GradeMax

Please check the examination details below before entering your candidate information

Candidate surname	Other names

Pearson Edexcel
International Advanced Level

Centre Number | | | | | |

Candidate Number | | | | |

Tuesday 15 January 2019

Afternoon (Time: 2 hours) | Paper Reference **WPS02/01**

Psychology

International Advanced Subsidiary
Paper 2: Biological Psychology, Learning Theories and Development

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 96.
- 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				
	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.

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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.

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.

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SECTION A

BIOLOGICAL PSYCHOLOGY

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

1 In your studies of biological psychology, you will have learned about one of the following contemporary studies in detail:

- McDermott (2008)
- Hoefelmann et al. (2006)

Chosen study

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(a) State **one** aim from the contemporary study you have chosen.

(1)

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(b) Describe the results from the contemporary study you have chosen.

(3)

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(c) Justify **one** improvement that could be made to the contemporary study you have chosen.

(2)

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(Total for Question 1 = 6 marks)

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2 Vanessa researched genetic relatedness and aggression. She used a twin study to determine if aggression was linked to genes.

(a) Describe how Vanessa might have carried out a twin study to investigate genetic relatedness and aggression.

(4)

(b) Explain **one** weakness of using twin studies to investigate genetic relatedness.

(2)

(Total for Question 2 = 6 marks)

3 Kylie experiences seasonal affective disorder. When it is winter time she feels more depressed and no longer feels pleasure when doing activities she enjoys in the summer time. She often wants to stay in bed.

Kylie researched biological explanations about why she experiences seasonal affective disorder every year.

(a) Describe why Kylie experiences seasonal affective disorder.

(3)

(b) Explain **one** reason why light therapy may be considered an effective treatment for seasonal affective disorder.

(2)

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(c) Explain **one** difference between the use of light therapy and the use of one other therapy for seasonal affective disorder.

(2)

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(Total for Question 3 = 7 marks)

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4 Sacha carried out correlational research. He investigated whether there was a relationship between the number of hours sleep a person had per week and the number of hours they spent doing homework per week.

He found a negative correlation.

Sacha's results are shown in **Table 1**.

Participant	Average number of hours sleep per week	Average number of hours homework per week
A	45.0	15.0
B	42.5	18.0
C	40.0	20.0
D	37.5	22.0
E	35.0	

Table 1

(a) Complete **Table 1** and estimate the average number of hours per week spent on homework by Participant E.

(1)

(b) Sacha carried out a Spearman's rank test. He wanted to see if his results were significant at $p \leq 0.05$.

Define what is meant by $p \leq 0.05$.

(2)

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(c) Sacha compared his results to results from previously published studies that researched the relationship between sleep and the amount of work carried out.

Give **two** differences between primary and secondary data.

(2)

1 .....

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2 .....

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(d) Explain **one** reason why cause and effect is an issue in correlational research.

(2)

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(Total for Question 4 = 7 marks)

5 Assess how far the role of hormones can explain aggression.

(8)

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(Total for Question 5 = 8 marks)

TOTAL FOR SECTION A = 34 MARKS

SECTION B

LEARNING THEORIES AND DEVELOPMENT

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

6 Julio has a fear of bread. He is about to start work as a chef, so he needs to reduce his fear. Julio goes to a therapist who uses systematic desensitisation.

(a) Describe how the therapist could use systematic desensitisation to reduce Julio's fear of bread.

(4)

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(b) Explain **one** strength and **one** weakness of systematic desensitisation.

(4)

Strength

Weakness

(Total for Question 6 = 8 marks)

7 Yoko carried out an observation in a local park. She observed how males and females interacted with other people, to see if there was a difference. She observed how long males spoke to males (Condition A) and how long females spoke to females (Condition B). Yoko observed if they spoke for less than 5 minutes or for 5 minutes or more.

Yoko recorded her data using event sampling.

(a) Describe how Yoko may have carried out the observation using event sampling.

(3)

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(b) Yoko carried out a chi-squared test on her data.

Calculate chi-squared for the data gathered by Yoko by completing **Table 2**.

Your answers **must** be correct to **two** decimal places.

(4)

		Observed	**Expected**	**O-E**	**$(O-E)^2$**	**$(O-E)^2/E$**
Condition A: males spoke to males	Less than 5 minutes	3	5.5			
	5 minutes or more	7	4.5			
Condition B: females spoke to females	Less than 5 minutes	8	5.5			
	5 minutes or more	2	4.5			
					Chi-squared =	

Table 2

Space for calculations

(c) Yoko gathered quantitative data. Another type of data is qualitative data.

Define what is meant by the term 'qualitative data'.

(1)

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(Total for Question 7 = 8 marks)

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8 In your studies of learning theories and development, you will have conducted a practical investigation using an observational method.

You will have gathered quantitative and qualitative data and carried out a thematic analysis on your qualitative data.

(a) Describe the results of your learning theories and development practical investigation.

(4)

(b) Explain **two** strengths of your learning theories and development practical investigation.

(4)

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2 .....

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(c) Explain **one** improvement that may be made to your learning theories and development practical investigation.

(2)

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(Total for Question 8 = 10 marks)

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9 Evaluate Freud's use of the case study as a research method.

(8)

(Total for Question 9 = 8 marks)

TOTAL FOR SECTION B = 34 MARKS

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SECTION C

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

10 To what extent does operant conditioning explain human behaviour?

(12)

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(Total for Question 10 = 12 marks)

11 Hugo is seeing a therapist to try and cope with his aggression. He finds that he often gets into arguments where he punches and kicks other people.

The therapist thinks Hugo's aggression is caused by the fact that his parents are also aggressive and Hugo is simply copying the actions of his parents, such as punching someone in an argument.

Hugo's partner thinks that Hugo's aggression is due to the fact that he has played a lot of contact sport, which resulted in him having several head injuries.

Evaluate social learning theory and brain functioning as explanations of Hugo's aggression.

You must make reference to the context in your answer.

(16)

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(Total for Question 11 = 16 marks)

TOTAL FOR SECTION C = 28 MARKS
TOTAL FOR PAPER = 96 MARKS

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