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Surname	Other names
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Pearson Edexcel

Level 3 GCE

Centre Number

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Candidate Number

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Psychology

Advanced

Paper 1: Foundations in Psychology

Monday 4 June 2018 – Afternoon

Time: 2 hours

Paper Reference

9PS0/01

You do not need any other materials.

Total Marks

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Instructions

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

Information

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

Advice

- Read each question carefully before you start to answer it.
- 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

N	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				
	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

$$X^2 = \sum \frac{(O-E)^2}{E}$$

$$df = (r - 1)(c - 1)$$

Critical values for chi-squared distribution

df	Level of significance for a one-tailed test					
	0.10	0.05	0.025	0.01	0.005	0.0005
df	Level of significance for a two-tailed test					
	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																	
$p \leq 0.05$ (one-tailed), $p \leq 0.10$ (two-tailed)																	
5	4	5	6	8	9	11	12	13	15	16	18	19	20	22	23	25	
6	5	7	8	10	12	14	16	17	19	21	23	25	26	28	30	32	
7	6	8	11	13	15	17	19	21	24	26	28	30	33	35	37	39	
8	8	10	13	15	18	20	23	26	28	31	33	36	39	41	44	47	
9	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	
10	11	14	17	20	24	27	31	34	37	41	44	48	51	55	58	62	
11	12	16	19	23	27	31	34	38	42	46	50	54	57	61	65	69	
12	13	17	21	26	30	34	38	42	47	51	55	60	64	68	72	77	
13	15	19	24	28	33	37	42	47	51	56	61	65	70	75	80	84	
14	16	21	26	31	36	41	46	51	56	61	66	71	77	82	87	92	
15	18	23	28	33	39	44	50	55	61	66	72	77	83	88	94	100	
16	19	25	30	36	42	48	54	60	65	71	77	83	89	95	101	107	
17	20	26	33	39	45	51	57	64	70	77	83	89	96	102	109	115	
18	22	28	35	41	48	55	61	68	75	82	88	95	102	109	116	123	
19	23	30	37	44	51	58	65	72	80	87	94	101	109	116	123	130	
20	25	32	39	47	54	62	69	77	84	92	100	107	115	123	130	138	

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

<i>n</i>	Level of significance for a one-tailed test		
	0.05	0.025	0.01
	Level of significance for a two-tailed test		
	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** Milgram carried out some valuable research into obedience, including a number of variation studies.

Describe the procedure of the Rundown Office Block (Experiment 10) variation study.

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(Total for Question 1 = 3 marks)

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2 Tim and Laura are undertaking a practical investigation using a questionnaire into in-group favouritism at their college.

- (a) Suggest **one** open question and **one** closed question Tim and Laura could use in their questionnaire.

(2)

Open question

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Closed question

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- (b) When conducting an investigation using a questionnaire a pilot study can be carried out. A pilot study is a small-scale preliminary version of a study which is carried out before the full-scale version of a study.

Suggest **two** reasons why Tim and Laura should carry out a pilot study before conducting their questionnaire.

(2)

Reason 1

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Reason 2

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(Total for Question 2 = 4 marks)

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3 Sherif et al. (1954/1961) conducted The Robbers Cave Experiment.

Explain **one** strength of Sherif et al. (1954/1961).

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QUESTION 4 BEGINS ON THE NEXT PAGE.



4 Assess how individual differences (personality and gender) affect obedience.

(8)

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(Total for Question 4 = 8 marks)

TOTAL FOR SECTION A = 17 MARKS



SECTION B: COGNITIVE PSYCHOLOGY

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

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

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

Table 1

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

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

(1)

SPACE FOR CALCULATIONS

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

(2)

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

(2)

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(Total for Question 5 = 5 marks)



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

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

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(Total for Question 6 = 4 marks)

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

(8)

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(Total for Question 7 = 8 marks)

TOTAL FOR SECTION B = 17 MARKS



SECTION C: BIOLOGICAL PSYCHOLOGY

8 Describe the process of synaptic transmission.

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(Total for Question 8 = 3 marks)

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- 9 Rafiq carried out a correlational study to investigate whether there was a relationship between age and number of hours of sleep per night.

(a) Complete **Table 2** and calculate the Spearman's rank correlation coefficient for Rafiq's study.

(4)

Age	Rank 1	Number of hours sleep	Rank 2	d	d ²
17	2.5	10	6		
17	2.5	11	7		
20	4	6	2.5		
24	6	7	4		
21	5	4	1		
16	1	9	5		
40	7	6	2.5		
Total:					

Table 2

SPACE FOR CALCULATIONS

Spearman's rank correlation coefficient.....

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(b) Rafiq used a non-directional (two-tailed) hypothesis.

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

(2)

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(Total for Question 9 = 6 marks)



10 Discuss the key question you have studied from biological psychology.

(8)

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(Total for Question 10 = 8 marks)

TOTAL FOR SECTION C = 17 MARKS



SECTION D: LEARNING THEORIES

- 11 Mandeep and Priya used a content analysis to investigate how gender is presented in two children's television programmes. To record the data a tally chart was used.

Table 3 shows the data they gathered.

	Programme 1	Programme 2	Total
Emotional female	### //	### ////	16
Emotional male	//	/	3
Strong female	###	///	8
Strong male	### ###	### /	16
Sporty female	///	////	7
Sporty male	///	### ###	13

Table 3

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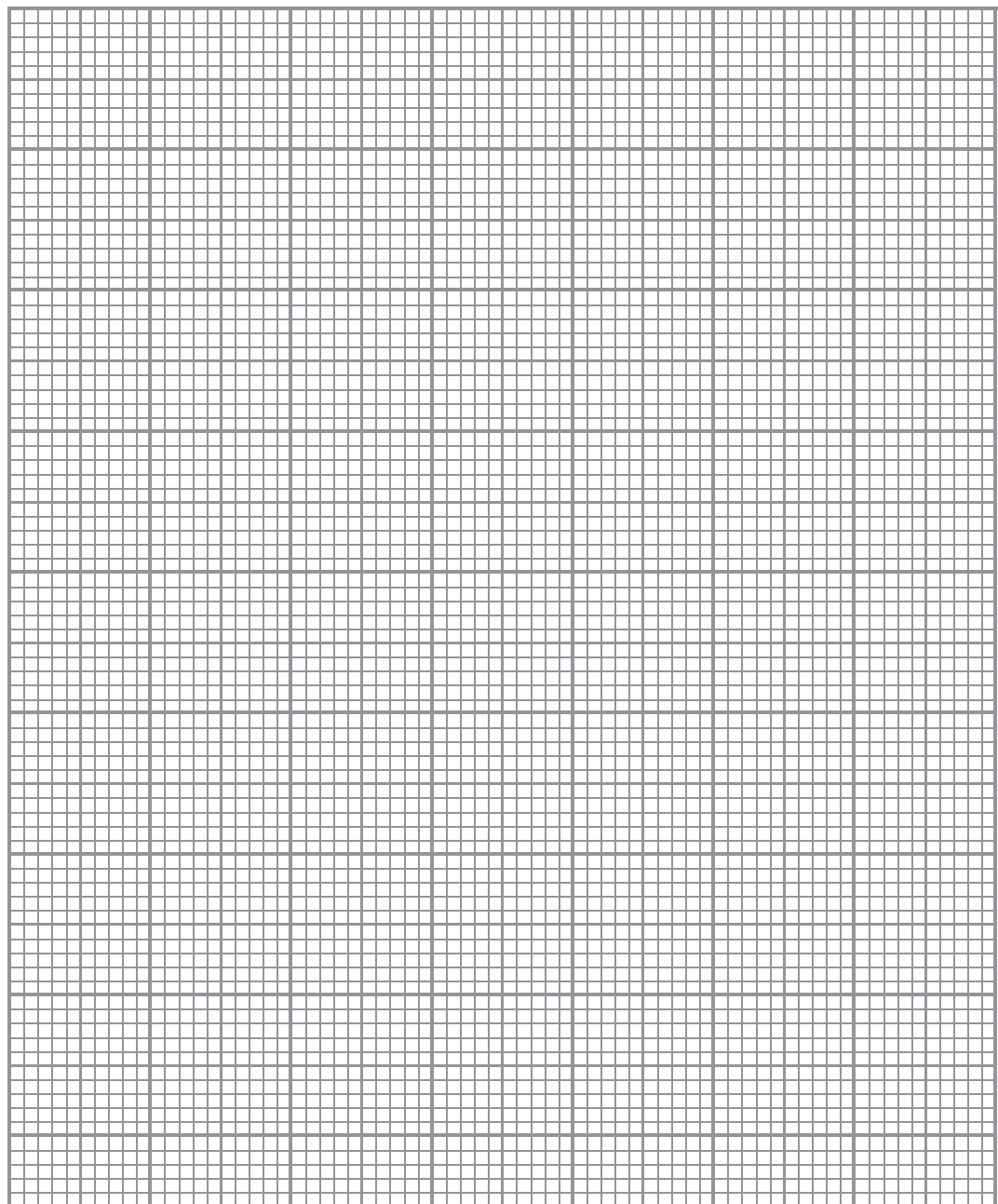
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(a) Draw a bar chart to show the total number of sporty males and sporty females shown in **Table 3**.

(3)

Title



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(b) Explain **one** conclusion that could be drawn from Mandeep and Priya's investigation.

(2)

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(c) Explain **one** methodological issue there may have been with Mandeep and Priya's content analysis.

(2)

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(Total for Question 11 = 7 marks)



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12 Jodi attended a number of birthday parties when she was younger. At all of the parties there was a clown who burst a balloon which scared Jodi. Jodi is now fearful of clowns.

Using your knowledge of classical conditioning, explain how Jodi developed a fear of clowns.

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(Total for Question 12 = 4 marks)



13 When studying learning theories you will have covered the observational research method for human research.

Evaluate the usefulness of observational methods for studying human behaviour.

(8)

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(Total for Question 13 = 8 marks)

TOTAL FOR SECTION D = 19 MARKS



SECTION E: ISSUES AND DEBATES

14 Discuss the practical issues faced by psychologists when designing and implementing research in learning theories and biological psychology.

(8)

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(Total for Question 14 = 8 marks)



15 To what extent do social psychology and cognitive psychology consider human behaviour to be determined by nurture?

(12)

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Handwriting practice area with 25 horizontal dotted lines.



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DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Area with horizontal dotted lines for writing.

(Total for Question 15 = 12 marks)

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



DO NOT WRITE IN THIS AREA

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