Please check the examination details be	low before entering your candidate information							
Candidate surname	Other names							
Pearson Edexcel Level 3 GCE	ntre Number Candidate Number							
Friday 7 June 2019								
Afternoon (Time: 2 hours)	Paper Reference 9PS0/02							
Psychology Advanced Paper 2: Applications of Psychology								
You do not need any other materia	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 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 ▶



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FORMULAE AND STATISTICAL TABLES

Standard deviation (sample estimate)

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

Spearman's rank correlation coefficient

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

Critical values for Spearman's rank

Level of significance for a one-tailed test

		vei oi sigiiiii			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.

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Chi-squared distribution formula

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

Critical values for chi-squared distribution

	0.10	0.05	0.025	0.01	0.005	0.0005
		Level of s	ignificance	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.



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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																
<i>p</i> ≤ 0.0	$p \le 0.05$ (one-tailed), $p \le 0.10$ (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

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92

100 107 115 123 130 138

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								N _b								
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
V a																
0.0 ≥ 0	1 (on	e-tail	ed), <i>p</i>	≤ 0.0	2 (tw	o-tail	ed)									
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	4
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	6
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	8
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	10
19	15	20	26	32	38	44	50	56	63	69	75	82	88	94	101	10
20	16	22	28	34	40	47	53	60	67	73	80	87	93	100	107	11
								N _b								
		6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
V _a																
0.0 ≥ 0	25 (o	ne-ta	iled),	<i>p</i> ≤ 0.	.05 (tv	vo-ta	iled)									
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	2
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	4
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	5
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 72	69
	12	16	20	24	28	33	37	41	45	50	54	59	63	67	72	76
13	13	17	22	26	31	36	40	45	50	55	59	64	67	74	78 or	83
13 14		10	24	29	34	39 42	44 47	49 52	54 50	59	64 70	70 75	75 01	80 86	85 02	90
13 14 15	14	19		21	27	/1 /	4/	53	59	64	70	75	81	86	92	98
13 14 15 16	14 15	21	26	31	37			_ 7	62	67	75	01	07	0.5	00	10
13 14 15 16 17	14 15 17	21 22	26 28	34	39	45	51	57 61	63 67	67 74	75 80	81 86	87 93	93 99	99 106	
13 14 15 16	14 15	21	26					57 61 65	63 67 72	67 74 78	75 80 85	81 86 92	87 93 99	93 99 106	99 106 113	10 11 11



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								$N_{\rm b}$								
	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
N _a																
$p \leq 0.0$	$p \le 0.005$ (one-tailed), $p \le 0.01$ (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.



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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 signif	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.



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SECTION A: CLINICAL PSYCHOLOGY

Answer ALL questions.

- 1 In your studies of clinical psychology you will have learned about one of the following disorders:
 - Anorexia nervosa
 - Obsessive-compulsive disorder (OCD)
 - Unipolar depression.
 - (a) State **three** symptoms of the disorder you have learned about.

Disorder

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Weakness (Total for Qu	
(Total for Qu	
(lotal for Qu	
	estion 1 = 7 marks)



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2	Victoria is upset as she finds it hard to leave the house as she is scared of birds. Whenever she leaves the house she is highly anxious in case a bird is nearby, and she has previously run across the road without looking for cars to avoid a bird.	
	Victoria is unable to work because of her fear of birds, causing her to feel upset as she cannot buy her children toys. This has led to her having suicidal thoughts and feeling that her children would be better off without her.	
	(a) Describe how distress and danger could be used to diagnose Victoria as having a mental health disorder.	
	mental health disorder.	(3)

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(b) Explain one weakness of using danger to diagnose mental health disorders.	(2)
(Total for Question 2 = 5 m	arks)



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3 Nancy carried out an experiment to see the effects of sensory deprivation on the number of hallucinations participants reported.

Participants were split into two groups:

- Condition A: Participants had no sensory information for 10 minutes
- Condition B: Participants had no sensory information for 60 minutes.

Nancy totalled the number of hallucinations each participant reported. She then carried out a Mann-Whitney U test on her data.

(a) State **two** reasons why Nancy selected a Mann-Whitney U test to use on her data.

(2)

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2					

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(b) Nancy's results are shown in **Table 1**.

Complete **Table 1** and calculate the Mann-Whitney U for the data in **Table 1**. You must give your answer to **one** decimal place.

(4)

Condition A after 10 sensory depriva		Condition B after 60 minutes of sensory deprivation		
Number of reported hallucinations	Rank	Number of reported hallucinations	Rank	
0	1	3	6.5	
2	4	6	9	
1	2	9	10	
3	6.5	4	8	
2	4	2	4	
Total		Total		

Table 1
SPACE FOR CALCULATIONS

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4	George is a clinical psychologist who works in a psychiatric hospital. He had a patient referred to him six months ago and read the detailed notes from the doctor who made the referral.	
	George has since spoken to the patient every day about their thoughts and behaviours. He also asked the patient to carry out some problem-solving tasks to see how the disorder may have been affecting their cognitive abilities.	
	George has decided to carry out a case study on the patient to publish in a medical journal.	
	Discuss how George could carry out a case study on his patient. You must make reference to the context in your answer.	
		(8)



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5	Assess how far culture can lead to individual differences in mental health disorders.	(8)



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(Total for Question 5 = 8 marks)

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6	Michael has just been diagnosed with schizophrenia. His symptoms include hearing voices telling him what to do, and not being able to put his thoughts into a logical sense. Michael also has a lack of energy and has withdrawn from his friends.	
	Michael's doctor says that his schizophrenia is due to his neurotransmitters. His mother thinks it is due to genetics as she also has schizophrenia. His father, however, thinks it is due to Michael taking illegal drugs such as phencyclidine (PCP, 'angel dust').	
	To what extent can Michael's schizophrenia be explained by the function of his neurotransmitters? You must make reference to the context in your answer.	(20)



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(Total for Question 6 = 20 marks)
TOTAL FOR SECTION A = 54 MARKS



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SECTION B

Answer questions from ONE option in this section.

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

If you answer the questions in Option 1 put a cross in the box $\ oxdot$.

OPTION 1: CRIMINOLOGICAL PSYCHOLOGY

Answer ALL questions.

7 Rose witnessed a robbery at a bank. Whilst she was waiting to give her statement to the police she was in a room with other witnesses to the robbery. Rose gave an interview to the police at the bank.

When she went home a report of the robbery was on the local news where they mentioned that a weapon had been used. One week later the police asked Rose to go to the police station to give a second interview as they wanted to clarify a few points about the robbery.

(a) Describe how post-event information may have affected Rose's testimony of the

robbery.	(3)



Describe how the police may have carried and a	cognitive interview with Pece
Describe how the police may have carried out a	cognitive interview with Rose. (4)
	(- /
	(Total for Question 7 = 7 marks)
	(Total for Question 7 = 7 marks)

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8 Marya carried out a field experiment to investigate whether cognitive-behavioural treatment was effective for treating offenders in prison and reducing their reoffending rates. She compared one group of offenders who had cognitive-behavioural treatment (Condition A) with a group of offenders who received no treatment (Condition B).

Marya collected the reoffending rates for the participants in each condition six months after the offenders were released from prison.

Marya's results are shown in **Table 2**.

Condition A	Condition B
Reoffending rates for those who received cognitive-behavioural treatment	Reoffending rates for those who received no treatment
0	3
1	2
3	4
2	5
0	3
0	2
2	1
1	5
1	6
0	4
Range = 3	Range =

Table 2

(a) Calculate the range of Condition B and complete **Table 2** with your answer.

(1)

SPACE FOR CALCULATIONS

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b) Marya used the mean as a measure of central tendency.	
Explain why Marya used the mean rather than the mode in her field experiment.	(2)
c) Explain one improvement Marya could make to her field experiment.	(2)
(Total for Question 8 = 5 ma	arks)

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9 Evaluate the classic study by Loftus and Palmer (1974).	(8)



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(Total for Question 9 = 8 marks)
(10.10)

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10 Donald has recently been caught shoplifting at a local shop. He was taken to the local police station where he was given a warning. His parents had to go to the pol station to pick him up. They are now worried that he may be labelled as a criminal and this may affect his future behaviour and cause him to commit more crimes.	ice
To what extent can labelling theory explain whether Donald would commit more crimes in the future?	
You must make reference to the context in your answer.	(16)



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(Total for Question 10 = 16 marks)
TOTAL FOR SECTION B OPTION 1 = 36 MARKS

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OPTION 2: CHILD PSYCHOLOGY

If you answer the questions in Option 2 put a cross in the box $\ oxdot$.

Answer ALL questions.

11	Donna is six months old. Her mother, Rose, decides to place Donna in day care. She
	places Donna in a nursery where there are other children of the same age and a
	variety of activities available for Donna to take part in. The manager of the nursery has a professional qualification in childcare.

(a) Using research, describe the advantages for Donna of attending day care.	(3)



provides good quality day care.		(4)
	(Total for Que	stion 11 = 7 marks)

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12 Marya carried out a questionnaire to investigate whether a new therapy was effective for children with autism. She wanted to see if it would improve their social skills and help them socialise more. She compared one group of children with autism who had the new therapy (Condition A) with a group of children with autism who received no therapy (Condition B).

Marya collected the data from the questionnaire filled in by the parents of the children six months after the therapy ended. The higher the score on the questionnaire, the more difficult it was to socialise.

Marya's results are shown in **Table 3**.

Condition A	Condition B
Score on the questionnaire for those who received the new therapy	Score on the questionnaire for those who received no therapy
0	3
1	2
3	4
2	5
0	3
0	2
2	1
1	5
1	6
0	4
Range = 3	Range =

Table 3

(a) Calculate the range of Condition B and complete **Table 3** with your answer.

(1)

SPACE FOR CALCULATIONS

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(b) Marya used the mean as a measure of central tendency when analy results of her questionnaire.	
Explain why Marya used the mean rather than the mode when ana results of her questionnaire.	llysing the
results of their questioninane.	(2)
(c) Explain one improvement Marya could make to her investigation.	
c) Explain one improvement marya could make to her investigation.	(2)
(= . 16 0	
(lotal for Ques	stion 12 = 5 marks)

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13 Evaluate the classic study by van IJzendoorn and Kroonenberg (1988).	(8)



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(Total for Question 12 – 9 marks)
(Total for Question 13 = 8 marks)

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14 Donald is two and a half years old. He was in hospital for two months. His parents	
found it difficult to spend a lot of time with him whilst he was in hospital. When Donald came home, his parents were worried as he cried a lot and did not	
seem to be as happy as he was before he went into hospital. They are also concerned that the time he spent in hospital may affect his future behaviour.	
Assess how far research into deprivation could explain the short-term and long-term effects of Donald's stay in hospital.	
You must make reference to the context in your answer.	
(16)	



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	(Total for Question 14 = 16 marks)
	TAL FOR SECTION R OPTION 2 25 MARKS
TOTAL FOR SECTION B OPTION 2 = 36 MARKS	

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OPTION 3: HEALTH PSYCHOLOGY

If you answer the questions in Option 3 put a cross in the box $\ oxdot$.

Answer ALL questions.

15	Rose is a health psychologist. She has been asked to create an anti-drugs campaign
	targeted at young adults. The anti-drugs campaign aims to prevent young adults
	misusing legal and illegal drugs. Rose wants her campaign to reach as many young
	adults as possible, and for it to offer memorable information.

(a) Describe how Rose could carry out her anti-drugs campaign.	(4)



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Describe how Rose could analyse her data to see if her anti	i-drugs campaign was
effective.	(3)
-	
(lotal f	for Question 15 = 7 marks)

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16 Marya has carried out a study to investigate whether a new treatment was effective for people addicted to alcohol. She wanted to see if it would stop them drinking alcohol. She compared the participants who had the new treatment (Condition A) with the participants who received no treatment (Condition B).

Marya recorded the number of alcoholic drinks consumed in a week six months after the treatment ended.

Marya's results are shown in **Table 4**.

Condition A Number of alcoholic drinks in a week for those who received the new treatment	Condition B Number of alcoholic drinks in a week for those who received no treatment
0	3
1	2
3	4
2	5
0	3
0	2
2	1
1	5
1	6
0	4
Range = 3	Range =

Table 4

(a) Calculate the range of Condition B and complete **Table 4** with your answer.

(1)

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b) Marya used the mean as a measure of central tendency.	
Explain why Marya used the mean rather than the mode in her study.	(2)
	(2)
c) Explain one improvement Marya could make to her study.	(2)
	(-)
(Total for Question 16	5 = 5 marks)

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17 Evaluate the classic study by Olds and Milner (1954).	(8)



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 Fotal for Ougstion 17 – 9
Total for Question 17 = 8 marks)

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18 Donald is addicted to nicotine. Both his parents and his friends started smoking because they thought it made t		
He finds that nicotine helps him relax, and relieves any stress he feels. Donald finds that there are certain times during the day when he craves a cigarette, such as just after he has eaten. Evaluate one learning explanation for nicotine addiction that could account for Donald smoking cigarettes.		
You must make reference to the context in your answer.	(16)	



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	(Total for Question 18 = 16 marks)
Т	OTAL FOR SECTION B OPTION 3 = 36 MARKS TOTAL FOR PAPER = 90 MARKS

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