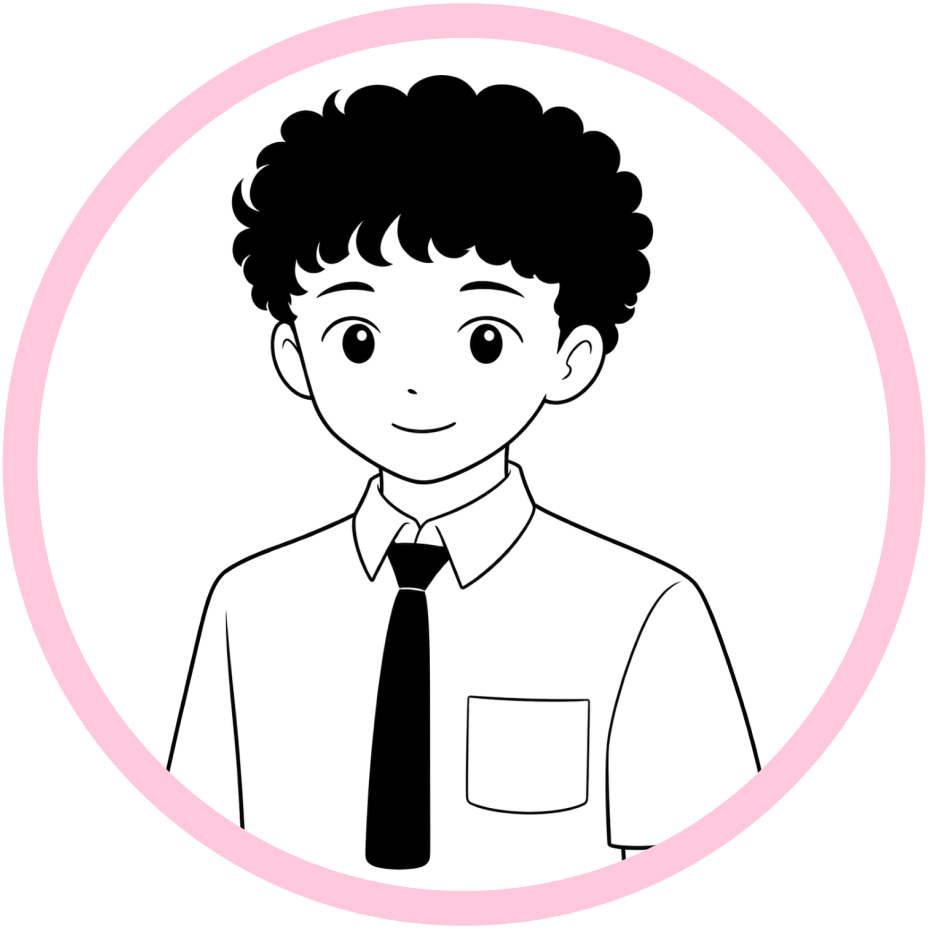
PEARSON EDEXCEL IAL PSYCHOLOGY · YPS01

PSYCHOLOGY



EXAM QUESTION PACK

BIOLOGICAL PSYCHOLOGY

SCORE	PERCENTAGE
/334	%

STEMUP

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Q1.

Harrison conducted an experiment into the effect of antidepressants on people who had seasonal affective disorder. He allocated his participants into one of two different conditions.

- Condition A: Given antidepressants.
- Condition B: Not given antidepressants.

Harrison asked all the participants to record their mood in a daily diary for a month. He used a rating scale from 1 (happy mood) to 7 (low mood). When he had collected the data, Harrison then calculated an average mood score for each participant over the month.

(a) State a fully operationalised null hypothesis for Harrison's experiment.

(2)

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

Condition A: Participants were given antidepressants	Average mood score for the month from 1 to 7	Condition B: Participants were not given antidepressants	Average mood score for the month from 1 to 7
A	2	G	4
B	4	H	5
C	1	I	3
D	3	J	5
E	2	K	6
F	2	L	3

Table 1

(b) Calculate the mean score for **Condition B**. You **must** give your answer to **two** decimal places.

(1)

Space for calculations

Mean score for **Condition B** .....

(c) Calculate the median score for **Condition A**.

(1)

Space for calculations

Median score for **Condition A** .....

(d) Harrison calculated the standard deviation for both conditions. The standard deviations are shown in **Table 2**.

Standard deviation for condition A: Participants were given antidepressants	Standard deviation for condition B: Participants were not given antidepressants
1.03	1.21

Table 2

Explain what the standard deviations show about Harrison's results.

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(e) Explain **one** weakness of Harrison's experiment.

(2)

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(Total for question = 8 marks)

Q2.

Harold conducted an investigation to see if the number of hours spent playing online games affected aggression. He asked his participants to spend no more than one hour a day playing online games for the first week of his investigation. In the second week of his investigation the participants could spend up to seven hours a day playing online games.

Harold asked his participants to record how many aggressive thoughts they had each day. He then calculated the total number of aggressive thoughts for each participant in each week.

(a) Identify the independent variable (IV) and the dependent variable (DV) in Harold's investigation.

(2)

Independent variable

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Dependent variable

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(b) Once he had collected the data Harold calculated a Wilcoxon Signed Ranks test on the data.

Explain **one** reason why Harold conducted a Wilcoxon Signed Ranks test on his data.

(2)

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

Participant	Number of aggressive thoughts recorded in week 1	Number of aggressive thoughts recorded in week 2	Difference	Ranked Difference
A	2	0		
B	7	8		
C	5	9		
D	1	1		
E	12	7		
F	3	3		
G	2	3		

Table 1

(c) Calculate the T value for the data gathered by Harold by completing **Table 1**.

You can use the formulae and statistical tables.

You **must** show your working out.

(4)

Space for calculations

T = ...

(d) Explain **one** improvement Harold could make to his investigation.

(2)

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(Total for question = 10 marks)

Q3.

(a) State **one** area of the brain that influences human aggression.

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(b) Explain **two** weaknesses of brain functioning as an explanation of aggression.

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(Total for question = 5 marks)

Q4.

In your studies on biological psychology, you will have learned about brain functioning as an explanation of aggression.

(a) State **two** areas of the brain that play a role in human aggression.

(2)

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(b) Explain **one** strength of brain functioning as an explanation of aggression.

(2)

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(Total for question = 4 marks)

Q5.

(a) Define what is meant by the term 'external zeitgeber'.

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(b) Explain **two** strengths of the role of external zeitgebers in explaining the regulation of the sleep-wake cycle.

(4)

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(Total for question = 5 marks)

Q6.

In your studies of biological psychology you will have learned about light therapy as it is used for seasonal affective disorder.

(a) Describe light therapy as a treatment for seasonal affective disorder.

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(b) Explain **one** weakness of light therapy as a treatment for seasonal affective disorder.

(2)

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(c) Explain **one** reason why light therapy may be more effective than one other therapy for treating seasonal affective disorder.

(2)

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(Total for question = 8 marks)

Q7.

In your studies of biological psychology you will have learned about the following classic study in detail:

- Raine et al. (1997).

(a) Describe the results of the classic study by Raine et al. (1997).

(3)

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(b) Explain **one** strength and **one** weakness of the classic study by Raine et al. (1997).

(4)

Strength

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Weakness

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(Total for question = 7 marks)

Q8.

In your studies on biological psychology, you will have learned about the contemporary study by Brendgen et al. (2005).

(a) Describe the procedure of the study by Brendgen et al. (2005).

(4)

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(b) Explain **one** strength of the study by Brendgen et al. (2005).

(2)

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(c) Explain **one** improvement that could be made to the study by Brendgen et al. (2005).

(2)

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(Total for question = 8 marks)

Q9.

In your studies of biological psychology, you will have learned about the infradian rhythm of the menstrual cycle.

(a) Describe the infradian rhythm of the menstrual cycle.

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(b) Explain **two** strengths of infradian rhythms as an explanation of human behaviour.

(4)

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(Total for question = 8 marks)

Q10.

(a) Describe the role of **one** hormone that influences aggression.

(2)

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(b) Explain **one** strength and **one** weakness of hormones as an explanation of aggression.

(4)

Strength

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Weakness

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(Total for question = 6 marks)

Q11.

Estelle conducted an investigation to see if there was a difference in the number of aggressive thoughts males and females had. She gathered participants from a local healthcare centre to take part in her study. Estelle asked her participants to record the average number of aggressive thoughts they had in a day.

(a) Describe how Estelle may have used a volunteer sampling technique to gather her participants.

(2)

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(b) Explain **one** weakness of Estelle using a volunteer sampling technique in her investigation.

(2)

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Estelle's results for her male participants are shown in **Table 1**.

Participants	Average number of aggressive thoughts in a day
A	4
B	5
C	7
D	4
E	8
F	1

Table 1

(c) Calculate the median score for the number of aggressive thoughts in a day for males.

(1)

Space for calculations

Median score .....

Estelle's results for female participants are shown in **Table 2**.

Participant	Average number of aggressive thoughts in a day	$(x - \bar{x})$	$(x - \bar{x})^2$
G	3		
H	5		
I	2		
J	4		
K	1		
L	5		
Mean = 3.33		Sum of differences^2 =	
			Standard deviation = ...

Table 2

(d) Calculate the standard deviation for the data gathered by Estelle by completing **Table 2**.

You **must** give your answers to **two** decimal places.

You can use the formulae.

You **must** show your working out.

(4)

Space for calculations

(Total for question = 9 marks)

Q12.

Assess how well brain functioning can explain aggression as a human behaviour.

(Total for question = 8 marks)

Q13.

Assess the role of hormones as an explanation of aggression.

(8)

(Total for question = 8 marks)

Q14.

Assess the role of infradian rhythms in human behaviour.

(Total for question = 8 marks)

Q15.

Twin studies are often used by psychologists when researching aggression.

(a) Describe how a twin study research method could be used in biological psychology, such as when researching aggression.

(4)

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(b) Explain **one** strength **and** one weakness of using a twin study research method in biological psychology.

(4)

Strength

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Weakness

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(Total for question = 8 marks)

Q16.

Nancy has just returned from a trip abroad. She is finding it hard to get to sleep at night as she does not feel tired. Nancy wants to go to sleep in the middle of the day as she is very tired, but cannot sleep as she is at work in an office.

Her eating habits have been affected, as she still wants a big meal in the morning, which would have been in the evening when she was abroad. She has not been out with her friends in the evening since she returned home, as she has felt too tired.

(a) Describe how external zeitgebers could help Nancy regulate her sleep wake cycle.

(4)

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(b) Explain **one** strength of Nancy using external zeitgebers to regulate her sleep wake cycle.

(2)

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(Total for question = 6 marks)

Q17.

PET scans are one brain scanning technique used in biological psychology.

(a) Describe PET scans as they are used in biological psychology.

(3)

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(b) Explain **one** weakness of PET scans as they are used in biological psychology.

(2)

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(Total for question = 5 marks)

Q18.

(a) Describe research into the circadian sleep-wake cycle.

(2)

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(b) Explain **one** strength and **one** weakness of research into the circadian sleep-wake cycle.

(4)

Strength

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Weakness

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(Total for question = 6 marks)

Q19.

Meryl has decided to carry out an investigation to determine whether there is a relationship between hormones and aggression. She gathered 13 participants through volunteer sampling. Meryl measured the participants' cortisol levels and how aggressive they had been over the past week.

(a) Describe the procedure Meryl could have used for her investigation.

(4)

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(b) After she had carried out her investigation Meryl conducted a Spearman's rank test on her data. She found a calculated value of 0.569.

Explain whether Meryl found a significant correlation for a two-tailed (non-directional) test at $p \leq 0.05$.

You can use the statistical tables.

(2)

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(Total for question = 6 marks)

Q20.

(a) Describe the role of hormones in aggression.

(3)

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(b) Explain **one** strength and **one**weakness of the role of hormones as an explanation of aggression.

(4)

Strength

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Weakness

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(Total for question = 7 marks)

Q21.

Kaiko has a regular menstrual cycle. She menstruates every 29 days. Kaiko notices that she finds certain types of men more attractive at different times throughout the 29 days. Her friends say that she becomes angrier about a week before she menstruates, but she quickly calms down when menstruation begins.

Describe the role of infradian rhythms on Kaiko's menstrual cycle.

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(Total for question = 4 marks)

Q22.

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

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

(a) Describe your chosen contemporary study.

(4)

Chosen study

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(b) Explain **two** weaknesses of your chosen contemporary study in terms of validity.

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(Total for question = 8 marks)

Q23.

In your studies of biological psychology you will have conducted a practical investigation.

Discuss ethics and reliability in relation to your practical investigation.

(Total for question = 8 marks)

Q24.

Remo is 19 years old. He has been working at his local shop but recently lost his job because he became aggressive and shouted at a customer. Remo has also been banned from watching his local football team because he and his friends were in a fight with supporters of the opposing team after a match.

Remo's partner has threatened to leave him due to an incident at a restaurant where Remo threw his drink at the waiter because he was not satisfied with his food. Remo's parents have tried to talk to him about his aggressive behaviour but he just shouted at them.

Discuss hormones as an explanation of Remo's aggressive behaviour.

(Total for question = 8 marks)

Q25.

Sylvester has lost his job as a security guard at a shop due to his aggression. He had previously been verbally aggressive to customers, and in the latest incident kicked a customer after he had thrown them out of the shop.

Sylvester is currently single. His last relationship ended after he shouted at his partner. He has been banned from watching his local football team after he was involved in a fight with supporters of a rival team.

Discuss how brain functioning could account for Sylvester's aggression.

You must make reference to the context in your answer.

(Total for question = 8 marks)

Q26.

Evaluate **one** therapy, other than light therapy, that could be used for seasonal affective disorder.

(Total for question = 12 marks)

Q27.

In your studies of biological psychology and learning theories and development you will have learned about the following studies in detail:

- Brendgen et al. (2005)
- Skinner (1948) Superstition in the pigeon.

Evaluate Brendgen et al. (2005) and Skinner (1948) in terms of ethical considerations and reliability.

(Total for question = 16 marks)

Q28.

In your studies you will have learned about Brendgen et al. (2005) and Watson and Rayner (1920).

Evaluate Brendgen et al. (2005) and Watson and Rayner (1920) in terms of ethics and reliability.

(Total for question = 16 marks)

Q29.

Eliza and Fred are brother and sister. Eliza is in trouble at home for shouting at Fred. Fred was upset by the argument and so he was given some sweets by his mother to try and calm him down. Eliza said it was Fred's fault, as he threw a plate at her when they were arguing, and that was why she was shouting at him.

Eliza is also in trouble at school for throwing some food at another girl during an argument.

Their mother blames their father for the children's aggression. The father was recently reported to the police for arguing with a neighbour and threatening to hit the neighbour.

Evaluate genes and social learning theory as an explanation of Eliza and Fred's aggression.

You must make reference to the context in your answer.

(16)

(Total for question = 16 marks)

Q30.

Berengaria is 20 years old. She comes from a family that is known to be aggressive. Her father has been to prison for hurting someone in a fight. Her mother frequently gets into arguments with the neighbours and recently threw a stone at a neighbour's house.

Berengaria enjoys watching violent films. Her favourite actress has recently starred in a film where the actress was involved in using her skills in kickboxing to fight a group of people.

The police recently came to Berengaria's house to question her about a fight that shehad with another girl. The other girl alleges that Berengaria used kickboxing moves and stole her phone.

Evaluate the role of genes and social learning theory as explanations of Berengaria and her family's aggression.

You **must** make reference to the context in your answer.

(Total for question = 16 marks)

Q31.

In your studies of biological psychology and learning theories, you will have learned about the following studies:

- Brendgen et al. (2005)
- Watson and Rayner (1920).

Evaluate the studies by Brendgen et al. (2005) and Watson and Rayner (1920).

(16)

(Total for question = 16 marks)

Q32.

Evaluate the use of brain-scanning techniques in biological psychology.

(Total for question = 8 marks)

Q33.

In your studies on biological psychology, you will have learned about one of the following contemporary studies.

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

Evaluate your chosen contemporary study.

Chosen study

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(Total for question = 12 marks)

Q34.

Loreen conducted an investigation to see if there was a relationship between the amount of exercise people did on average in a week and the amount of sleep they had on average each night.

Loreen used an opportunity sampling technique and handed her participants a questionnaire.

The questionnaire consisted of two questions. The first question was "How many hours on average per week do you spend on exercise?" The second question was "What is the average number of hours you sleep per night?"

(a) Give a fully operationalised, non-directional (two-tailed) hypothesis for Loreen's investigation.

(2)

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Loreen calculated a Spearman's rank test on her data.

(b) Calculate Spearman's rank test to **three** decimal places for the data gathered by Loreen by completing **Table 1**.

You can use the formulae and statistical tables.

You must show your working out.

(4)

Average number of hours spent on exercise per week	Rank 1	Average number of hours slept per night	Rank 2	d	d^2
7	4	9	5		
3	2	7	3		
10	5	8	4		
5	3	6	1.5		
1	1	6	1.5		
				Total for d^2	

Table 1

Space for calculations

Spearman's rank .....

(c) Loreen compared her calculated value to the critical value for a two-tailed (non-directional) hypothesis at $p \leq 0.05$.

Identify the critical value Loreen would have used.

(1)

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(d) Explain **one** weakness of Loreen's investigation.

(2)

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(Total for question = 9 marks)

Q35.

In your studies of biological psychology, you will have learned about the study by Brendgen et al. (2005).

(a) Give **two** aims of Brendgen et al. (2005).

(2)

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(b) Explain **one** strength and **one** weakness of Brendgen et al. (2005) in terms of the sample used.

(4)

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Weakness

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(Total for question = 6 marks)

Q36.

Sienna conducted an investigation to see if changing the time that mice were exposed to bright light altered their sleeping pattern. She used two separate groups of mice and recorded when they slept during the investigation.

- Condition A: The mice were exposed to bright light between the hours of 7am and 7pm.
- Condition B: The mice were exposed to bright light between the hours of 7pm and 7am.

When the mice were not exposed to bright light, the mice were kept in dark conditions.

Sienna recorded how many mice slept between the hours of 7am and 7pm, and how many mice slept between the hours of 7pm and 7am.

(a) Identify the independent variable (IV) in Sienna's investigation.

(1)

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Sienna recorded whether the mice slept between 7am to 7pm or between 7pm to 7am.

Her results are shown in **Table 1.**

	Number of mice	Number of mice
	Slept between 7am and 7pm	Slept between 7pm and 7am
Condition A: Exposed to bright light between 7am and 7pm	24	1
Condition B: Exposed to bright light between 7pm and 7am	5	20

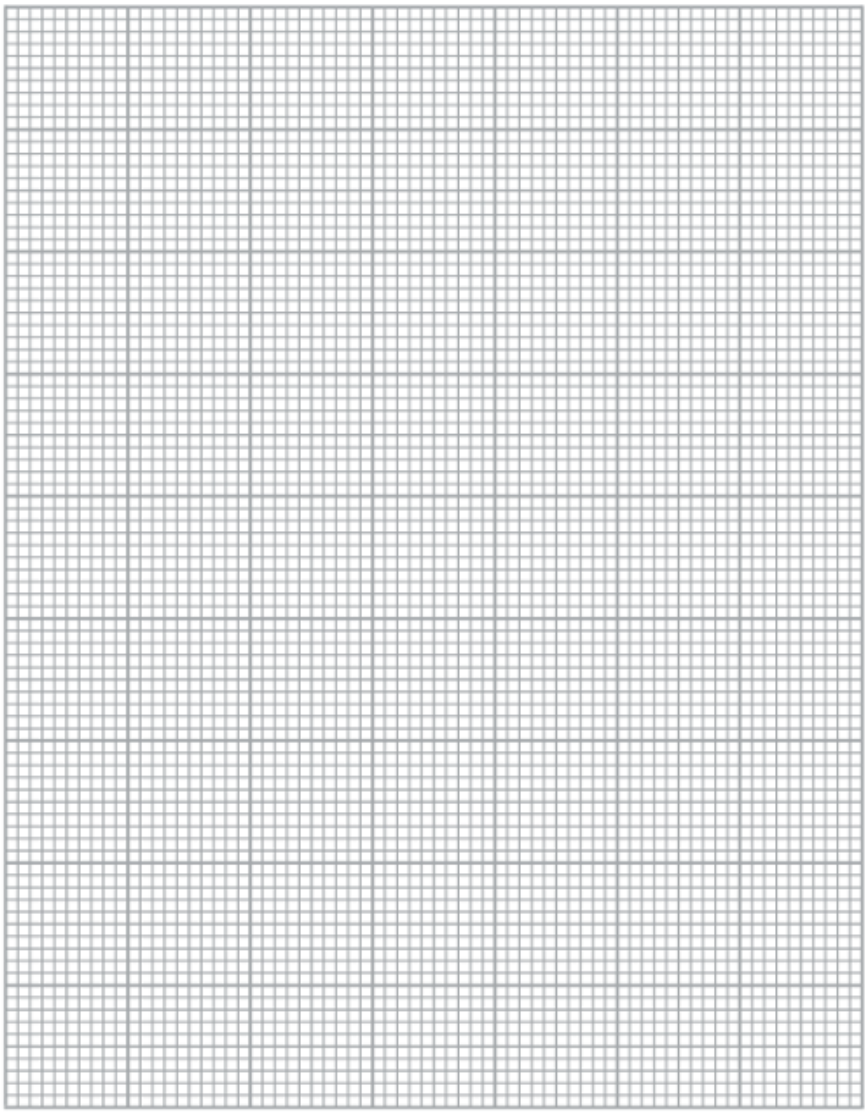
Table 1

(b) Draw a suitable graph for the sleeping patterns of the mice who were exposed to bright light between 7am and 7pm as shown in **Table 1.**

(3)

Title

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(c) Explain **one** conclusion that can be made from the data in **Table 1**.

(2)

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(d) Explain **one** reason why Sienna used mice instead of humans as participants in her investigation.

(2)

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(Total for question = 8 marks)

Q37.

In your studies of biological psychology, you will have learned about the classic study by Raine et al. (1997).

(a) State **one** conclusion of Raine et al. (1997).

(1)

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(b) Explain **one** weakness of Raine et al. (1997) in terms of generalisability.

(2)

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(Total for question = 3 marks)

Q38.

Herbert conducted a study to see if there was a relationship between playing computer games and quality of sleep. He gathered his participants from one university and asked them to fill in a questionnaire.

One of the questions Herbert asked was 'How many hours a day do you spend playing computer games?'. He also asked his participants to rate their quality of sleep, from 1 being very poor quality of sleep to 7 being an excellent quality of sleep.

(a) State a fully operationalised non−directional (two−tailed) hypothesis for Herbert's study.

(2)

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Herbert analysed his data using the Spearman's rank test.

(b) Calculate Spearman's rank for the data gathered by Herbert by completing **Table 1**.

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

The formulae and statistical tables can be found at the front of the paper.

You **must** show your working out.

(4)

Number of hours a day spent playing computer games	Rank 1	Quality of sleep	Rank 2	d	d^2
2	2.5	6	5.5	–3	
3.5	4	5	4	0	
6	6	3	2	4	
4	5	2	1	4	
2	2.5	4	3	–0.5	
1	1	6	5.5	–4.5	
				Total for d^2	

Table 1

Space for calculations

(c) Explain **one** reason why Herbert used the Spearman's rank test for his data.

(2)

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(d) Explain **one** weakness of Herbert's study about computer games and quality of sleep.

(2)

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(Total for question = 10 marks)

Q39.

(a) State the function of neurotransmitters.

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(b) Explain **one** weakness of the function of neurotransmitters as an explanation of human behaviour.

(2)

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(Total for question = 3 marks)

Q40.

Serenity has carried out a correlation to determine whether there is a relationship between how old her participants are in years and the number of hours they slept on average per night.

(a) State the **two** fully operationalised co-variables in Serenity's correlation.

(2)

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

Age (years)	Average amount of sleep per night (hours)
21	9
18	10
30	8
27	9
24	7

Table 1

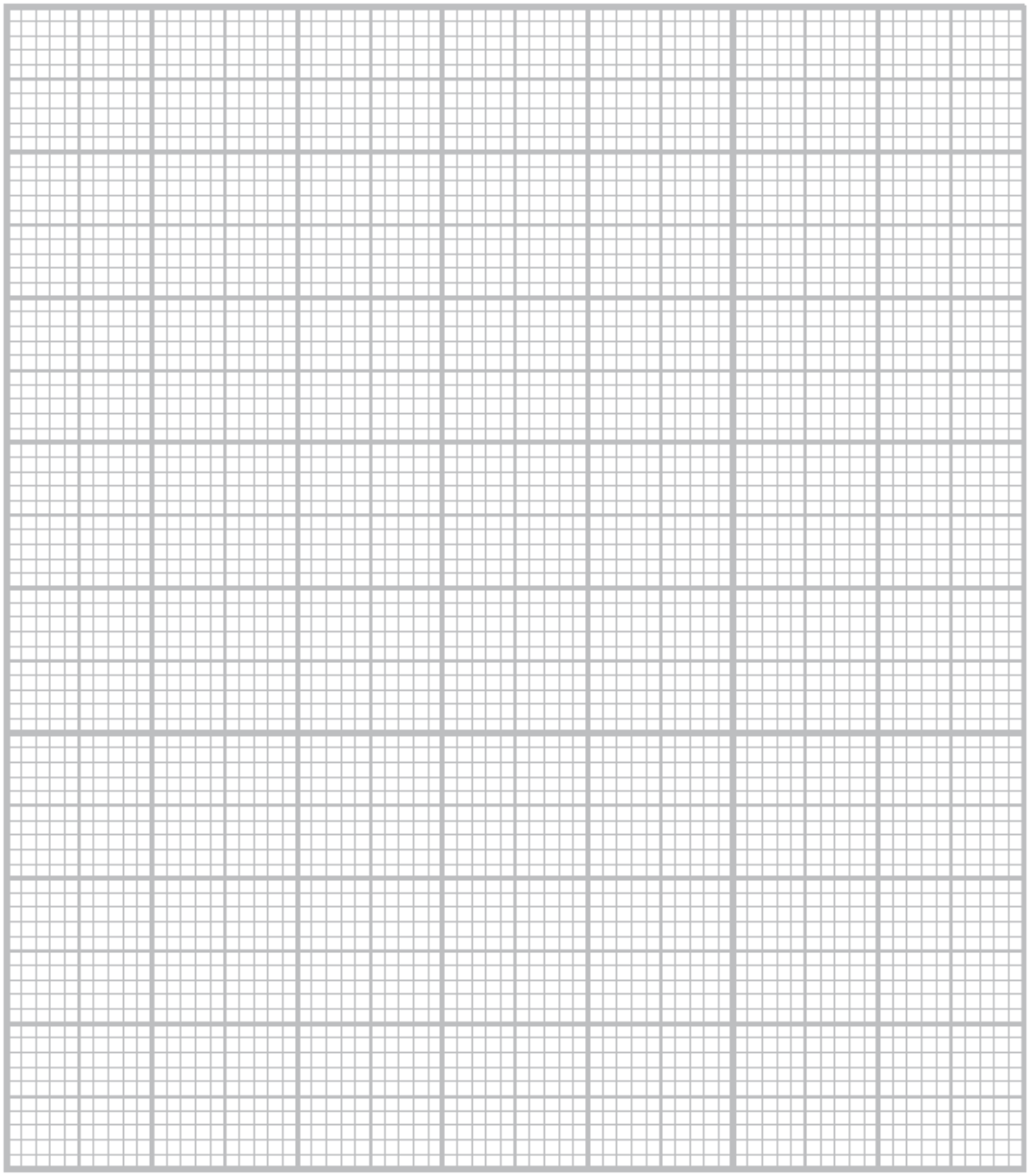
(b) Draw a scatter diagram to represent the data shown in **Table 1**.

(3)

Title

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(c) Serenity used the Spearman's rank test to see if her results were significant.

Give **two** reasons why Serenity used the Spearman's rank test for her data.

(2)

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(Total for question = 7 marks)