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 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.

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
4	1.000	1.000	1.000	1.000	1.000
5	0.700	0.900	0.900	1.000	1.000
6	0.657	0.771	0.829	0.943	0.943
7	0.571	0.679	0.786	0.857	0.893
8	0.548	0.643	0.738	0.810	0.857
9	0.483	0.600	0.683	0.767	0.817
10	0.442	0.564	0.649	0.733	0.782
11	0.418	0.527	0.609	0.700	0.755
12	0.399	0.504	0.587	0.671	0.727
13	0.379	0.478	0.560	0.648	0.698
14	0.367	0.459	0.539	0.622	0.675
15	0.350	0.443	0.518	0.600	0.654
16	0.338	0.427	0.503	0.582	0.632
17	0.327	0.412	0.482	0.558	0.606
18	0.317	0.400	0.468	0.543	0.590
19	0.308	0.389	0.456	0.529	0.575
20	0.299	0.378	0.444	0.516	0.561
21	0.291	0.369	0.433	0.503	0.549
22	0.284	0.360	0.423	0.492	0.537
23	0.277	0.352	0.413	0.482	0.526
24	0.271	0.344	0.404	0.472	0.515
25	0.265	0.337	0.396	0.462	0.505
26	0.260	0.330	0.388	0.453	0.496
27	0.255	0.323	0.381	0.445	0.487
28	0.250	0.317	0.374	0.437	0.479
29	0.245	0.312	0.367	0.430	0.471
30	0.241	0.306	0.361	0.423	0.463

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 less than 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															
N_a	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
$p \leq 0.05$ (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	82	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_b															
N_a	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_b															
N_a	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		5	6	8	10	11	13	14	16	17	19	21	22	24	25	27
7			8	10	12	14	16	18	20	22	24	26	28	30	32	34
8				13	15	17	19	22	24	26	29	31	34	36	38	41
9					17	20	23	26	28	31	34	37	39	42	45	48
10						23	26	29	33	36	39	42	45	48	52	55
11							30	33	37	40	44	47	51	55	58	62
12								37	41	45	49	53	57	61	65	69
13									45	50	54	59	63	67	72	76
14										55	59	64	67	74	78	83
15											64	70	75	80	85	90
16												75	81	86	92	98
17													87	93	99	105
18														99	106	112
19															113	119
20																127

	N_b															
N_a	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		2	3	4	5	6	7	9	10	11	12	13	15	16	17	18
7			4	6	7	9	10	12	13	15	16	18	19	21	22	24
8				7	9	11	13	15	17	18	20	22	24	26	28	30
9					11	13	16	18	20	22	24	27	29	31	33	36
10						16	18	21	24	26	29	31	34	37	39	42
11							21	24	27	30	33	36	39	42	45	48
12								27	31	34	37	41	44	47	51	54
13									34	38	42	45	49	53	57	60
14										42	46	50	54	48	63	67
15											51	55	60	64	69	73
16												60	65	70	74	79
17													70	75	81	86
18														81	87	92
19															93	99
20																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. During your Social Psychology course, you carried out a survey into social attitudes.

   (a) Give an example of **one** question from your survey that gathered quantitative data. (1)

   (b) Give an example of **one** question from your survey that gathered qualitative data. (1)

   (c) If you were to carry out the survey again, explain **one** way it could it be improved. (2)

Total for Question 1 = 4 marks

2. Milgram (1963) carried out a famous study into obedience. In 1975 he published the results of many variations on this basic study.

   (a) Describe **one** way in which the procedure of ONE of Milgram's variations was the same as the original study. (2)

(b) Describe **one** way in which the variation you described in (a) differed from the original study. (2)

(c) Outline **one** of the findings (results and/or conclusions) of this variation. (2)

Total for Question 2 = 6 marks

3. The classic study in Social Psychology is Sherif's "Robbers Cave" study into intergroup conflict.

(a) Describe **one** example of how the boys showed intergroup conflict in the study. (2)

(b) Explain **one** way that Sherif reduced the level of conflict between the boys. (3)

(c) Explain how the results of this study can be applied to reducing prejudice in everyday life. (3)

Total for Question 3 = 8 marks

TOTAL FOR SECTION A = 18 marks

SECTION B: COGNITIVE PSYCHOLOGY

4. Describe the working memory model. (4)

Total for Question 4 = 4 marks

5. Reuben carries out a memory test on his classmates. 20 of them learn a list of 20 words chosen at random from a dictionary. Reuben splits them into two groups of 10. One group recalls the words after a delay of 1 minute but the other group recalls the words after a delay of 1 hour. Here are Reuben's results:

Participant	Recall after 1 minute	Recall after 1 hour
1	12	6
2	10	6
3	14	10
4	8	8
5	7	9
6	10	11
7	11	6
8	10	7
9	15	12
10	10	13

(a) Identify the mode for each condition. (2)

(b) State **one** other result you could gather from this table of data. (1)

(c) Which statistical test should Reuben use to check if the differences between the two conditions are statistically significant? (1)

(d) Explain why this statistical test would be the most appropriate one to use. (2)

(e) Explain **one** problem with **either** the reliability **or** the validity of Reuben's procedure. (2)

Total for Question 5 = 8 marks

6. H.M. was a famous patient who suffered an unusual sort of brain damage that made him forget new information within a minute of learning it. However, he still possessed some memories from before his brain damage and he could still learn new skills (like playing tennis).
   Using your knowledge of cognitive psychology, explain why H.M. was able to remember some things but unable to remember others. (4)

Total for Question 6 = 4 marks

TOTAL FOR SECTION B = 16 marks

SECTION C: BIOLOGICAL PSYCHOLOGY

7. The classic Biological study is Raine's research into the brains of murderers using Positron Emission Tomography (PET).

(a) Describe how PET works as a brain imaging technique. (3)

(b) State TWO differences in brain activity that Raine observed between the NGRI group and the control group in Raine's study. (2)

(c) Outline the strengths of brain imaging technology in Raine's study. (4)

Total for Question 7 = 9 marks

8. Jack and Sally are twins who share many things in common: they both play team sports and love the TV show *Throne of Bones* which has a lot of battles and characters getting killed. However, Jack is easy-going but Sally is always getting into trouble because of her hot temper.

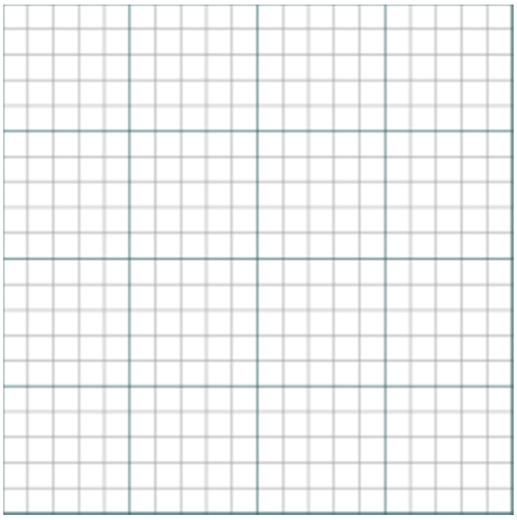
(a) Outline a biological explanation for the difference between Jack and Sally's behaviour. (2)

(b) How does Freud's explanation for aggression differ from the biological explanation? (2)

Total for Question 8 = 4 marks

9. Fatima is conducting research into how high people rate their own aggression and how much they like the violent TV show *Throne of Bones*. Both ratings are on a 1-10 scale and Fatima approaches 10 participants then carries out a correlation.

Participant	Self-rating of Aggression	Liking for violent TV
Sam	9	10
Elliott	1	1
Millie	5	5
Yakub	8	8
Daisy	5	8
Nathan	8	2
Poppy	5	1
Rachel	7	8
Usman	3	1
Johannes	2	5



(a) Use the graph above to plot a scattergram based on Fatima's results. (2)

(b) Outline one conclusion from the scattergram. (1)

Fatima carries out an inferential test to check her hypothesis that there will be a positive correlation between self-rating scores of aggression and liking scores for *Throne of Bones*. Her observed value is 0.33.

(c) Using the correct table of critical values from the front of this exam booklet, state the significance of Fatima's results in relation to her hypothesis. (2)

Total for Question 9 = 5 marks

TOTAL FOR SECTION C = 18 marks

SECTION D: LEARNING THEORIES

10. As part of your course, you have studied a Key Question in learning theory.

    Describe your Key Question and explain it using concepts, theories and/or research from the learning approach. (8)

Total for Question 10 = 8 marks

11. As part of your course, you will have studied a contemporary research study from the learning approach. It will be a study from this list:
    - Becker et al. (2002) Eating behaviours among Fijian girls
    - Bastian et al. (2011) Cyber-dehumanisation
    - Capafons et al. (1998) Systematic desensitisation

    (a) Describe the aims and/or procedure in your contemporary study. (3)

    (b) Outline **one** strength of the way the study was carried out in terms of **either** reliability **or** validity. (2)

Total for Question 11 = 5 marks

12. Some psychological research is conducted on non-human participants but this is controversial.

    (a) Outline **one** argument against conducting psychological research on non-human animals. (2)

(b) Describe **three** ethical guidelines covering the use of non-human animals in psychological research. (3)

Total for Question 12 = 5 marks

TOTAL FOR SECTION D = 18 marks

SECTION E: ISSUES & DEBATES

13. Evaluate the studies by Milgram (1963) and Watson & Rayner (1920) in terms of ethics. (8)

Total for Question 13 = 8 marks

14. Evaluate the nature-nurture debate in psychology with reference to the biological approach and the learning approach. (12)

Total for Question 14 = 12 marks

TOTAL FOR SECTION E = 20 marks

TOTAL FOR PAPER = 90 marks

Use this page for additional responses to questions