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Candidate surname					Other names				
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Pearson Edexcel Level 3 GCE

Monday 9 June 2025

Morning (Time: 2 hours)

Paper reference **9PS0/03**

Psychology

Advanced

PAPER 3: Psychological Skills

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 80.
- 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.
- Try to answer every question.
- 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.



Chi-squared distribution formula

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

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_a	N_b															
	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	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.

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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

<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.

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QUESTION 1 BEGINS ON THE NEXT PAGE.



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

SECTION A

Research Methods

1 Screen use and language skills

Researchers wanted to investigate the association between screen use and children's language skills.

They decided to conduct a review of studies, where they considered whether screen use was related to children's language skills.

More than 20 studies were included in the review with the following variables considered in relation to children's language skills:

- Quantity of screen use, which was the duration of time spent that parents reported their children watching television, movies or DVDs on devices (for example, tablets or televisions).
- Quality of screen use, which was the extent of exposure that parents reported their children had to educational programmes.
- Onset of screen use, which was the age that parents reported their children first began viewing screens.

The language skills of the children were measured using a Picture Vocabulary Test, which measured the extent to which a child understands language. The test had an average score of 100, with scores lower than 100 indicating less advanced language skills and scores higher than 100 indicating more advanced language skills.

(Source: adapted from Madigan et al. (2020))

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There were 23 studies which considered the quantity of screen use and language skills. The results concerning average screen time (hours per week) from these studies are shown in **Figure 1**.

Average language skills
test score

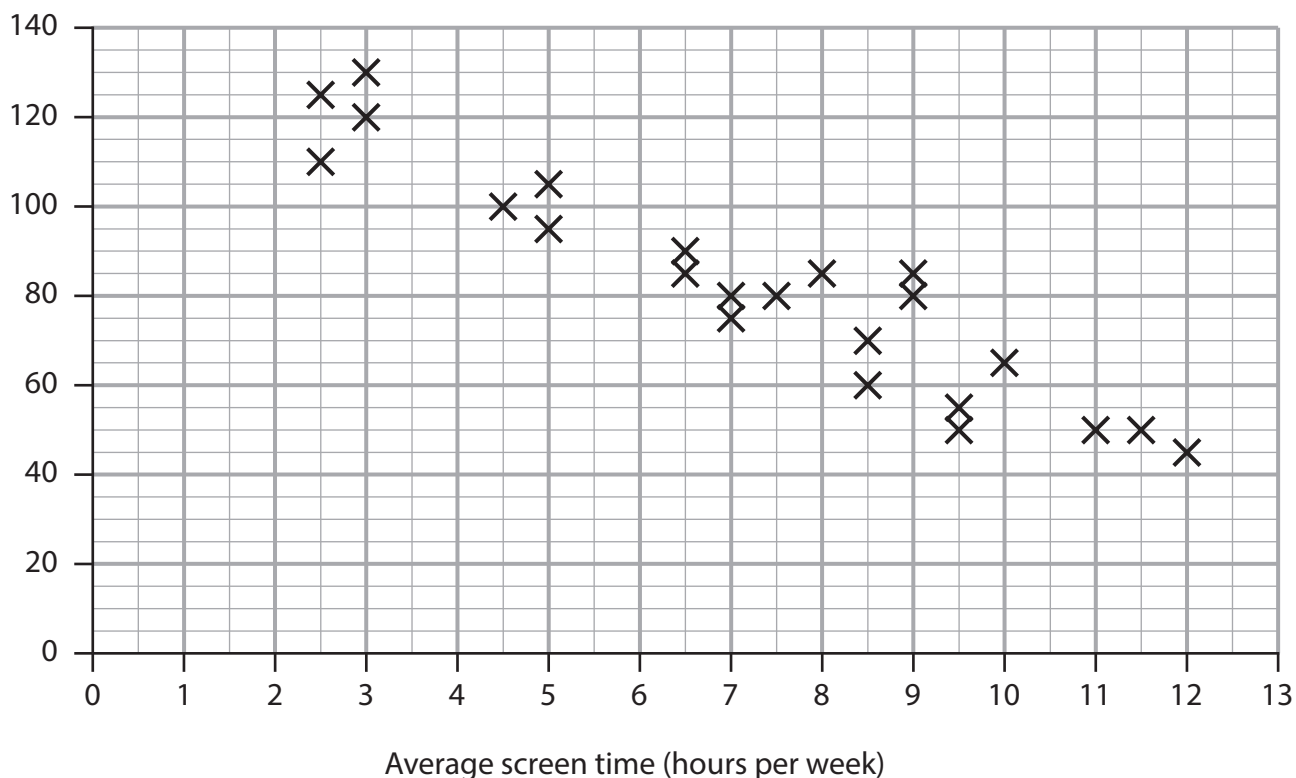


Figure 1

A scattergraph to show the relationship between average screen time (hours per week) and average language skills test scores

- (a) Explain **one** conclusion that could be made from the data in **Figure 1** in terms of the quantity of screen use.

(2)



- (b) Calculate the percentage of studies that found children's language skills to be **greater** than the mean of 100, out of all the studies which considered quantity of screen use.

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

(1)

SPACE FOR CALCULATIONS

Percentage

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There were 10 studies which considered the quality of screen use and language skills. The results concerning time spent viewing educational content are shown in **Table 1**.

Study	Average time spent viewing educational content (hours per week)	Average language skills score
A	1.5	121
B	0.1	49
C	2.2	138
D	0.3	64
E	0.2	55
F	1.6	112
G	0.7	88
H	0.5	76
I	1.1	102
J	0.9	98

Table 1

- (c) Explain **one** conclusion that could be made from the data in **Table 1** in terms of the quality of screen use.

(2)

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There were 6 studies which considered the onset of screen use and language skills. The results concerning the age the children first began viewing screens are shown in **Table 2**.

Study	Average onset of screen use (in months)	Average language skills score
K	12	130
L	2	55
M	14	128
N	5	60
O	8	98
P	7	90

Table 2

- (d) Explain **one** conclusion that could be made from the data in **Table 2** in terms of the onset of screen use.

(2)

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- (f) Explain **one** improvement that could have been made to the screen use and language skills study.

(2)

(Total for Question 1 = 13 marks)

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QUESTION 2 BEGINS ON THE NEXT PAGE.



2 Mobile phone use and well-being study

Researchers wanted to investigate the influence of mobile phone use on the self-reported well-being of participants.

The researchers reported that about 95% of Americans own a mobile phone and that extensive use of mobile phones is considered negative. Previous research had suggested mixed results regarding mobile phone use and well-being.

To assess the influence of mobile phone use on well-being, researchers from a German university recruited German speaking participants using volunteer sampling. Participants were asked to answer an online questionnaire measuring mobile phone use, satisfaction with life, and well-being.

For all measures, participants answered a number of statements using ranked (Likert) scales from 1 (strongly disagree) to 7 (strongly agree):

- 'Mobile phone use' – assessed problematic phone use within the past two weeks, with statements such as 'I have gone to bed later and slept less because I was using my mobile phone'. Each participant's overall mobile phone use was scored from 0–44, where a high score related to extremely problematic mobile phone use.
- 'Satisfaction with life' – assessed how far participants were happy with their current life, with statements such as 'In most ways my life is close to my ideal'. Each participant's overall satisfaction with life was scored from 5–35, where a high score related to extremely high satisfaction with life.
- 'Well-being' – assessed how far participants were happy with their current physical and mental health, with statements such as 'I am a happy person'. Each participant's overall well-being was scored from 0–25, where a high score related to extremely high well-being.

The researchers gathered the results and performed correlation analysis on their data.

(Source: adapted from Volkmer and Lerner (2019))

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The results of the mobile phone use and well-being study are shown in **Table 3**.

Participant	Mobile phone use score (0–44)	Satisfaction with life score (5–35)	Well-being score (0–25)
A	42	10	2
B	38	12	5
C	26	17	9
D	8	23	22
E	16	19	18
F	12	22	22
G	16	15	15
H	33	9	6

Table 3

- (a) Calculate the mean score for the participants' satisfaction with life using the data in **Table 3**. You must give your answer to **one** decimal place.

(1)

SPACE FOR CALCULATIONS

Mean



- (b) The researchers decided to use a Spearman's rho test to see if there was a relationship between mobile phone use and well-being.

Complete **Table 4** and calculate Spearman's rho for the relationship between mobile phone use and well-being.

You must give your answer to **three** decimal places.

(4)

Mobile phone use score (0–44)	Rank	Well-being score (0–25)	Rank	d	d ²
42	8	2	1		
38	7	5	2		
26	5	9	4		
8	1	22	7.5		
16	3.5	18	6		
12	2	22	7.5		
16	3.5	15	5		
33	6	6	3		
Total:					

Table 4

SPACE FOR CALCULATIONS

Spearman's rank correlation coefficient



(c) The researchers in the mobile phone use and well-being study used primary data.

Explain **one** weakness of using primary data for the mobile phone use and well-being study.

(2)

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SECTION B

Review of Studies

3 Preschool children and PE study

A researcher wanted to investigate the role of the teacher in preschool children's activity levels.

They visited different preschools in Hong Kong and observed a physical education (PE) lesson with children at preschool, aged 4 to 6 years old.

The PE lesson consisted of a highly structured 30-minute lesson which was repeated over 4 consecutive weeks. During the first two lessons, the children learned the routine and during the final two lessons, the children practised the routine. The researchers observed the children in the final lesson on the fourth week.

The teachers were split into two groups:

- More active – the teacher took more than 900 steps per lesson and gave praise throughout for physical activity.
- Less active – the teacher took less than 900 steps per lesson and did not give praise for physical activity.

The teachers and the children had their body weight and height measured before the study to determine their body mass index (BMI). The more active teachers had a lower BMI, but there were no significant differences in the children.

To measure the physical activity, a pedometer was used for teachers and children. A pedometer records the number of steps taken.

(Source: adapted from Cheung (2020))

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The results of the preschool children and PE study are shown in **Table 5**.

		Average number of steps			
		More active male teacher with praise	More active female teacher with praise	Less active male teacher with no praise	Less active female teacher with no praise
Overall		1560	1555	765	760
Gender	Boys	1810	1600	1010	810
	Girls	1310	1510	520	710

Table 5

- (a) Explain **one** practical application of the preschool children and PE study, using the data from **Table 5**.

(2)

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(b) Using research evidence, explain how far social learning theory can account for the findings of the preschool children and PE study.

(6)

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(Total for Question 3 = 8 marks)



4 Evaluate Rosenhan (1973) and Raine et al. (1997) in terms of ethical issues.

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(Total for Question 4 = 16 marks)

TOTAL FOR SECTION B = 24 MARKS



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(Total for Question 5 = 12 marks)



6 Assess how psychological understanding has developed over time, with reference to any **two** of the following applications to psychology:

- Clinical psychology
- Criminological psychology
- Child psychology
- Health psychology.

(20)

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

Handwriting practice area with 20 horizontal dotted lines.



DO NOT WRITE IN THIS AREA

DO NOT WRITE IN THIS AREA

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DO NOT WRITE IN THIS AREA

Handwriting practice area with 20 sets of horizontal dotted lines.



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(Total for Question 6 = 20 marks)

TOTAL FOR SECTION C = 32 MARKS
TOTAL FOR PAPER = 80 MARKS



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