

Write your name here

Surname

Other names

**Pearson Edexcel**  
**Level 3 GCE**

Centre Number

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Candidate Number

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# Psychology

**Advanced**

**Paper 1: Foundations in psychology**

Wednesday 7 June 2017 – Afternoon

**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 critical 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 ►

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

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		
$N_a$																			
<b><math>p \leq 0.05</math> (one-tailed), <math>p \leq 0.10</math> (two-tailed)</b>																			
<b>5</b>	4	5	6	8	9	11	12	13	15	16	18	19	20	22	23	25			
<b>6</b>	5	7	8	10	12	14	16	17	19	21	23	25	26	28	30	32			
<b>7</b>	6	8	11	13	15	17	19	21	24	26	28	30	33	35	37	39			
<b>8</b>	8	10	13	15	18	20	23	26	28	31	33	36	39	41	44	47			
<b>9</b>	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54			
<b>10</b>	11	14	17	20	24	27	31	34	37	41	44	48	51	55	58	62			
<b>11</b>	12	16	19	23	27	31	34	38	42	46	50	54	57	61	65	69			
<b>12</b>	13	17	21	26	30	34	38	42	47	51	55	60	64	68	72	77			
<b>13</b>	15	19	24	28	33	37	42	47	51	56	61	65	70	75	80	84			
<b>14</b>	16	21	26	31	36	41	46	51	56	61	66	71	77	82	87	92			
<b>15</b>	18	23	28	33	39	44	50	55	61	66	72	77	83	88	94	100			
<b>16</b>	19	25	30	36	42	48	54	60	65	71	77	83	89	95	101	107			
<b>17</b>	20	26	33	39	45	51	57	64	70	77	83	89	96	102	109	115			
<b>18</b>	22	28	35	41	48	55	61	68	75	82	88	95	102	109	116	123			
<b>19</b>	23	30	37	44	51	58	65	72	80	87	94	101	109	116	123	130			
<b>20</b>	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
<b><math>p \leq 0.01</math> (one-tailed), <math>p \leq 0.02</math> (two-tailed)</b>																
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
<b><math>p \leq 0.025</math> (one-tailed), <math>p \leq 0.05</math> (two-tailed)</b>																
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
<b><math>p \leq 0.005</math> (one-tailed), <math>p \leq 0.01</math> (two-tailed)</b>																
<b>5</b>	0	1	1	2	3	4	5	6	7	7	8	9	10	11	12	13
<b>6</b>	1	2	3	4	5	6	7	9	10	11	12	13	15	16	17	18
<b>7</b>	1	3	4	6	7	9	10	12	13	15	16	18	19	21	22	24
<b>8</b>	2	4	6	7	9	11	13	15	17	18	20	22	24	26	28	30
<b>9</b>	3	5	7	9	11	13	16	18	20	22	24	27	29	31	33	36
<b>10</b>	4	6	9	11	13	16	18	21	24	26	29	31	34	37	39	42
<b>11</b>	5	7	10	13	16	18	21	24	27	30	33	36	39	42	45	48
<b>12</b>	6	9	12	15	18	21	24	27	31	34	37	41	44	47	51	54
<b>13</b>	7	10	13	17	20	24	27	31	34	38	42	45	49	53	56	60
<b>14</b>	7	11	15	18	22	26	30	34	38	42	46	50	54	58	63	67
<b>15</b>	8	12	16	20	24	29	33	37	42	46	51	55	60	64	69	73
<b>16</b>	9	13	18	22	27	31	36	41	45	50	55	60	65	70	74	79
<b>17</b>	10	15	19	24	29	34	39	44	49	54	60	65	70	75	81	86
<b>18</b>	11	16	21	26	31	37	42	47	53	58	64	70	75	81	87	92
<b>19</b>	12	17	22	28	33	39	45	51	56	63	69	74	81	87	93	99
<b>20</b>	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 Adam and Lauren have carried out research into obedience as part of their A level Psychology course. They investigated whether males or females are more obedient to authority. They approached the first 25 male and 25 female students who were available at the time and asked them to complete a questionnaire. Each student who took part was given a scenario about whether or not they would follow a female teacher's instruction to pick up litter.

**Table 1** shows the number of males and females who said they would or would not follow the instruction.

	Female	Male
Number of students who would follow the teacher's instruction	16	10
Number of students who would not follow the teacher's instruction	9	15

**Table 1**

- (a) Identify the sampling method that Adam and Lauren used in their study. (1)

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- (b) State a fully operationalised directional (one-tailed) hypothesis for Adam and Lauren's study. (2)

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- (c) Explain **one** improvement that could be made to the procedure of Adam and Lauren's research. (2)

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**(Total for Question 1 = 5 marks)**





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- 2 The teachers at two local schools, Seaside High and Elk Manor Academy, are concerned about the hostile attitudes students hold towards one another. This has been demonstrated in recent weeks at league and cup hockey matches, where students have often shouted insults at each other.

Using your knowledge of realistic conflict theory, explain why there are problems between the students.

(4)

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**(Total for Question 2 = 4 marks)**



3 Evaluate the ethical considerations of research within social psychology.

(8)

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(Total for Question 3 = 8 marks)

**TOTAL FOR SECTION A = 17 MARKS**



**SECTION B: COGNITIVE PSYCHOLOGY**

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

Describe the multi-store model of memory.

(4)

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**(Total for Question 4 = 4 marks)**

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P 4 8 5 6 7 A 0 1 3 3 6

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

**Table 2** shows the raw data from the experiment.

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

**Table 2**

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

(2)

**SPACE FOR CALCULATIONS**



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

(4)

**SPACE FOR CALCULATIONS**

Standard deviation .....

**(Total for Question 5 = 6 marks)**



P 4 8 5 6 7 A 0 1 5 3 6



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

Assess the usefulness of using experiments within cognitive psychology.

(8)

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(Total for Question 6 = 8 marks)

**TOTAL FOR SECTION B = 18 MARKS**



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**SECTION C: BIOLOGICAL PSYCHOLOGY**

**7** Describe how recreational drugs change the way neurotransmitters operate within the brain.

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**(Total for Question 7 = 2 marks)**

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- 8 Nadiya and Tamal are analysing data they have gathered about students' exam scores and the number of missed classes.

**Table 3** shows the raw data from Nadiya and Tamal's study.

Exam score	Number of missed classes
70	8
80	6
40	18
20	20
95	3
100	4
50	14
65	10
65	12
55	12

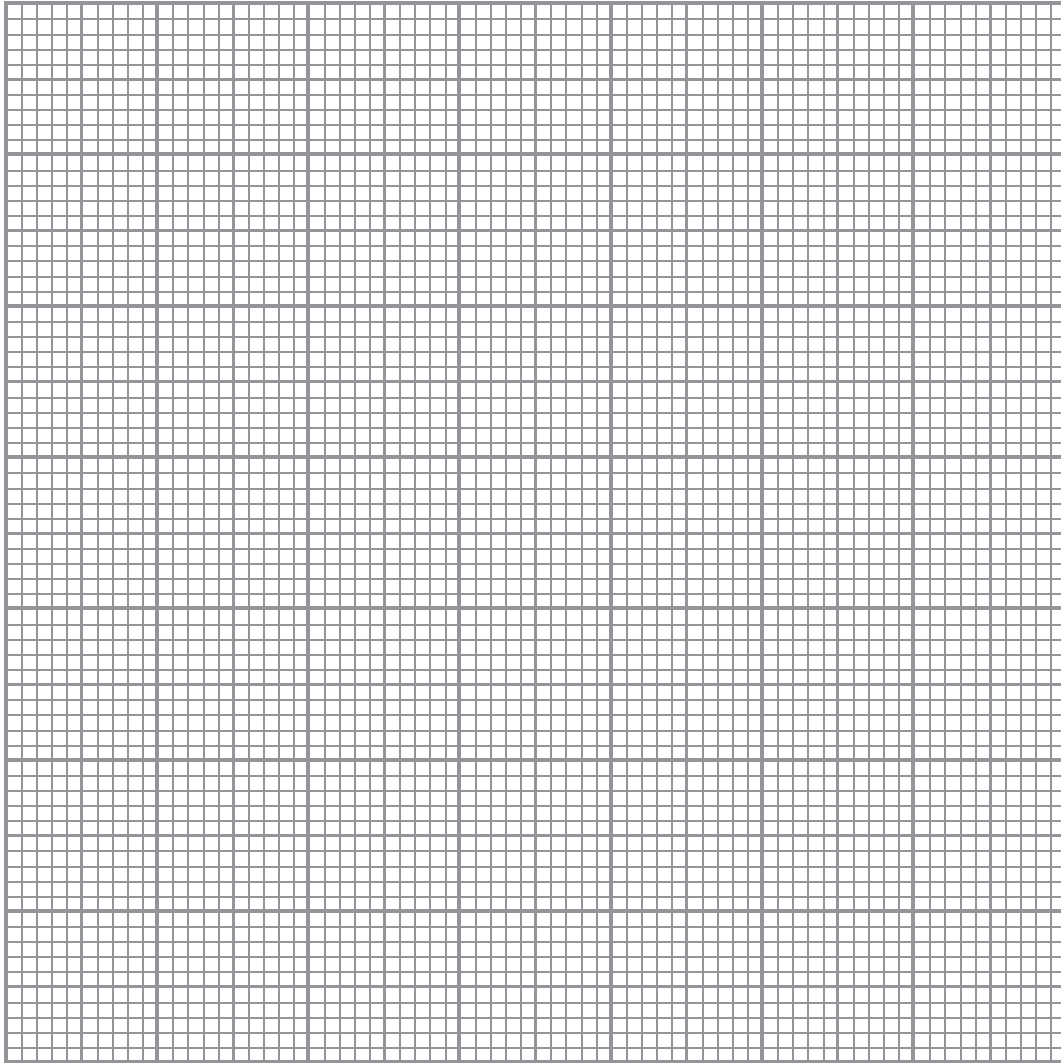
**Table 3**



(a) Draw a scatter diagram to show Nadiya and Tamal's data.

(3)

Title



(b) Identify the type of correlation displayed in the diagram you have drawn.

(1)

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Nadiya and Tamal used Spearman's rho to analyse their data.

(c) State **two** reasons why they used Spearman's rho.

(2)

1 .....

2 .....

**(Total for Question 8 = 6 marks)**

**9** Compare the biological explanation of aggression with Freud's psychodynamic explanation of aggression.

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**(Total for Question 9 = 2 marks)**





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10 Twin studies are used as a research method to investigate human behaviour in biological psychology.

Evaluate **one** twin study you have covered in biological psychology.

(8)

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(Total for Question 10 = 8 marks)

**TOTAL FOR SECTION C = 18 MARKS**



**SECTION D: LEARNING THEORIES**

**11** Classical conditioning uses many terms to explain the acquisition of behaviour.

Define the terms 'unconditioned response (UCR)' and 'extinction'.

(2)

Unconditioned response (UCR)

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Extinction

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**(Total for Question 11 = 2 marks)**

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12 There are many pieces of research that have used animals within psychology.

Explain the practical issues of using animals in psychological research.

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(Total for Question 12 = 4 marks)

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**13** You and a friend are undertaking an observation to see how many people in a supermarket help you to reach something on the top shelf.

Describe how you would carry out the observation in the supermarket.

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**(Total for Question 13 = 3 marks)**



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14 Learning theories have been used to explain key questions of relevance to today's society.

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

(8)

Key question

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(Total for Question 14 = 8 marks)

**TOTAL FOR SECTION D = 17 MARKS**



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**SECTION E: ISSUES AND DEBATES**

**15** Cognitive psychology is about the role of cognition/cognitive processes in human behaviour.

Assess whether cognitive psychology is reductionist.

(8)

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**(Total for Question 15 = 8 marks)**



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**16** Matt is 16 years old and has been getting into fights when he goes out with his friends. His mother blames his friends, however Matt denies this and says he cannot control his own behaviour.

Evaluate how far social and biological psychology can explain Matt's behaviour. You must make reference to the context in your answer.

(12)

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**(Total for Question 16 = 12 marks)**

**TOTAL FOR SECTION E = 20 MARKS**

**TOTAL FOR PAPER = 90 MARKS**



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