



OXFORD CAMBRIDGE AND RSA EXAMINATIONS

Advanced GCE

GCE PSYCHOLOGY

G544 MS

Unit G544: Research Methods

Specimen Mark Scheme

The maximum mark for this paper is 80.

SPECIMEN

This document consists of **14** printed pages and **1** blank page.

Section A		
Question Number	Answer	Max Mark
1	<p>State an operationalised hypothesis for your investigation. The hypothesis should follow logically from the research question and be operationalised so that it is clear what is being measured and how it would be measured.</p> <p>1 mark - an appropriate statement of the research question has been framed but it is not operationalised, OR an operationalised statement is framed but it does not follow logically from the research question e.g. Men forget more than women.</p> <p>2 marks - an appropriate statement of the research question has been framed but it is not clearly operationalised e.g. <i>Men forget more important events than women.</i></p> <p>3 marks - an appropriate statement of the research question has been framed and it is clearly operationalised e.g. On a rating of 0 to 5, where 0 is never remember and 5 is always remembers, men will score significantly lower ratings with regard to their partner's birthday, unless they have been reminded, than women.</p>	[3]
2	<p>Describe the procedure for your investigation, making clear how you would measure the dependent variable and giving examples of materials you would use? Marks are awarded for the detail and replicability of your design and for the quality of communication and the fitness of the design for purpose. There should be a clear description of the procedure. Details should include, where appropriate, the type of sample and the way it was selected, the allocation to groups, a description of the test or questionnaire with examples, or the observation schedule and criteria, the conditions and timing, methods of learning and testing, scorings or ratings.</p> <p>For replicability: The description should include:</p> <ul style="list-style-type: none"> • the type of sample and the way it was selected; • the allocation to the groups; • a description of the test or questionnaire; • with examples of the materials; • the conditions and timing of the test, questionnaire or observation; • the scoring of the test, questionnaire or observation; <p>1 mark - each point outlined 1 mark - elaboration or clarity that allowed for accurate replication. Max 13 marks for fully detailed procedure</p>	[13]

Section A		
Question Number	Answer	Max Mark
2 cont.	<p>For quality of the design and its fitness for purpose: For fitness of purpose: 1 mark - the design should be appropriate to the research question but may be a repeated measures design or is not an experiment [e.g. a correlation] or it would not result in the collection of at least ordinal data OR it fulfils the criteria for independent samples design, and ordinal data but does not logical follow from the research question. 2 marks - the design should be appropriate to the research question i.e. is an independent measures design with the appropriate level of measurement but it is not practical [pragmatic] or ethical. 3 marks - the design should be appropriate to the research question and is pragmatic and ethical.</p> <p>For quality of design: 1 mark - the description lacks clarity and it would be difficult to conduct the investigation from the description of the procedure. 2 marks - the description of the procedure lacks clarity but it would be possible to conduct the investigation. 3 marks - the description is clear, coherent and detailed, and accurate replication of the investigation would be possible.</p>	[3+3] [6]
3	<p>If, having carried out your investigation and an inferential statistical test, your experimental hypothesis was found to be significant for $p < 0.05$, what would '$p < 0.05$', mean?</p> <p>The probability that there is a significant difference between the two conditions is 0.05 or a 1 in 20 (95%) likelihood that the result occurred by chance.</p> <p>1 mark - a reference is made that the results show a significance difference 2 marks - a reference is made to a 1 in 20 (95%) likelihood that the result is down to chance 3 marks - as for 2 but with acknowledgement of which hypothesis should be accepted</p>	[3]

Section A		
Question Number	Answer	Max Mark
4(a)	<p>Describe one weakness of the independent samples design in relation to your investigation.</p> <p>Weaknesses of an independent samples design are mostly likely to involve participant variables, bias in allocation to groups or difficulty in obtaining enough participants for use in two groups that are both representative of the population.</p> <p>1 mark - a weakness is identified but it not related to the investigation or it lacks clarity. 2 marks - an appropriate weakness is identified and it is related to the investigation but it lacks clarity. 3 marks - an appropriate weakness is clearly identified and it is related explicitly to the investigation.</p>	[3]
4(b)	<p>Consider one way in which the effects of the weakness could be reduced.</p> <p>The most likely solution is to use a repeated measures design, or where this is not possible because the independent variable requires two groups, as for gender, a matched pairs design, with matching to eliminate the more obvious participant variables.</p> <p>1 mark - a solution is identified but it not related to the investigation or it lacks clarity. 2 marks - an appropriate solution is identified and it is related to the investigation but it lacks clarity. 3 marks - an appropriate solution is clearly identified and it is related explicitly to the investigation.</p>	[3]
5	<p>Discuss the ecological validity of your measurement of the dependent variable.</p> <p>The ecological validity of the measurement can refer to the conditions under which the measurement takes place or whether the results reflect the measurement in an everyday setting.</p> <p>1 mark - ecological validity is defined but it not related to the investigation or it lacks clarity. 2 marks - ecological validity is defined and it is related to the investigation but it lacks clarity. 3 marks - ecological validity is clearly understood and discussed, a considered and reasonable conclusion is reached in relation to the investigation.</p>	[3]

Section A		
Question Number	Answer	Max Mark
6	<p>Outline one way in which you show your awareness for ethical issues in the conduct of your study.</p> <p>Ethical issues can where appropriate include, informed consent, age of participants [over 16], confidentiality of the data, withdrawal, debriefing, avoiding stress, distress, harm or embarrassment to participants.</p> <p>1 mark - an appropriate ethical issue is identified 2 marks - an appropriate ethical issue is identified and discussed but it lacks clarity or the issue is not discussed in relation to the investigation. 3 marks - an ethical issue is clearly understood and discussed in relation to the investigation.</p>	[3]
7	<p>Outline one further aspects of your question, which you could investigate in a future practical project, justify your answer.</p> <p>Answers are mostly likely to refer to using a different sample, alternative materials, consideration of an anomaly that might arise, or a confounding variable that could influence the results.</p> <p>1 mark - a further aspect is identified but does not extend the investigation or it lacks clarity. 2 marks - a further aspect is identified which would appropriately extend the investigation, but it lacks clarity or is not justified. 3 marks - a further aspect is clearly identified which would appropriately extend the investigation and it is justified.</p>	[3]
Section A Total		[40]

Section B		
Question Number	Answer	Max Mark
8(a)	<p>Using your knowledge of psychology, outline the design of a basic experiment.</p> <p>The essential elements of a basic experiment are: An experiment is designed to test the difference between two or more conditions. The researcher starts with an hypothesis and tests it under controlled conditions with a representative sample of people so that only the independent variable affects the dependent variable. Design of experiments may also be included in the answer. The answer is purely descriptive.</p> <p>0 marks – No or irrelevant answer. 1 mark – Description is very basic (e.g. a sentence). Very limited or no evidence of understanding. Design may not be referred to at all. Psychological terms and concepts may be absent Expression limited. 2 marks – The main components of the debate/issue are described and generally accurate but errors may be evident. There may be vague or no link to design. Some understanding is evident. Expression and use of psychological terminology is also adequate 3 marks – The main components of the debate/issue are accurately described. The answer is linked to design. Understanding is good and expression and use of psychological terminology is also competent. 4 marks – The main components of the debate/issue are clearly and accurately described. The debate is clearly related to experimental design. The candidate clearly understands the debate/issue in question. Comprehensive use of psychological terminology and concepts.</p>	[4]
8(b)	<p>Describe how the experimental method was used in any two pieces of psychological research that you have studied.</p> <p>Candidates may use any experimental research that they have studied throughout the AS or A2 course. Research that is non-experimental would not gain any credit. For example, from the AS course students may use Loftus and Palmer and should explain how the experimental method was used in terms of what the independent variable was and how it was manipulated, how the dependent variable was measured, aspects of the situation that were controlled etc.</p> <p>0 marks – No or irrelevant answer. 1-2 marks – Description is very basic (e.g. a sentence). Very limited or no evidence of understanding. Design may not be referred to at all. Psychological terms and concepts may be absent. Expression limited. 3-4 marks – Use of psychological terminology is basic. The range of theories/studies described is limited. Description is often accurate, generally coherent but lacks detail. Elaboration/ uses of example/ quality of description) is reasonable. The answer is lacking structure or organisation. Quality of written communication is adequate. 5-6 marks – Use of psychological terminology is mainly competent and the range of theories/studies is related to the question. Description of knowledge (theories/studies) is mainly accurate, coherent and reasonably detailed. Elaboration/ use of example/ quality of description is good. The answer has some structure and organisation. Quality of written communication is competent.</p>	

Section B		
Question Number	Answer	Max Mark
8(b) cont'd	<p>7-8 marks – Use of psychological terminology is comprehensive. The range of theories/studies described is appropriate. Description is accurate, coherent and detailed. Elaboration, use of example, quality of description is very good. The answer is competently structured and organised. Quality of written communication is comprehensive.</p>	[8]
8(c)	<p>Using examples, compare the use of experiments with any one other method used in psychology.</p> <p>Candidates are likely to choose case studies, observations, self reports / questionnaires or correlation. Comparisons could make reference to the methods, the types of data collected, the type of analysis that could be applied, the strengths and weaknesses of each method and the topics that could / could not be investigated.</p> <p>0 marks – No or irrelevant answer.</p> <p>1-3 marks – Few evaluative points. Points are not organised into issues/debates, methods or approaches. Selection of points may be peripherally relevant to the assessment request and demonstrates poor psychological knowledge. Sparse or no use of supporting examples from unit content. There is very limited or no argument arising from points. Key points and valid generalisations are very limited or not present. Evaluation is sparse and understanding may not be evident.</p> <p>4-5 marks – limited evaluative points. Range of points is limited (may be positive or negative only). Points are occasionally organised into issues/debates, methods or approaches. Selection of points is sometimes related to the assessment request and demonstrates limited psychological knowledge. Poor use of supporting examples from unit content. Argument arising from points is sparse. Key points and valid generalisations are sparse.</p> <p>6-7 marks – Some Evaluative points. Range of points limited and may be imbalanced. Points are organised into issues/debates, methods or approaches. Selection of points is often related to the assessment request and demonstrates good psychological knowledge. Limited use of supporting examples from unit content. Quality of argument arising from points is limited. Key points and valid generalisations are sometimes evident. Evaluation is detailed and understanding is limited.</p> <p>8-9 marks – Balanced good range of evaluative points. Range of points is good and is balanced. Points are well organised into issues/debates, methods or approaches. Selection of points is related to the assessment request and demonstrates competent psychological knowledge. Good use of supporting examples from unit content. Quality of argument arising from points is often clear and well developed. Key points and valid generalisations are often evident.</p>	

Section B		
Question Number	Answer	Max Mark
8(c) cont'd	<p>10-12 marks – Many evaluative points Evaluation (positive and negative points) is comprehensive. Range (e.g. two or more positive and two or more negative) of points is balanced. Points are competently organised into issues/debates, methods or approaches. Selection of points is explicitly related to the assessment request and demonstrates impressive psychological knowledge. Effective use of supporting examples from unit content. Quality of argument (or comment) arising from points is clear and well developed. Valid conclusions that effectively summarise issues and arguments are evident. Many evaluative points. The answer is competently structured and organised. Answer is mostly grammatically correct with occasional spelling errors.</p>	
8(d)	<p>Explain the advantages of using the experimental method.</p> <p>Candidates should explain the advantages of the experimental method. This could include reference to the scientific method, hypothesis testing etc, replicability, control etc and examples should be given.</p> <p>0 marks – No or irrelevant answer.</p> <p>1-2 marks – The use of psychological terminology is sparse or absent. The supporting examples of theories/studies described is limited. Explanation is mainly inaccurate, lacks coherence and lacks detail. Elaboration/ use of example/ quality of description is poor. The answer is unstructured and lacks organisation. Answer lacks grammatical structure and contains many spelling errors</p> <p>3-4 marks – The use of psychological terminology is limited. The supporting examples of theories/studies described is limited. Explanation of knowledge is often accurate and generally coherent but lacks detail. Elaboration/ use of example/ quality of description is good. The answer is lacking structure or organisation. Answer is mostly grammatically correct with some spelling errors.</p> <p>5-6 marks – The use of psychological terminology is competent. The supporting examples (two or more) of theories/studies described is reasonably detailed. Explanation of knowledge (theories/studies) is mainly accurate, coherent and reasonably detailed. Understanding (such as elaboration, use of example, quality of description) is good. The answer has some structure and organisation. Quality of written communication is good. Answer is mostly grammatically correct with few spelling errors.</p> <p>7-8 marks – The use of psychological terminology is comprehensive. The supporting examples (two or more) of theories/studies described is very detailed. Explanation of knowledge is accurate, coherent and detailed. Elaboration/ use of example/ quality of description is very good. The answer is competently structured and organised. Answer is mostly grammatically correct with occasional spelling errors.</p>	[8]

Section B		
Question Number	Answer	Max Mark
8(e)	<p>Discuss how laboratory based research can be useful in our understanding of everyday life.</p> <p>Candidates should make reference to the usefulness of laboratory based research. Applications to everyday life could be drawn from any area of the specification. The answer should be specific to laboratory based research rather than the usefulness of psychology in general.</p> <p>0 marks – No or irrelevant answer.</p> <p>1-2 marks – Few discussion points. Range of arguments is sparse or not present. There is little or no organisation. Selection of arguments is poor and are peripherally relevant to the question. Some psychological knowledge is evident. Quality of argument (or comment) is poor. Discussion is limited and lacking detail.</p> <p>3-4 marks – Limited discussion. Limited range of arguments with some organisation. Arguments are vaguely related to the question and demonstrate a sound psychological knowledge. Quality of argument (or comment) is limited. Discussion has limited detail and some understanding is evident.</p> <p>5-6 marks – Some discussion points. Range of limited arguments is well balanced and is organised. Selection of arguments from a variety of sources is logically related to the question and demonstrates very good psychological knowledge. Quality of argument (or comment) is generally well developed. Discussion has some detail.</p> <p>7-8 marks – Many Discussion points. Range of supporting arguments is balanced and coherently organised. Selection of arguments from a variety of sources is explicitly related to the question and demonstrates impressive psychological knowledge. Quality of argument (or comment) is clear and well developed. Discussion is detailed and thorough.</p>	[8]
9(a)	<p>Using your knowledge of psychology, briefly outline the physiological approach.</p> <p>Candidates should outline the physiological approach. This is likely to be done by explaining the focus on biological mechanisms and may include examples of the areas covered.</p> <p>0 marks – No or irrelevant answer.</p> <p>1 mark – Identification of the debate/issue/approach which is very basic and lacks detail (e.g. a sentence). Very limited or no evidence of understanding. The physiological approach may not be referred to at all. Psychological terms and concepts may be absent Expression poor.</p> <p>2 marks – The main components of the debate/issue/approach are included, are generally accurate but errors may be evident. Detail is reasonable. There may be vague or no link to the physiological approach. Some understanding is evident. Expression and use of psychological terminology is competent.</p> <p>3 marks – The main components of the debate/issue/approach are accurately described. Detail is good. The answer is linked to the physiological approach. Understanding is good and expression and use of psychological terminology is also good.</p>	

Section B		
Question Number	Answer	Max Mark
9(a) cont'd	<p>4 marks – The main components of the debate/issue/approach are clearly and accurately described. Detail is appropriate to level and time allowed. The debate is clearly related to the physiological approach. The candidate clearly understands the issue/debate in question. Confident use of psychological terminology and concepts.</p>	[4]
9(b)	<p>Describe two pieces of psychological research that use the physiological approach.</p> <p>Candidates can use any piece of physiological research to answer this question. It is expected that they will draw from the list below but any relevant research must be given credit.</p> <p>From AS: Maguire's taxi drivers 2000, Dement and Kleitman sleep and dreaming 1957, Sperry Hemisphere deconnection 1968</p> <p>Physiological studies from A2:</p> <p>from forensic : Brain dysfunction (Raine 2002), Genes and serotonin (Brunner 1991) Evolutionary explanations (Daly and Wilson 1988)</p> <p>From Health : Physiological measures of stress, (Geer and Meisel 1973), Biological explanation of dysfunctional behaviour (Gottesman and Shields 1991); (Ost 1992) Biological treatments (SRRI's Karp and Frank 1995), Biological explanations of one disorder (Gottesman and Shields 1972 Oruc 1998), Biological treatments, (Karp and Frank 1995, Comer 1998)</p> <p>From Sport: Trait and state anxiety (Martens SCAT 1977), exercise and relation to cancer (Bernstein et al 1994), exercise and relation to HIV (Lox, Mc Auley and Tucker 1995)</p> <p>Eating disorders among athletes (Hausenblas & Carron 1999), Endorphine hypothesis, drug abuse in Sport (Maganaris, Collins and Sharp 2000).</p> <p>From education: Biological differences in brain structure (Bee 1992).</p> <p>0 marks – No or irrelevant answer.</p> <p>1-2 marks – Definition of terms and use of psychological terminology is sparse or absent. The range of theories/studies described is limited and may not be taken from two different sources. Description of knowledge (theories/studies) is mainly inaccurate, lacks coherence and lacks detail. Elaboration, use of example, quality of description is poor. The answer is unstructured and lacks organisation. Quality of written communication is poor.</p> <p>3-4 marks – Definition of terms is basic and use of psychological terminology is adequate. The range of theories/studies described is limited and may not be taken from two different sources. Description of knowledge (theories/studies) is often accurate, generally coherent but lacks detail. Elaboration, use of example, quality of description is reasonable. The answer is lacking structure or organisation. Quality of written communication is adequate.</p>	

Section B		
Question Number	Answer	Max Mark
9(b) cont'd	<p>5-6 marks – Definition of terms is mainly accurate and use of psychological terminology is competent. The range (two or more) of theories/studies described is taken from at least two different sources. Description of knowledge (theories/studies) is mainly accurate, coherent and reasonably detailed. Elaboration, use of example, quality of description is good. The answer has some structure and organisation. Quality of written communication is good.</p> <p>7-8 marks – Definition of terms is accurate and use of psychological terminology is comprehensive. The range (two or more) of theories/studies described is appropriate and taken from at least two different sources. Description of knowledge (theories/studies) is accurate, coherent and detailed. Elaboration, use of example, quality of description is very good. The answer is competently structured and organised (global structure introduced at start and followed throughout). Quality of written communication is very good.</p>	[8]
9(c)	<p>Using examples of research that you have studied, discuss the strengths and limitations of explaining behaviour using the physiological approach.</p> <p>Examples as part b. Strengths may include the accuracy of measurement, the use of equipment, the high levels of control and replicability, applications to treatment etc/ Limitations may include reductionism, lack of qualitative data</p> <p>0 marks – No or irrelevant answer.</p> <p>1-3 marks – Evaluation (positive and negative points) is basic. Range of points is sparse and may be only positive or negative. Points are not organised into issues/debates, methods or approaches. Selection of points may be peripherally relevant to the assessment request and demonstrates poor psychological knowledge. Sparse or no use of supporting examples from unit content. There is very limited or no argument arising from points. Analysis (key points and valid generalisations) is very limited or not present. Evaluation is sparse and understanding may not be evident.</p> <p>4-5 marks – Evaluation (positive and negative points) is limited. Range of points is limited (may be positive or negative only). Points are occasionally organised into issues/debates, methods or approaches. Selection of points is sometimes related to the assessment request and demonstrates limited psychological knowledge. Poor use of supporting examples from unit content. Argument arising from points is sparse. Analysis (key points and valid generalisations) is sparse. Evaluation is lacking in detail and understanding is sparse.</p>	

Section B		
Question Number	Answer	Max Mark
9(c) cont'd	<p>6-7 marks – Evaluation (positive and negative points) is good. Range of points limited and may be imbalanced. Points are organised into issues/debates, methods or approaches. Selection of points is often related to the assessment request and demonstrates good psychological knowledge. Limited use of supporting examples from unit content. Quality of argument arising from points is limited. Analysis (key points and valid generalisations) is sometimes evident. Evaluation is detailed and understanding is limited.</p> <p>8-9 marks – Evaluation (positive and negative points) is very good. Range of points is good and is balanced. Points are well organised into issues/debates, methods or approaches. Selection of points is related to the assessment request and demonstrates competent psychological knowledge. Good use of supporting examples from unit content. Quality of argument arising from points is often clear and well developed. Analysis (key points and valid generalisations) is often evident. Evaluation is quite detailed and understanding is good.</p> <p>10-12 marks – Evaluation (positive and negative points) is comprehensive. Range (e.g. two or more positive and two or more negative) of points is balanced. Points are competently organised into issues/debates, methods or approaches. Selection of points is explicitly related to the assessment request and demonstrates impressive psychological knowledge. Effective use of supporting examples from unit content. Quality of argument (or comment) arising from points is clear and well developed. Analysis (valid conclusions that effectively summarise issues and arguments) is evident. Evaluation is detailed and understanding is thorough.</p>	[12]
9(d)	<p>Compare the physiological approach with any one other approach in psychology.</p> <p>Comparison can be with any other approach (social, cognitive, individual differences, developmental). Candidates may draw comparisons between the types of methods used and the types of data collected, or may use evaluation issues such as reductionism, determinism, ethics, usefulness, etc</p> <p>0 marks – No or irrelevant answer.</p> <p>1-2 marks – Explanation of terms and use of psychological terminology is sparse or absent. The supporting examples of theories/studies described is limited and may not be taken from two different sources. Explanation of knowledge (theories/studies) is mainly inaccurate, lacks coherence and lacks detail. Elaboration, use of example, quality of description is poor. The answer is unstructured and lacks organisation. Quality of written communication is poor.</p> <p>3-4 marks – Explanation of terms is basic and use of psychological terminology is adequate. The supporting examples of theories/studies described is limited and may not be taken from two different sources. Explanation of knowledge (theories/studies) is often accurate, generally coherent but lacks detail. Elaboration, use of example, quality of description is reasonable. The answer is lacking structure or organisation. Quality of written communication is adequate.</p>	

Section B		
Question Number	Answer	Max Mark
9(d) cont'd	<p>5-6 marks – Explanation of terms is mainly accurate and use of psychological terminology is competent. The supporting examples (two or more) of theories/studies described is taken from at least two different sources. Explanation of knowledge (theories/studies) is mainly accurate, coherent and reasonably detailed. Elaboration, use of example, quality of description is good. The answer has some structure and organisation. Quality of written communication is good.</p> <p>7-8 marks – Explanation of terms is accurate and use of psychological terminology is comprehensive. The supporting examples (two or more) of theories/studies described is appropriate and taken from at least two different sources. Explanation of knowledge (theories/studies) is accurate, coherent and detailed. Elaboration, use of example, quality of description is very good. The answer is competently structured and organised (global structure introduced at start and followed throughout) Quality of written communication is very good.</p>	[8]
9(e)	<p>Discuss how the physiological approach can help our understanding of everyday life.</p> <p>Candidates may use any areas of physiological approach to answer this question but must focus on the understanding of everyday life, eg. understanding of general physiological processes such as stress or sleep and dreaming or any of the areas covered in the indicative content for part b.</p> <p>0 marks – No or irrelevant answer.</p> <p>1-2 marks – Discussion is basic. Range of supporting arguments is sparse or not present. There is little or no organisation. Selection of arguments is poor and are peripherally relevant to the question. Some psychological knowledge is evident. Quality of argument (or comment) is poor. Discussion is lacking detail and there is very little understanding evident.</p> <p>3-4 marks – Discussion is reasonable. Range of supporting arguments is limited and has some organisation. Selection of arguments from a limited range of sources is vaguely related to the question and demonstrates good psychological knowledge. Quality of argument (or comment) is inconsistent. Discussion has some detail and some understanding is evident.</p> <p>5-6 marks – Discussion is very good. Range of supporting arguments is well balanced and is organised. Selection of arguments from a variety of sources is logically related to the question and demonstrates very good psychological knowledge. Quality of argument (or comment) is generally well developed. Discussion is detailed and understanding is good.</p>	

Section B		
Question Number	Answer	Max Mark
9(e) cont'd	7-8 marks – Discussion is comprehensive. Range of supporting arguments is balanced and coherently organised. Selection of arguments from a variety of sources is explicitly related to the question and demonstrates impressive psychological knowledge. Quality of argument (or comment) is clear and well developed. Discussion is detailed and understanding is thorough.	[8]
Section B Total		[40]
Paper Total		[80]

Assessment Objectives Grid (includes QWC)

Section A

Question	AO1	AO2	AO3	Total
1			3	3
2			19	19
3			3	3
4(a)			3	3
4(b)			3	3
5			3	3
6			3	3
7			3	3
Totals	0	0	40	40

Section B (Answer one question)

Question	AO1	AO2	AO3	Total
8(a)	4			4
8(b)		8		8
8(c)		12		12
8(d)	4	4		8
8(e)		8		8
9(a)	4			4
9(b)		8		8
9(c)		12		12
9(d)	4	4		8
9(e)		8		8
Totals	8	32	0	40