

Name: _____

Teacher: _____

Mark:

/50

TEACHER COPY

Percentage:

%

Section One: Research methods

(15 marks)

Question 1

State two disadvantages of collecting population data.

(2 marks)

It is time consuming. (1)

It is expensive. (1)

Question 2

Provide a psychological definition of 'validity'.

(2 marks)

Refers to the extent to which an assessment tool actually measures what it is designed to measure. (1)

Question 3

Calculate the mode, mean, median and range for the following set of data.

(4 marks)

10, 13, 27, 17, 16, 15, 27, 27, 28, 24, 27, 15

a) Mode:

27 (1)

b) Mean:

246 ÷ 12 = 20.5 (1)

c) Median: 10, 13, 15, 15, 16, 17, 24, 27, 27, 27, 27, 28

$$17 + 24 = 41 \quad 41 \div 2 = 20.5 \quad (1)$$

d) Range:

$$28 - 10 = 18 \quad (1)$$

Question 4

State the measure of central tendency that is most affected by extreme scores.

(1 mark)

Mean

Question 5

The table below shows the number of mobile phones owned by people in a population.

Ages	Mobile phones owned
10-14	3
15-19	2
20-24	6
25-29	7
30-34	5
35-39	2
40-44	5

best

State the type of graph you would draw to represent this information and explain your reason for your choice of graph. (2 marks)

Histogram. (1)

The data is continuous. (1)

or

The data is in age groups

Question 6

For the following scenarios, identify the operationalised independent variable and operationalised dependent variable.

- a) Dr Woodford, a psychologist, was concerned about the levels of stress in local council employees. He wanted to investigate whether he could lower their stress levels, as measured by a self-report inventory, by medicating them daily with Clarinodroxyl. A control group completed the same inventory but did not take any of the medication. (2 marks)

Operationalised Independent variable: Medication or no

medication (Clarinodroxyl) (1)

Operationalised dependent variable: Stress level measured

by a self-report inventory. (1)

- b) For his PhD, a university student investigates the effects of sleep deprivation on adults solving simple mathematical problems. He keeps Group 1 awake for 12 hours, Group 2 awake for 24 hours, Group 3 awake for 36 hours and Group 4 awake for 48 hours. He then gives all participants a series of basic arithmetic problems to solve. (2 marks)

Operationalised Independent variable: _____

Amount of time kept awake in hours (1)

Operationalised dependent variable: Math ability measured by number of correct math problems solved (1)

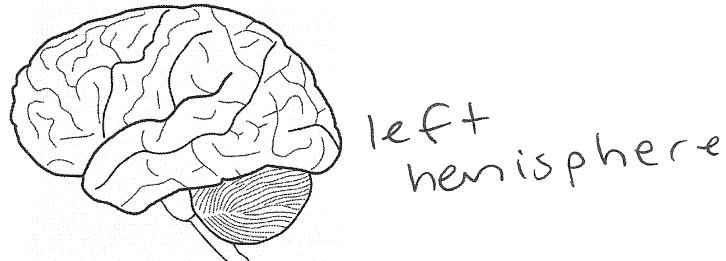
Section Two: Short answer (22 marks)

Question 7

Describe the location of the corpus callosum and state what its function is. (2 marks)

- Located between the cerebral hemispheres. (1)
- Allows messages to be sent from one hemisphere to the other. (1)

Question 8 (3 marks)



Look at the hemisphere shown in the diagram above. List three functions of this hemisphere.

Spoken language, number skills, controls right hand, written language, reasoning, scientific functions. (1 mark for each)

Question 9

Contrast still pictures and dynamic pictures. (2 marks)

(1) Still pictures are single, static images that are 2D, whereas dynamic pictures change when you change some input and can look different in different situations, they can also be 3D. (1)

Question 10

There are four lobes in each hemisphere of the brain. **State** the name of each lobe and **state** what it is mainly responsible for. (8 marks)

- Frontal lobe (1) Two of the following (1)
control of movement, coordination, emotions. (higher mental ability)
- Parietal lobe (1)
- bodily sensations, perception Either of (1) the two
- occipital lobe (1)
- vision (1)
- temporal lobe (1)
- speech and hearing (1)

Question 11

(3 marks)

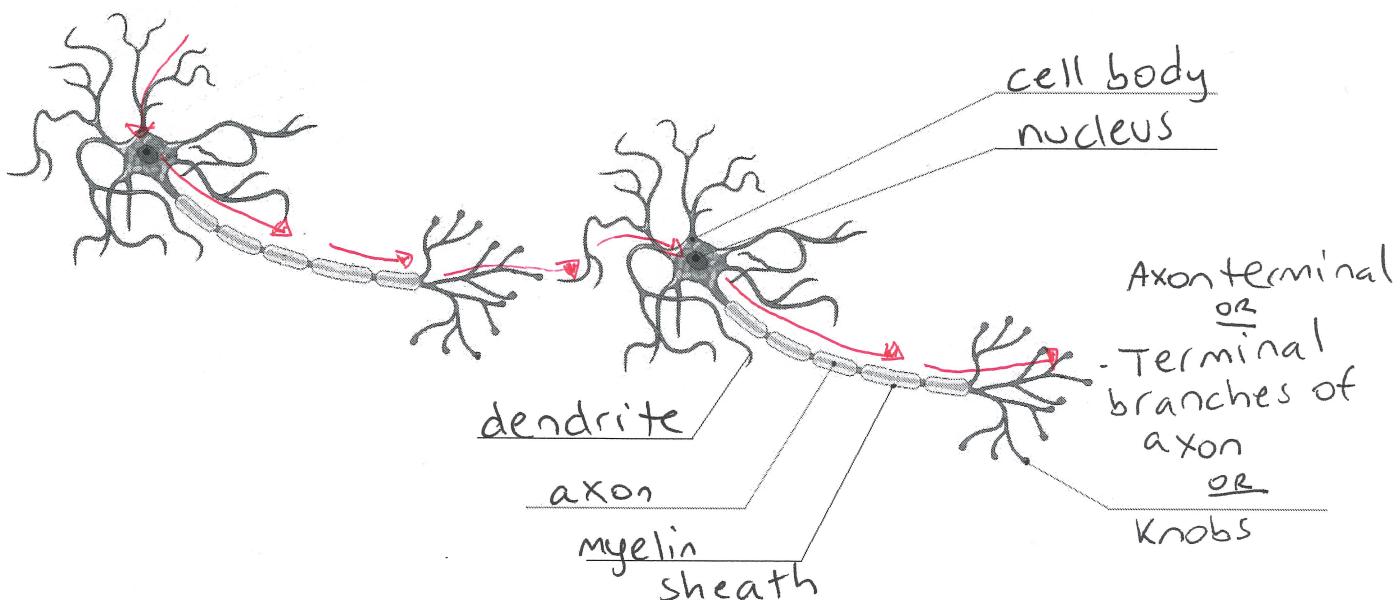
State what EEG (electroencephalograph) is used to measure and **describe** what it is used to find.

- used to measure brain waves (electrical activity) in the brain. (1)
- used to find tumours, epilepsy, to show sleeping behaviour, effects of hypnosis.

Question 12

Any 2, (1) mark each

- Label the diagram below. (-1) for each incorrect label (3 marks)
- Draw arrows showing the path of a nerve impulse along each neuron and between the two neurons. (1 mark)



This section contains **one (1)** question that you must answer.

Pages are included at the end of the question for planning and writing your answer.

- ♦ Planning: If you use a page for planning, indicate this clearly at the top of the page.
- ♦ Answering the question: In the pages provided indicate clearly the section of the question you are answering.

Suggested working time: 20 minutes.

Question 14

In the past two decades, emerging neuroimaging techniques have allowed psychologists to peer deep into the healthy, living brain. These techniques include CAT scans, MRI, fMRI and PET scans.

For each of the above-mentioned techniques, include the following information in your answer:

- ♦ Whether the technique takes still or dynamic pictures.
- ♦ Whether a tracer can be used in the technique.
- ♦ A description of what the technique is used for (in relation to the brain).

(1) for paragraph format

CAT scans

- Still pictures (1)
- Tracer can be used (1)
- To reveal underdeveloped parts of the brain, sights of injury from impact, tumours, lesions, infections, to detect abnormalities.

Any 2 mentioned above
for (1) mark

MRI scans

- Still pictures (1)
- Tracer can be used (1)
- Detection of tumours, other abnormalities linked to behavioural or personality characteristics

Any 2 mentioned above
for (1) mark

fMRI scans

- Dynamic pictures. (1)
 - can not use a tracer (1)
 - Look at how memory is formed, language, pain, learning and emotion. To see brain activity, to check for abnormalities linked to changes in behaviour or personality.
- Any 2 of the above mentioned for (1) mark
- can detect tumours

PET scans

- Dynamic pictures. (1)
- Can use a tracer. (1)
^{MUST}
- To monitor visual problems, tumours and metabolic processes.

To evaluate patients with memory loss and seizure problems.

Any 2 of the above
for (1) mark