A LEVEL PSYCHOLOGY

COMPONENT 2

Psychology: Investigating Behaviour

SPECIMEN PAPER

2 hours 15 minutes

ADDITIONAL MATERIALS

In addition to this examination paper, you will need a 12 page answer book

INSTRUCTIONS TO CANDIDATES

Answer **all** the questions.

Write your answers in the spaces provided in this booklet.

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part-question.

You are reminded of the need for good English and orderly, clear presentation in your answers.

No certificate will be awarded to a candidate detected in any unfair practice during the examination.

SECTION A – Principles of Research

Answer **all** *questions.*

1. Describe how you would calculate a mean score of a set of data. [2]

2. Analyse **two** weaknesses of conducting psychological research in the field. [6]

3. Assess whether an independent groups design or a repeated measures design is best for ensuring valid results in an experiment. [6]

4. Describe the main features of a case study. [4]

5. With reference to Milgram's (1963) research *Behavioural* Study *of Obedience,* discuss the use of the experimental method in investigating social behaviour. [12]

SECTION B – Personal Investigations

You should *answer* **all** *the questions* in this section with reference to the investigations carried out in your study of psychology.

INVESTIGATION ONE: Correlational research on the relationship between age and reaction times

6. (a) (i) State the alternative hypothesis for your correlational investigation. [3]

   (ii) Explain whether this alternative hypothesis for your correlational investigation was directional or non-directional. [2]

   (b) (i) Describe the sampling method that you used. [2]

   (ii) Explain why this sampling method was chosen. [3]

   (c) Suggest **two** ways your investigation could have been improved. [6]

(d) Another student carried out a correlational research on the relationship between age and reaction times. Their results are shown in the table below. With reference to their raw data only, explain how you could estimate the relationship between age and reaction times in this research (you do not need to plot a scatter diagram). [3]

Participant number	Age	Reaction time (seconds)
1	73	10
2	18	5
3	55	7
4	10	4
5	24	5

INVESTIGATION TWO: Observation of gender differences in food choices

7. With reference to details from your own investigation, describe how you ensured that the observation you carried out was ethical. [12]

SECTION C – Application of research methods to a novel scenario

Answer **all** *questions.*

8. A psychologist was asked to investigate the effects of noise on the stress levels of pupils at a local school. She measured the cortisol levels in the saliva of ten children after they had been carrying out a task for an hour. Cortisol is released when an individual interprets a situation as being stressful. The task was familiar to and identical for, all the pupils but there were two conditions of noise levels (low level and high level). On day one the pupils completed the task with music played quietly whereas on day two the same music was played loudly as they carried out the same task.

   The results are shown in *Table 1* below:

   Table 1: Summary table of raw data, mean and standard deviation

Participant (f=female, m=male)	Level of cortisol in saliva samples after one hour on the task (nmol/L)	
	Low levels of noise	High levels of noise
1f	20	13
2f	6	40
3f	1	12
4f	9	3
5f	0	15
6f	13	7
1m	4	22
2m	3	19
3m	2	11
4m	2	8
Mean	6	15
Standard Deviation	6.32	10.14

(a) (i) Calculate the median scores for the 'low levels of noise' condition and the 'high levels of noise' condition. [2]

(ii) Calculate the modal scores for the 'low levels of noise' condition and the 'high levels of noise' condition. [2]

(iii) Discuss which measure of central tendency is the most appropriate for this set of data. [6]

(b) Identify the measure of dispersion used and describe **one** advantage of using this measure of dispersion. [3]

(c) Identify and justify which inferential statistical test should be used to analyse this data. [4]

The psychologist proposed an experimental hypothesis: 'Levels of cortisol will be lower after completing a task with low levels of noise than when completing a task with high levels of noise'. The results are shown in *Table 2* below.

Table 2: Extract of critical values of T ($p \leq 0.05$)

N	One-tailed test	Two-tailed test
8	5	3
9	8	5
10	11	8
11	13	10
12	17	13

(d) From *Table 2*, identify an appropriate critical (table) value for this research and state why you chose this critical value. [2]

(e) The value of T was observed (calculated) to be 20. Justify whether the psychologist should accept or reject her experimental hypothesis. [3]

(f) Explain what is meant by $p \leq 0.05$ in this research. [2]

9. It has been suggested that petting an animal can help improve mood and health of patients recovering in hospital. Suggest how a psychologist could investigate this **using an experiment**. [15]

In your answer you should include:

- the operationalisation of the independent variable (IV) and dependent variable (DV)
- details of the experimental design and sample (including sampling)
- identification of **two** possible confounding variables and how you would deal with these.

End of paper