# GCE AS MARKING SCHEME

**SUMMER 2022**

**AS**
**PSYCHOLOGY – UNIT 2**
**2290U20-1**

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## INTRODUCTION

This marking scheme was used by WJEC for the 2022 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

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**WJEC GCE AS PSYCHOLOGY – UNIT 2**

**SUMMER 2022 MARK SCHEME**

| Question | AO1 | AO2 | AO3 | TOTAL |
|---|---|---|---|---|
| **1** | 3 | | | 3 |
| **2** | | 4 | | 4 |
| **3** | | | 6 | 6 |
| **4** | 4 | | | 4 |
| **5** | 1 | | 2 | 3 |
| **6** | | 17 | | 17 |
| **7** | 3 | 7 | | 10 |
| **8** | 3 | 10 | | 13 |
| **TOTAL** | **14** | **38** | **8** | **60** |

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## Principles of Research

1. Using an example, describe 'event sampling'. [3]

Exemplar answer:
An observational sampling technique, where participants are observed by a psychologist who is looking to record a specific behaviour (event). The event/behaviour will be recorded each time it occurs to create a total score. For example, a psychologist may note down each time a participant demonstrates an aggressive behaviour to create an overall aggression score within a set time period i.e. one hour.

- Any other appropriate content.

| Marks | AO1 |
|---|---|
| **3** | • Description and level of accuracy is thorough and clearly linked to an example. |
| **2** | • Description and level of accuracy is basic and linked to an example.<br>**OR**<br>• Description and level of accuracy is thorough, with no link to an example. |
| **1** | • Description and level of accuracy is superficial, with no link to an example.<br>**OR**<br>• Only an example is given. |
| **0** | • Inaccurate description and/or example.<br>• No response is given. |

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2. Using examples from Milgram's (1963) '*Behavioral study of Obedience*', explain the term 'deception'. [4]

Exemplar answer:
Deception refers to deliberately misleading, or falsely informing participants about the nature of research. Milgram did this when he rigged the lots in the draw to decide who would be the teacher and who would be the learner. He also made participants believe that they are administering real electric shocks, when this was in fact not the case. Deception can also occur through deliberate omission of details about the aims of the research before it is completed. Milgram told his participants the aim of his research was to see the influence of punishment on learning, deliberately omitting the true aim, which was to test obedience to authority.

- Any other appropriate content.

| Marks | AO2 |
|---|---|
| **4** | • Accurate explanation of deception, clearly linked to Milgram with more than one example. |
| **3** | • Accurate explanation of deception, linked to Milgram with one example.<br>**OR**<br>• Partial explanation of deception, clearly linked to Milgram with more than one example. |
| **2** | • Partial explanation of deception, linked to Milgram with one example.<br>**OR**<br>• Accurate explanation of deception, with no example from Milgram's study. |
| **1** | • Partial explanation of deception, with no example from Milgram's study.<br>**OR**<br>• Only an example is given. |
| **0** | • Inaccurate explanation and/or example.<br>• No response is given. |

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3. Discuss the strengths **and** weaknesses of a repeated measures experimental design. [6]

Credit **will** be given for:

Strengths of repeated measures experimental design.

- Participant variables are controlled e.g. IQ, gender etc. as the same participants are used in both conditions.
- A smaller sample of participants are required compared to other experimental designs; both independent groups and matched pairs need twice as many participants to gain the same amount of data.

Weaknesses of repeated measures experimental design.

- Practice effect can influence the results, where participants improve their performance in the second condition, because their participation in the first condition means they are better prepared/understand the task more clearly.
- Boredom and fatigue can influence results in the second condition encountered, where repetition of identical or very similar tasks becomes mundane for the participants who may have less motivation to fully participate.
- Validity issues such as demand characteristics and/or social desirability bias are more likely to arise as the participant is more likely to be able to figure out the aim of the research as they participate in both variables.
- Any other appropriate content.

NOTE: If only strengths OR weaknesses are given maximum 3 marks awarded.

| Marks | AO3 |
|---|---|
| **5–6** | • Evaluation of repeated measures is thorough.<br>• There is depth and range to the material included. |
| **3–4** | • Evaluation of repeated measures is reasonable.<br>• There is depth and range to the material but not in equal measure. |
| **1–2** | • Evaluation of repeated measures is superficial.<br>• Depth or range to the material. |
| **0** | • Inappropriate answer is given.<br>• No response is given. |

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4. Using an example, explain what is meant by conducting research in the field. [4]

Credit **will** be given for:

- Research conducted in a natural/mundane environment e.g. school, hospital or workplace.
- Research that is not 'lab based'.
- Procedure can still be standardised.
- Lower levels of control over confounding variables than the laboratory.
- More likely to use qualitative methods e.g. observations, case studies etc.
- Any other appropriate content.

| Marks | AO1 |
|---|---|
| **4** | • Description and level of accuracy is thorough and clearly linked to an example. |
| **3** | • Description and level of accuracy is reasonable and linked to an example.<br>**OR**<br>• Description and level of accuracy is thorough, with no link to an example. |
| **2** | • Description and level of accuracy is basic and linked to an example.<br>**OR**<br>• Description and level of accuracy is reasonable, with no link to an example. |
| **1** | • Description and level of accuracy is superficial, with no link to an example.<br>**OR**<br>• Only an example is given. |
| **0** | • Inaccurate description and/or example.<br>• No response is given. |

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5. (a) Define ‘secondary sources’. [1]

| Exemplar answer:<br>Information sources/data that have not been directly collected/created by the researcher.<br>• Any other appropriate content. | |
|---|---|
| **Marks** | **AO1** |
| **1** | • An appropriate definition is given. |
| **0** | • An inappropriate definition is given.<br>• No response is given. |

(b) Briefly explain **one** disadvantage of using secondary sources in research. [2]

| Exemplar answers:<br>• Ethical issues associated with consent.<br>• Secondary resources collected may not meet the aims of the study as they are not directly designed with the research in mind.<br>• Any other appropriate content.<br><br>NOTE 1: A disadvantage that suggests the method is slow/expensive can only be used if it is compared against another method that is less time consuming/costly. | |
|---|---|
| **Marks** | **AO3** |
| **2** | • An appropriate disadvantage is briefly explained. |
| **1** | • An appropriate disadvantage is identified, but not briefly explained. |
| **0** | • An inappropriate/incorrect disadvantage is given.<br>• No answer is given. |

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6. A group of psychologists were interested in whether there was a relationship between attitudes to climate change and recycling behaviour.

Participants were asked to respond to a series of questions including:

'How concerned are you about climate change?'

An additional nine questions were asked on subjects including social and political issues, recycling behaviour, plastic pollution and global warming.

(a) (i) Identify a methodology that could be used by the psychologists to collect participants' responses to the questions in this research. [1]

| Credit **will** be given for:<br>• Questionnaire.<br>• Structured interview.<br>• Any other appropriate content. | |
|---|---|
| **Marks** | **AO2** |
| **1** | • An appropriate methodology is identified. |
| **0** | • An inappropriate methodology is identified.<br>• No response is given. |

(ii) Justify why the methodology you identified in part (a) (i) could be considered appropriate in this research. [2]

| Exemplar answer:<br>A questionnaire could be used by the participants to rate their responses to the 10 questions on climate change and recycling behaviour. This would be appropriate as it has a standardised format that participants from both groups could follow, meaning that validity issues such as researcher bias in an interview are negated.<br>• Any other appropriate content. | |
|---|---|
| **Marks** | **AO2** |
| **2** | • An appropriate justification is given and contextualised. |
| **1** | • An appropriate justification is given. |
| **0** | • An inappropriate/incorrect justification is given.<br>• No answer is given. |

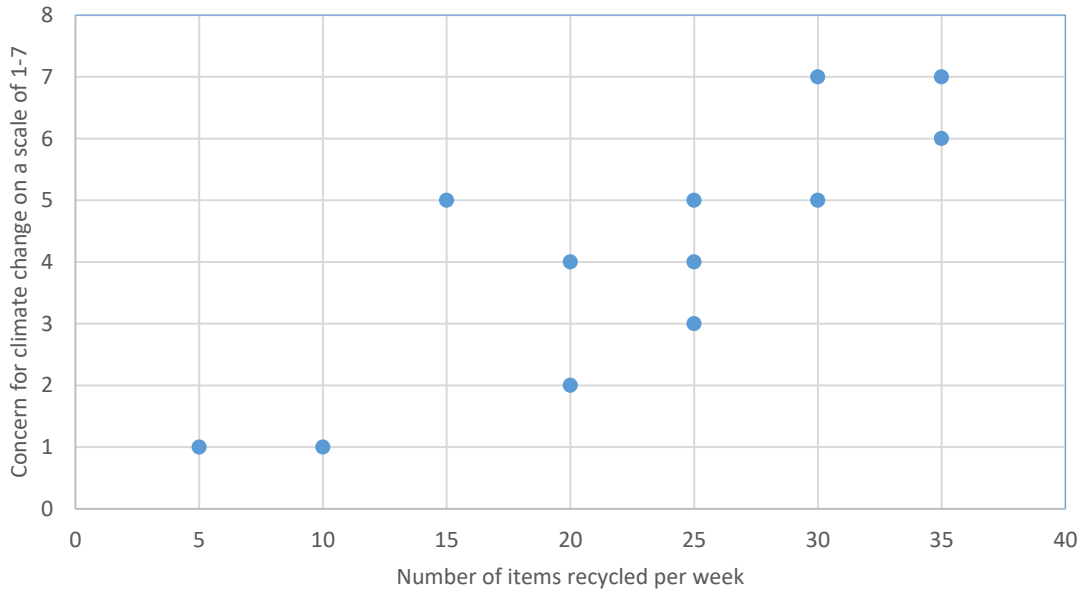
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(b) Responses to the question 'How concerned are you about climate change?' was measured on a scale of 1–7. Identify the level of measurement used to record the participants' responses. [1]

| Marks | AO2 |
|---|---|
| **1** | • Appropriate level of measurement (ordinal) is identified. |
| **0** | • An inappropriate level of measurement is identified.<br>• No response is given. |

The psychologists correlated the results for participants to see if there was a relationship between concern about climate change and recycling behaviour. Results are displayed in the diagram below (Fig.1).

Fig.1. A correlation of concern about climate change and recycling behaviour




(c) (i) State the strength **and** direction of the correlation displayed in this research. [2]

Exemplar response:
There is a strong, positive correlation between concern and recycling behaviour.
- Any other appropriate content.

| Marks | AO2 |
|---|---|
| **2** | • Strength and direction are both stated. |
| **1** | • Strength OR direction is stated only. |
| **0** | • An inappropriate statement is given.<br>• No answer is given. |

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(ii) Using the data from the diagram (Fig.1, describe **one** conclusion about the ratings for concern compared to the number of items recycled. [3]

Exemplar answers:
- Participants who had higher numbers of items recycled (30-35) also had higher scores of concerns about climate change (5-7).
- Participants who had lower numbers of items recycled (5-10) had the lowest scores for concern about climate change (1).
- Any other appropriate content.

| Marks | AO2 |
|---|---|
| **3** | • An appropriate and accurate descriptive conclusion is stated and fully contextualised. |
| **2** | • An appropriate and accurate descriptive conclusion is stated and contextualised.<br>**OR**<br>• An inferential conclusion is stated and fully contextualised. |
| **1** | • An appropriate and accurate conclusion is stated but there is no contextualisation. |
| **0** | • An inappropriate or inaccurate conclusion is stated.<br>• No response is given. |

(d) With reference to the scenario, briefly discuss **one** weakness of a correlational study. [2]

Exemplar answers:
- Correlations do not establish cause and effect. You cannot say that just because there is a positive correlation, between concern and number of items recycled, that an increase in recycling is caused by high levels of concern or vice versa.
- Correlational studies do not account for the fact that third/extraneous variables might account for the relationship between concern and recycling, and hence the result may be invalid.
- Any other appropriate content.

| Marks | AO2 |
|---|---|
| **2** | • A clear and detailed weakness is given and fully contextualised. |
| **1** | • A weakness is given but is not contextualised. |
| **0** | • Inappropriate answer given.<br>• No response attempted. |

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One question from the research asked 'How concerned are you about rising global temperatures?'

The results from the first five participants can be seen below.

| Participant number | Concern score (x) |
|---|---|
| 1 | 6 |
| 2 | 2 |
| 3 | 4 |
| 4 | 6 |
| 5 | 3 |

$$\sqrt{\frac{\sum(x-\bar{x})^2}{n-1}}$$

(e) Using this data, calculate the standard deviation of the 'Concern score'. Show your workings. [6]

**AO2**

Exemplar answer:

| Participant Number | Concern score ($x$) | Mean $\bar{x}$ | Score - Mean $x - \bar{x}$ | Score - Mean² $(x - \bar{x})^2$ |
|---|---|---|---|---|
| 1 | 6 | 4 | 1.8 | 3.24 |
| 2 | 2 | 4 | -2.2 | 4.84 |
| 3 | 4 | 4 | -0.2 | 0.04 |
| 4 | 6 | 4 | 1.8 | 3.24 |
| 5 | 3 | 4 | -1.2 | 1.44 |

One mark for:

- Calculation of mean $\bar{x}$ = 6 + 2 + 4 + 6 + 3 = 21/5 = 4.2
- Scores minus the mean.
- Scores minus the mean, squared.
- Calculation of n – 1 = 5 – 1 = 4.
- Calculation of = $\frac{\sum(x - \bar{x})^2}{n - 1}$ 3.24+4.84+0.04+3.24+1.44=12.8 ÷ 4 = 3.2
- Calculation of the square root of 3.2 to get a standard deviation of 1.788854381999832 or 1.79 (rounding is accepted).
- Any other appropriate content.

NOTE 1: Full calculations of each step should be shown to achieve each mark. E.g. for N – 1 the candidate should show 5–1 to achieve the mark.

NOTE 2: If a student miscalculates at any point in the chain only 1 mark will be deducted for each error e.g. if a student miscalculates the mean but all other calculations are correct from this point, 5 out of 6 marks can be achieved.

NOTE 3: If only the standard deviation is given, with no calculations, maximum 1 mark.

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7. Past research suggested that most adults completed four to eight sleep cycles of around 90 minutes each night. To look more closely at this, a researcher conducted a study in a university sleep laboratory on volunteers whose night's sleep lasted between six and nine hours.

(a) Explain what is meant by conducting research in a laboratory environment. [3]

Credit **will** be given for:
- Controlled conditions reducing extraneous variables.
- Uses standardised procedures allowing for replication.
- Control of variables and how data is recorded.
- Can use large equipment that would be harder to transport/access in the field.
- Any other appropriate content.

| Marks | AO1 |
|---|---|
| **3** | • Thorough explanation of laboratory environments is given.<br>• Appropriate use of terminology. |
| **2** | • Reasonable explanation of laboratory environments is given.<br>• Some terminology is evident. |
| **1** | • Superficial explanation of laboratory environments is given. |
| **0** | • Inaccurate explanation is given.<br>• No response is given. |

(b) Explain how the psychologist could have collected a self-selected sample at the start of the research. [3]

Exemplar answer:
The psychologist could have placed an advertisement on notice boards around a university asking for people willing to participate in a sleep study. They would then wait for people to respond and select suitable participants (i.e. those who do not have specific sleep disorders) from the volunteers who come forward.
- Any other appropriate content.

| Marks | AO2 |
|---|---|
| **3** | • An explanation of self-selected sampling is given.<br>• The explanation is fully contextualised. |
| **2** | • An explanation of self-selected sampling is given.<br>• Explanation is not fully contextualised. |
| **1** | • An explanation of self-selected sampling is given.<br>• There is no contextualisation. |
| **0** | • An inappropriate/incorrect explanation is given.<br>• No answer is given. |

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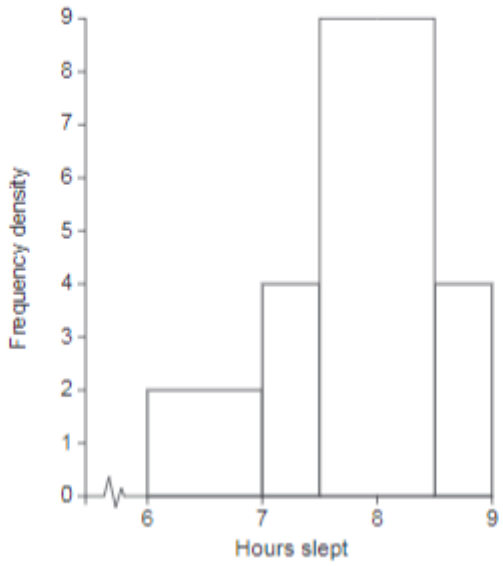
(c) After conducting the research, the psychologist was talking to a colleague about their findings. The colleague claimed that 'sleep studies lack external validity'.

Explain why the colleague is correct, referring to the scenario in your answer. [2]

| Exemplar answer:<br>The colleague is correct because sleep labs do not represent real life sleeping conditions. People may sleep differently in their own beds than in a sleep lab, so the findings will indeed lack external validity as they may sleep for longer or shorter periods at home.<br>• Any other appropriate content. | |
|---|---|
| **Marks** | **AO2** |
| **2** | • A reasonable justification is given that has been fully contextualised. |
| **1** | • A basic justification is given that is not contextualised. |
| **0** | • An inappropriate/incorrect explanation is given.<br>• No answer is given. |

(d) The psychologist displayed the data below.

Figure 2: Graphical representation to show frequency of hours slept between 6 and 9 hours




(i) Identify the graphical representation used in this research (Figure 2). [1]

| Marks | AO2 |
|---|---|
| **1** | • Histogram is identified. |
| **0** | • An inappropriate graphical representation is identified.<br>• No response is given. |

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(ii) Give **one** reason why it would be appropriate to choose this graphical representation for this research. [1]

| Exemplar answer:<br>Sleep has been measured on a continuum of time, which is continuous data.<br>• Any other appropriate content. | |
|---|---|
| **Marks** | **AO2** |
| **1** | • An appropriate reason is given in context. |
| **0** | • An inappropriate/incorrect reason is given.<br>• An appropriate reason is given, but not contextualised.<br>• No answer is given. |

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8. A group of researchers aimed to find out whether people begin to believe fake news when it is repeated. The researchers asked participants to read news articles, over a five-week period, and rate how much they believed each article to be true (on a scale of 1-10) after each session. Articles of fake news were repeated in every other week. They compared the ratings from the start and end of the research to see the influence of repetition.

The results can be seen in the table below.

***Fig.3. Table to show ratings of belief (1-10) for the fake news article at the start and end of the study.***

| Participant | Rating at the start of the research | Rating at the end of the research |
|---|---|---|
| A | 3 | 4 |
| B | 5 | 10 |
| C | 2 | 4 |
| D | 1 | 3 |
| E | 1 | 5 |
| F | 3 | 6 |
| G | 3 | 6 |

(a) (i) Calculate the median rating for the start of the research. Show your workings. [2]

| AO2 |
|---|
| • One mark to show workings. 1, 1, 2, **3**, 3, 3, 5.<br>• One mark for the correct answer. |

(ii) Calculate the mean rating for the end of research. Show your workings. [2]

| AO2 |
|---|
| • One mark to show workings. 4 + 10 + 4 + 3 + 5 + 6 + 6 = 38 / 7 = 5.43<br>• One mark for the correct answer. |

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(b) Write a directional hypothesis for this research. [2]

| Exemplar answer:<br>Participants will have higher belief ratings (on a scale of 1-10) for fake news at the end of the study, compared to their ratings at the start of the study.<br>• Any other appropriate content. | |
|---|---|
| **Marks** | **AO2** |
| **2** | • Appropriate directional hypothesis is given, with both conditions clearly identified. |
| **1** | • Appropriate directional hypothesis is given, with only one condition clearly identified. |
| **0** | • An inappropriate hypothesis is given.<br>• No response is given. |

(c) The researchers were worried about demand characteristics from their participants.
Explain how they could deal with this validity issue within this research. [2]

| Exemplar answers:<br>• The researchers could use some deception at the beginning of the study by not revealing the aim of the research to find out whether people begin to believe false claims are true when they are repeated.<br>• They could use a single blind procedure so that the participants are unaware that the researchers expect their belief in fake news to increase across the five-week study.<br>• Any other appropriate content. | |
|---|---|
| **Marks** | **AO2** |
| **2** | • An explanation of how to deal with demand characteristics is given and fully contextualised. |
| **1** | • An explanation of how to deal with demand characteristics is given that is not contextualised. |
| **0** | • An inappropriate/incorrect explanation is given.<br>• No answer is given. |

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(d) Explain why it would be important to debrief the participants in this research. [2]

| Exemplar answer:<br>If the hypothesis is correct, then participants would have been made to believe news stories that are 'fake' and therefore they may face risks of humiliation if they leave the study believing the news articles are true. Therefore, it is important to debrief the participants so that they understand the purpose of the research and they are told which of the articles were 'fake news'.<br>• Any other appropriate content. | |
|---|---|
| **Marks** | **AO2** |
| **2** | • An explanation of why it is important to debrief participants is given and fully contextualised. |
| **1** | • An explanation of why it is important to debrief participants is given but not contextualised. |
| **0** | • An inappropriate/incorrect explanation is given.<br>• No answer is given. |

(e) Explain the role of an ethics committee. [3]

| Credit **will** be given for:<br>• Provides a set of moral principles that guide research from its inception through to completion and publication of results.<br>• Vetting research before its completion, based on an ethics proposal and/or using ethical guidelines.<br>• Making suggestions on how the research can be completed in an ethical way.<br>• For socially sensitive research, the committee may propose to the researcher(s) advice on how best to publish their results so as to reduce risk to status, values and beliefs.<br>• Any other appropriate content. | |
|---|---|
| **Marks** | **AO1** |
| **3** | • A thorough explanation of the role of an ethics committee is given. |
| **2** | • A reasonable explanation of the role of an ethics committee is given. |
| **1** | • A superficial explanation of the role of an ethics committee is given. |
| **0** | • An inappropriate/incorrect explanation is given.<br>• No answer is given. |



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