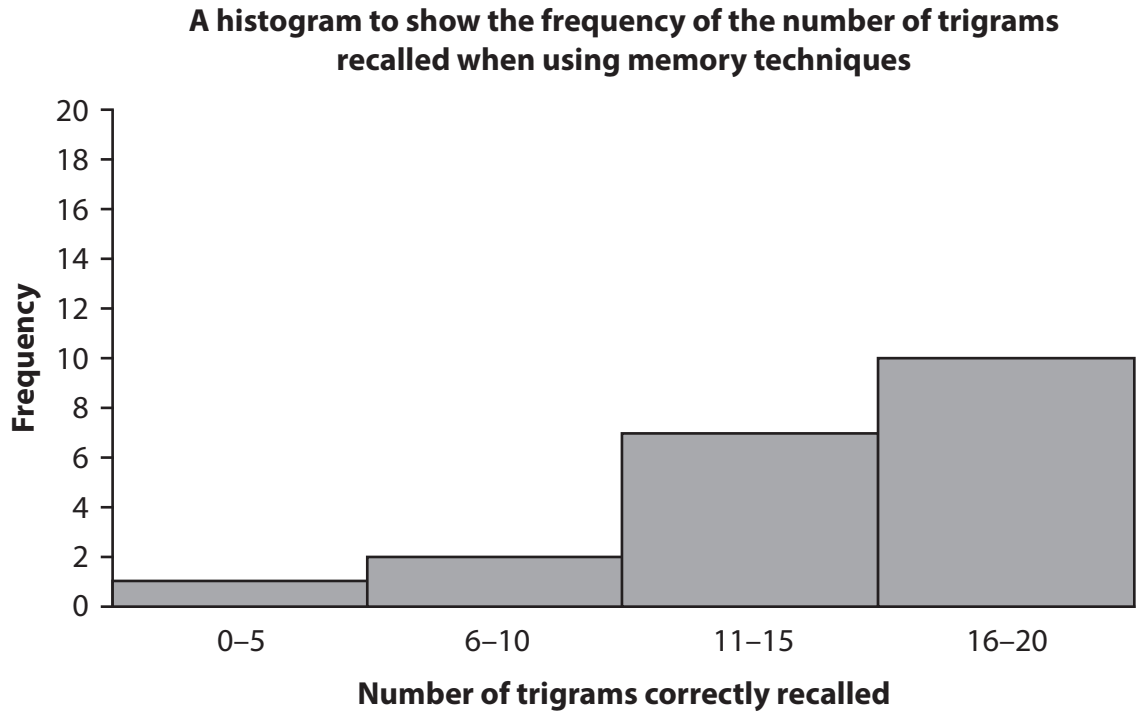


Figure 1

(d) Explain **one** conclusion that can be made from the histogram shown in **Figure 1**.

(2)

.....

.....

.....

.....

(Total for Question 1 = 10 marks)

BLANK PAGE

2 Helping those in need

Researchers wanted to discover whether a person's level of empathy influenced their likelihood to help someone who was potentially in need of assistance.

They recruited 55 participants from a local college and gave them a set of questionnaires to measure their level of empathy. 18 participants with very high empathy and 18 participants with very low empathy were invited back to do a second test at a later date.

In the second test participants were asked to attend a lecture. Researchers staged an accident in which a cyclist was sitting on the ground and rubbing their ankle. The cyclist was located at the side of the road outside the lecture hall where the participants were asked to attend their lecture.

The researchers placed a hidden observer near the cyclist who recorded which participants approached the cyclist and which did not approach the cyclist to see if they needed help.

(Source: adapted from Bethlehem et al. (2016))

(a) State how the independent variable (IV) and dependent variable (DV) were operationalised in the helping those in need study.

(2)

(b) The researchers used quantitative data to see if participants were likely to help the cyclist in the helping those in need study.

Explain **one** strength of using quantitative data for their research.

(2)

(c) The researchers carried out a Mann-Whitney U test and found an observed value of 78 for a 5% level of significance with a two-tailed (non-directional) test.

Explain what this shows in terms of empathy and helping behaviour of the participants in the helping those in need study.

(2)

(d) Explain **one** way the helping those in need study could have been improved in terms of validity.

(2)

(e) Psychologists need to consider risk assessment when conducting research with human participants.

Explain **two** considerations that the researchers in the helping those in need study should have made in terms of risk assessment.

(6)

(Total for Question 2 = 14 marks)

TOTAL FOR SECTION A = 24 MARKS

BLANK PAGE

SECTION B: REVIEW OF STUDIES

3 Why do people eat junk food?

Junk food is a term used for food that is pre-prepared or packaged, which has a low nutritional value. Examples include crisps, cola, and chocolate bars.

To investigate the possible reasons for consuming junk food researchers asked participants their opinions of why they choose to eat junk food, using open-ended questions in an unstructured interview.

A summary of the results is shown in **Table 2**.

Common themes	Number of instances	Examples of participant quotes
Taste	18	*I really like the taste of chocolate* *I get a buzz and loads of energy when I drink cola* *Eating crisps makes me feel good*
Celebrity used in advertisement	11	*My favourite celebrity was in the advert and she's skinny* *The sports star in the TV advert said I just needed to do more exercise*
Convenience	10	*Buying crisps means I don't have to cook* *Going to the supermarket and getting lots of ingredients seems like too much effort*
Family influence	8	*My mum always has chocolate so I share it with her* *Dad has eaten crisps since I can remember, so I do it now*
Avoid bad mood	4	*I get annoyed and lose my temper if I don't get my morning fix of chocolate*

Table 2

(a) Explain **one** way that the researchers could have made their study reliable.

(2)

.....

.....

.....

.....

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(b) Explain how useful biological psychology could be in explaining the findings of this study.

(6)

(Total for Question 3 = 8 marks)

BLANK PAGE

4 Evaluate the practical issues in the design and implementation of Baddeley (1966b) and Rosenhan (1973).

(16)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 4 = 16 marks)

TOTAL FOR SECTION B = 24 MARKS

SECTION C: ISSUES AND DEBATES

5 Two countries, Malgano and Palmi, are at war. The countries are fighting for land and water. There is a large river separating the countries and both want to take control of the river. Whilst the war is taking place the citizens of Malgano and Palmi are fighting for clean water, food, and arable land to grow crops on.

Evaluate realistic conflict theory as an explanation of the two countries fighting. You must make reference to the context in your answer.

(12)

(Total for Question 5 = 12 marks)

BLANK PAGE

6 Assess how far psychological understanding of human behaviour has developed over time.

(20)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

(Total for Question 6 = 20 marks)

TOTAL FOR SECTION C = 32 MARKS
TOTAL FOR PAPER = 80 MARKS

GCE A-Level Psychology Paper 3 Mark Scheme

Question Number	Answer	Mark
1(a)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of an appropriate reason for using counterbalancing in the study (AO2). One mark for justification for using counterbalancing (AO3). For example: • Counterbalancing reduces any bias that could occur from doing the recall task twice (1) as both groups here appeared to improve in the afternoon so the value of memory techniques can be accurately assessed (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
1(b)	**AO2 (1 mark) AO3 (1 mark)** One mark for identification of the appropriate statistical test for the study (AO2). One mark for justification of the chosen statistical test (AO3). For example: • The researchers would have used a Wilcoxon test (1) as number of trigrams recalled would be interval data and they used a repeated measures design (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
1(c)	**AO2 (2 marks), AO3 (2 marks)** Candidate responses have to be drawn from evidence presented in Table 1. One mark for identification of each conclusion (AO2). One mark for justification of each conclusion (AO3). For example: • Both groups improved on the recall task in the afternoon through practise (1) which is shown by an increase of 0.1 for group A and 6.1 for group B (1). • Memory techniques improved the performance of group B but not of group A (1) as there were very similar results in both conditions for group A but group B increased to 18.2 trigrams with memory techniques vs. 12.1 without memory techniques (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(4)**

Question Number	Answer	Mark
1(d)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a relevant conclusion (AO2) One mark for justification of the conclusion (AO3). For example: • The distribution of recalled trigrams using memory techniques has a negative skew (1) which is shown by most participant recall scores at the upper end of the histogram with very few at the lower end (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
2(a)	**AO2 (2 marks)** One mark for statement of how the IV was operationalised. One mark for statement of how the DV was operationalised. For example: • The independent variable is operationalised by those with high empathy or low empathy scores on the questionnaire. • The dependent variable is operationalised by those who approached the person to help or not. **Look for other reasonable ways of expressing the operationalisation of IV/DV.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
2(b)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of a strength of quantitative data in the study (AO2). One mark for justification of the strength in the study (AO3). For example: • Quantitative data regarding whether they help or not can be analysed using statistical analyses (1) which enables them to assess whether the helping behaviour occurred by chance and could not be easily done with qualitative data (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
2(c)	**AO2 (1 mark) AO3 (1 mark)** One mark for comparing the observed/calculated value with a relevant critical value (AO2) One mark for justification of what this means for the findings of the study (AO3) For example: • The calculated value (78) is less than the critical value (81) for a 5% level of significance (1). This means that there is a significant difference in the helping behaviour between those who have high empathy and those who have low empathy (1). **Look for other reasonable marking points.**	**(2)**

Question Number	Answer	Mark
2(d)	**AO2 (1 mark) AO3 (1 mark)** One mark for identification of an appropriate improvement of the study in terms of validity (AO2). One mark for justification of the improvement (AO3). For example: • Internal validity could be improved by assessing helping behaviour in a more controlled setting (1) because extraneous variables such as other people could have influenced whether they helped or not which could be controlled in a laboratory setting (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks**	**(2)**

Question Number	Answer	Mark
2(e)	**AO1 (2 marks), AO2 (2 marks), AO3 (2 marks)** One mark for identification of each consideration (AO1) One mark for application of each relevant consideration for the study (AO2) One mark for justification of each relevant consideration (AO3) For example: • Psychologists must consider the research from the standpoint of research participants to eliminate potential risks to physical health (1) so the researchers need to ensure the cyclist is not too close to the road (1) as this could present a risk for participants as they may get hit by a car when trying to help the cyclist (1). • Psychologists must not offer any financial inducements which could encourage a participant to expose themselves to greater risk than their normal lives (1). Therefore the researchers should not pay the participants to attend the lecture or do the questionnaire (1) as they may be more willing to take a risk on approaching the cyclist next to a road if they have been paid (1). • Psychologists must consider the short and long term consequences of their study using a cost/risk benefit analysis (1). The researchers need to consider if the participants will be upset by doing the empathy questionnaire / seeing the injured cyclist / by being deceived (1) as this may be considered too high a cost for the value of their research into helping behaviour (1). **Look for other reasonable marking points.**	**(6)**

Question Number	Answer	Mark
3(a)	**AO2 (1 mark), AO3 (1 mark)** One mark for identification of an appropriate way of making the study reliable (AO2). One mark for justification of the appropriate way of making the study reliable (AO3). For example: • The researchers could have used closed-ended questions concerning junk food (1) which would have been standardised and enabled the researchers to compare answers to why someone consumes junk food and check for consistency (1). **Look for other reasonable marking points.** **Answers must relate to the scenario.** **Generic answers score 0 marks.**	**(2)**

Question Number	Answer	Mark
3(b)	**AO2 (3 marks), AO3 (3 marks)** Up to three marks for application of biological psychology to the findings of the study (AO2). Up to three marks for judgement/justification of biological psychology to the findings of the study (AO3). For example: • Biological psychology would say that junk food would stimulate the reward pathway in the brain which is why people have said they enjoyed the taste and it made them feel good (1). This is supported by Olds and Milner (1954) who found rats would self-stimulate more often when an electrode was placed on their reward pathway in the brain (1). • Biological psychology might not be able to explain the celebrity influence as it does not consider the influence of role models (1). The biological approach is refuted by Bandura's studies which showed the influence of TV, vicarious reinforcement, and role models on behaviour and can explain the celebrities and junk food (1). • Biological psychology can explain the family influence of junk food through inheritance of a genotype for liking junk food (1). Heston (1966) found that genes influence schizophrenia with more than 10% of those born to schizophrenic individuals vs. 0% to non-schizophrenic individuals so it may be that preference for junk food is also inherited (1). • Convenience may also be explained by a lack of planning which could be explained by activity in the frontal lobe as explained by biological psychology (1). Raine et al. (1997) found that activity of murderer brains to be different from non-murderers so it could be that those who like junk food have different activity in their brain to people who rarely eat junk food (1). **Look for other reasonable marking points.**	**(6)**

Question Number	Indicative content	Mark
4	**AO1 (6 marks), AO3 (10 marks)** **AO1** • Baddeley (1966b) designed their study to measure the long term memory. • Baddeley (1966b) used a repeated measures design when assessing memory with all participants recalling the same lists multiple times. • Baddeley (1966b) used a listening test prior to the trials and excluded some participants who failed this test. • Baddeley (1966b) included an interference task with six eight-digit sequences at a one second rate. • Rosenhan (1973) asked participants to record the reactions of staff and treatment of patients using quantitative and qualitative data. • As the pseudopatients in Rosenhan's (1973) study were different they may have behaved differently in the hospitals. • Real hospitals with varied locations and budgets were selected for Rosenhan (1973). • Rosenhan (1973) did not tell the hospitals or staff that they were part of a study assessing the treatment of patients and validity of diagnostic practices. **AO3** • Baddeley (1966b) used word lists to measure long term memory which lacks validity as learning word lists is not a usual memory task in day to day life. • The repeated measures design in Baddeley (1966b) could have been affected by practice (or fatigue) effects as they could have remembered the words from a previous trial. • However, Baddeley (1966b) was testing the order of the words which changed for each recall test so practice effects should not affect the results. • Baddeley (1966b) increased internal validity as he knew the participants could hear each word on the tape recorder so it was a test of memory and not listening. • By using an interference task Baddeley (1966b) could be confident they were assessing LTM and not STM as the task would prevent rehearsal of the word order. • Using quantitative and qualitative data in Rosenhan (1973) enables increased reliability and validity in his	**(16)**

	data. • Due to possible behavioural differences in the pseudopatients the reliability of the results can be questioned. • The use of real hospitals in varied locations and different budgets increased the mundane realism of Rosenhan (1973). • The hospitals and staff were deceived in Rosenhan's (1973) study but they may have acted differently if they had known, which was shown in his second study. • The pseudopatients in Rosenhan's (1973) study may have been subjective in the reported treatment of patients by staff or missed behaviours as there was participant observation used. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (6 marks), AO3 (10 marks) **Candidates must demonstrate a greater emphasis on evaluation/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 6 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 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	5–8 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	9–12 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	13–16 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
5	**AO1 (4 marks), AO2 (4 marks), AO3 (4 marks)** **AO1** • Prejudice is caused by conflict over scarce resources. • Realistic conflict theory assumes that people are selfish and will try to maximise their own rewards. • People form in-groups which are centred around power with a set of norms regulating behaviour of group members. • Cooperation through superordinate goals reduces prejudice. **AO2** • Prejudice between Malgano and Palmi will be caused by conflict over land and water. • The army and government of Malgano will try to maximise the land and water they have through selfish desires. • Malgano citizens will form an in-group with Palmi being the out-group and will create a set of norms for Malganoans. • Conflict between Malgano and Palmi may be reduced if they had to work together on fixing a bridge between the countries. **AO3** • Rabbie and Horwitz (1969) found 112 Dutch teenagers would display a bias in favour of their in-group when flipping a coin to decide who would receive a gift. • Ember (1981) found intergroup violence increased as food shortages and famine escalated. • Divale and Harris (1976) found population pressure and competition over agricultural land amongst the Fore people of New Guinea increased conflict and violence. • Social identity theory suggests that mere separation of in-groups and out-groups causes prejudice and competition is not required. • Adorno (1950) showed that authoritarian personality affects prejudice but realistic conflict does not consider personality as part of its explanation of prejudice. **Look for other reasonable marking points.**	**(12)**

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.**		
Level 0	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). 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
6	**AO1 (8 marks), AO3 (12 marks)** **AO1** • Over time psychological understanding of obedience has developed through repeated testing in a variety of research settings. • Theories of prejudice focused on single personality factors such as fascism but have developed to encompass numerous personality types. • Understanding of working memory has developed with the modifications made to the Working Memory Model. • The multi-store model gave a simplified view of the memory process which was later developed by other theories such as the Working Memory Model. • Technological advances over time have increased exposure to Western television which has arguably increased dissatisfaction over body image and weight. • Research in the 1960s showed TV role models could increase violence through imitation and more recent studies have shown humanness is a factor in violence. • CT/PET scans have developed with the invention of MRI and then fMRI over time to enable different and further investigation into brain structure and function. • The DSM-V has changed diagnostic features to narrow some categories and broaden others to account for changes in mental health issues over time. **AO3** • Burger's (2009) research showed that blind obedience to authority is still similar to that of Milgram's research in the 1960s, which shows over time individuals are still willing to blindly obey authority figures and commit harmful acts. • Cohrs (2012) found RWA, SDO, Agreeableness, and Openness to Experience were all related to prejudice which shows understanding of prejudice has developed over time. • Baddeley has developed understanding of memory with the links between working memory and long term memory and the episodic buffer being added to the Working Memory Model over time. • Multi-store model only considered a single unitary store for both short-term memory and long-term memory but later theories developed understanding of memory further	**(20)**

	by splitting these into further forms of STM and LTM. • Becker et al. (2002) found that over time Fijian women began to develop eating disorders after exposure to Western TV channels on television which has increased understanding of causes of eating disorders. • Bandura's research showed imitation of role models increased violence and more recently Bastian et al. (2011) found violent video games diminish humanity which can increase violence which have further developed understanding of aggression. • fMRI can now show both structure and function of the brain during a scan which has developed over time from only the structure with MRI. • fMRI scans have enabled safe scanning of brains without the risk of exposure to radiation so studies can now be done on children and pregnant women, giving greater understanding of human behaviour and development. • Understanding of mental health issues has developed over time which is shown by the DSM-V consolidating autistic disorder, Asperger's disorder and pervasive developmental disorder into autism spectrum disorder to represent a single continuum of mild to severe impairments. • DSM-V has integrated scientific findings from the latest research in genetics and neuroimaging to improve clinicians' ability over time to identify diagnoses based on common causes. **Look for other reasonable marking points.**	

Level	Mark	Descriptor
AO1 (8 marks), AO3 (12 marks) **Candidates must demonstrate a greater emphasis on assessment/conclusion vs knowledge and understanding in their answer. Knowledge & understanding is capped at maximum 8 marks.**		
Level 0	0	No rewardable material.
Level 1	1–4 marks	Demonstrates isolated elements of knowledge and understanding. (AO1) Generic assertions may be presented. Limited attempt to address the question. (AO3)
Level 2	5–8 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	9–12 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 will be imbalanced. (AO3)
Level 4	13–16 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a logical assessment, containing logical chains of reasoning throughout which consider a range of factors. Demonstrates an understanding of competing arguments/factors but does not fully consider the significance of each which in turn leads to an imbalanced judgement being presented. (AO3)
Level 5	17–20 marks	Demonstrates accurate and thorough knowledge and understanding. (AO1) Displays a well-developed and logical assessment, containing logical chains of reasoning throughout. Demonstrates a full understanding and awareness of the significance of competing arguments/factors leading to a balanced judgement being presented. (AO3)