Section A
Approaches in psychology

Answer all questions in this section.

01 Which of the following statements about the cognitive approach is FALSE?

A Inferences about internal mental processes are made on the basis of behaviour.
B Internal mental processes are studied scientifically.
C Mental processes are studied directly by making inferences.
D Theoretical and computer models are used to help explain mental processes.

[1 mark]

02 We use schema when we process information from the world around us.

Explain one reason why using schema might be useful when processing information from the world around us, and explain one reason why using schema might not be useful when processing information from the world around us.

[4 marks]
Jed was given a detention meaning that he would miss the football match after school. Jed felt extremely angry. Later that day, Jed was called in to the Head of Year’s office for kicking his locker at break time.

Identify and explain the defence mechanism Jed was displaying. [3 marks]
Outline the behaviourist approach. Compare the behaviourist approach with the biological approach. [16 marks]

You may use this space to plan your answer.
Section B

Biopsychology

Answer all questions in this section.

05 Give one difference between the autonomic nervous system and the somatic nervous system.  

[1 mark]

06 Name the types of neurons labelled A, B and C on Figure 1 below. Write your answers in the boxes provided.  

[3 marks]

Figure 1
07 Information can only travel in one direction at a synapse.

Explain why neurons can only transmit information in one direction at a synapse.  

[3 marks]

08 The fight or flight response enabled our ancestors to survive but can be less helpful in response to more modern stressors.

Explain how the body responds during fight or flight and why this could be unhelpful in a driving test situation.  

[4 marks]
Julia complains that her baby is sleeping all day and keeping her awake all night.

Using your knowledge of research into exogenous zeitgebers, discuss what Julia could do to encourage her baby to sleep more at night.

[8 marks]
Julia decided to record how many hours her baby slept for in the day and in the night for one week.

**Table 1** The number of hours slept in the day and the number of hours slept in the night over one week

<table>
<thead>
<tr>
<th></th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Number of hours slept in the day</strong></td>
<td>8.5</td>
<td>9.0</td>
<td>7.0</td>
<td>9.5</td>
<td>10.5</td>
<td>6.5</td>
<td>8.5</td>
</tr>
<tr>
<td><strong>Number of hours slept in the night</strong></td>
<td>9.0</td>
<td>8.0</td>
<td>8.5</td>
<td>7.0</td>
<td>7.5</td>
<td>10.5</td>
<td>8.0</td>
</tr>
</tbody>
</table>

1) Calculate the mean number of hours slept in the night. Show your workings.

Give your answer to two significant figures.

[3 marks]

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11) Explain one reason why the mean is the most appropriate measure of central tendency for this set of data.

[2 marks]

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Section C
Research methods

Answer all questions in this section.

A psychologist was reading an article about typical dream themes in adults.

Figure 2 shows the main dream themes identified in the article.

Figure 2 Main dream themes

Using Figure 2, estimate the percentage of dreams that were reported to be about being chased. Shade one box only.

[1 mark]

A 4%
B 12%
C 27%
D 42%

Turn over for the next question
The psychologist was interested in finding out whether dream themes differed between males and females, particularly in terms of social interaction. She decided to conduct a pilot study. Twenty undergraduate students (8 male and 12 female) volunteered for the study. For a six-week period the students were interviewed at 9 am each morning when they arrived at university. Interviewers, who did not know the purpose of the study, carried out and recorded the dream interviews.

What is meant by a pilot study? Explain one possible reason why the psychologist decided to conduct a pilot study for this investigation.

[3 marks]

Extra space

The interviews produced qualitative data.

What is meant by qualitative data? Give one strength of collecting qualitative data in this study.

[2 marks]

Extra space
What are investigator effects? Suggest one way in which they could have been minimised during the dream interviews.  

[3 marks]

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__________________________________________________________

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__________________________________________________________

Extra space  __________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________

Another researcher, who did not know the purpose of the study, carried out a content analysis of the interview data.

Explain how this content analysis could have been conducted.  

[4 marks]

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__________________________________________________________

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__________________________________________________________

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__________________________________________________________

__________________________________________________________

Extra space  __________________________________________________________

__________________________________________________________

__________________________________________________________

__________________________________________________________

Turn over for the next question
The psychologist wanted to assess the reliability of the content analysis.

Explain how the reliability of the content analysis could be assessed. [4 marks]

When comparing the data for males and females, the psychologist found that there was a difference in the proportion of friendly and aggressive social interactions. This is shown in Table 2.

Table 2  Percentage of friendly and aggressive social interactions in dreams reported by males and females

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendly</td>
<td>40%</td>
<td>56%</td>
</tr>
<tr>
<td>Aggressive</td>
<td>60%</td>
<td>44%</td>
</tr>
</tbody>
</table>

A total of 375 dreams reported by males included social interaction. Use the data in Table 2 to calculate how many of these dreams reported by males were classified as aggressive. Show your workings. [2 marks]
Draw a suitable graphical display to represent the data in Table 2. Label your graph appropriately.

Title

[4 marks]
The psychologist decided to conduct an experiment to investigate the effect of watching horror films before going to bed.

A volunteer sample of 50 university students consented to take part in the experiment.

The 50 students were randomly split into two groups. **Group 1** watched a horror film before going to bed each night for the first week then a romantic comedy before going to bed each night for the second week. **Group 2** watched the romantic comedy in the first week and the horror film in the second week.

When the students woke up each morning, each student received a text message that asked if they had had a nightmare during the night. They could respond ‘yes’ or ‘no’.

20

Write a brief consent form that would have been suitable for use in this experiment.

The consent form should:

- include some detail of what participants might expect to happen
- refer to ethical issues
- be in an appropriate format/style.

[6 marks]

Extra space
The psychologist proposed a directional hypothesis.

Write a directional hypothesis for this experiment. [3 marks]

The psychologist used a repeated measures design in this experiment.

Explain why it was important to use a repeated measures design in this case. [2 marks]

The psychologist used counterbalancing in this experiment.

Explain why it was appropriate to use counterbalancing in this experiment. [2 marks]
Explain how the psychologist could have randomly split the sample of 50 students into the two groups.  

[3 marks]

The psychologist collated the responses of all the participants over the two-week period and calculated the mean and standard deviation for each condition.

Table 3  Mean number of nightmares reported and the standard deviation for each condition

<table>
<thead>
<tr>
<th></th>
<th>Mean number of nightmares in 7 days</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horror films</td>
<td>2.18</td>
<td>1.48</td>
</tr>
<tr>
<td>Romantic comedies</td>
<td>0.30</td>
<td>0.61</td>
</tr>
</tbody>
</table>

What do the mean and standard deviation values in Table 3 suggest about the effect of the type of film watched on the occurrence of nightmares? Justify your answer.  

[4 marks]
The psychologist found that the difference in the number of nightmares reported in the two conditions was significant at $p<0.05$.

Explain what is meant by ‘significant at $p<0.05$’ in the context of this experiment. [2 marks]

The psychologist was concerned about the validity of the experiment.

Suggest one possible modification to the design of the experiment and explain how this might improve validity. [3 marks]
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