OCR
RECOGNISING ACHIEVEMENT

GCSE

Physics A

Twenty First Century Science Suite

General Certificate of Secondary Education **J245**

OCR Report to Centres

January 2013

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of candidates of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, Cambridge Nationals, Cambridge Technicals, Functional Skills, Key Skills, Entry Level qualifications, NVQs and vocational qualifications in areas such as IT, business, languages, teaching/training, administration and secretarial skills.

It is also responsible for developing new specifications to meet national requirements and the needs of students and teachers. OCR is a not-for-profit organisation; any surplus made is invested back into the establishment to help towards the development of qualifications and support, which keep pace with the changing needs of today's society.

This report on the examination provides information on the performance of candidates which it is hoped will be useful to teachers in their preparation of candidates for future examinations. It is intended to be constructive and informative and to promote better understanding of the specification content, of the operation of the scheme of assessment and of the application of assessment criteria.

Reports should be read in conjunction with the published question papers and mark schemes for the examination.

OCR will not enter into any discussion or correspondence in connection with this report.

CONTENTS

General Certificate of Secondary Education

Physics A (Twenty First Century) (J245)

OCR REPORT TO CENTRES

Overview

The units assessed this session were A181 and A182. Note that this is the last time this specification will be assessed in a winter series; henceforth, assessments for this specification will be offered in summer series only. Unit A183 will be assessed for the first time in summer 2013.

Candidates were much better prepared for the free-response questions than last year, but many still fail to answer the question actually set. In the pressure of an examination it is easy to make mistakes of interpretation, which can severely limit the number of marks available to the candidate. Centres are recommended to train candidates in strategies such as highlighting significant words in the question to enable them to structure their answer around those points.

Centres are also reminded that the six-mark extended-writing questions often demand that the candidate considers more than one aspect of a problem, and so examiners usually reserve the highest level marks for those candidates who clearly address all the required aspects.

Candidates should be reminded that if they wish to change their answer, the old answer should be crossed out and a new one written in its place. There were instances of alterations (e.g. from a 5 to a 6) that created a completely ambiguous response. Where a response is ambiguous, examiners have little option but to give zero credit.

With regard to objective tick-box questions, it is always worth reminding candidates that, irrespective of whether or not the number of ticks required is stated in the question, the number of marks allocated to the question does not necessarily equal the number of ticks required. This principle also applies to the number of lines drawn in a ‘join the boxes’ type question.

A181/01 – Twenty First Century Science Physics A (P1, P2, P3) Foundation Tier

Section 1 – General comments:

The paper seemed accessible to the majority of candidates with no evidence of candidates having insufficient time for its completion.

Section 2 – Comments on individual questions:

Q1a Generally well answered apart from the last part in which 'the biggest' or 'the centre' often appeared instead of 'the milky way'

Q1b A number of candidates simply stated that 'Phil is incorrect' but failed to justify this claim and therefore gained no marks, but most candidates who spotted the pattern were able to phrase their response in such a way as to gain the link mark. Weak candidates described how long it would take to travel to these galaxies or looked for similarities between the distance numbers and the speed numbers.

Q1c Many confused light years as a measure of time rather than distance, few recognised that the distance in the table was in 'millions' of light years.

Q2 The majority of candidates were able to attempt this question with most of those able to gain at least partial credit. Weak responses were often poorly articulated with only a general impression of evidence or reasons given rather than accurate statements. Thus 'fossils' and 'mountains' were words given in the question and required further explanation in the answer before credit could be given e.g. 'similar fossils were found on different continents'. The better responses were well structured with evidence and reasons separated and a balanced conclusion reached. They were often characterised by having several correct statements on both sides of the argument.

Q3ai Many candidates knew the answers for wavelength and amplitude but sloppy lines and inaccurate or missing labels deprived them of the marks. The best responses were ones where lines were drawn with a ruler and end points clearly indicated rather than just an arrowhead in a general region of space.

Q3aii The majority of candidates gained this mark.

Q3b The majority of candidates realised a calculation was necessary but a number omitted units. Only the best responses made a clear comparison with the other data from the stem of the question, with others making remarks that were insufficient to show clear understanding of why the calculated figure gave support to the statement or not. Candidates were expected to compare their answer with the specified estimate.

Q4 Good responses were characterised by an engagement with the examples given in the question as well as providing several properties some of which were linked to use. Some candidates wrote statements about digital signals without providing evidence of understanding. The weakest responses often included general statements about microwaves for cooking or infra red in remote controls or other parts of the electromagnetic spectrum rather than those asked for. Most candidates who gained at least one mark did so for the 'safety' idea whilst better candidates linked this with non-ionising, similarly weaker candidates may have mentioned that these waves can travel great distances either in the atmosphere or optical fibre but better answers linked this to low absorption. Very weak candidates just referred to how these waves were used in communication rather than why.

Q5a This question was a good differentiator. The best responses linked the shape of the graph to a causal factor and went on to explain why. The weakest responses often did not state what the graph showed about carbon dioxide and often gave generic comments about more cars/technology without looking at the time frame to see if this was a sensible argument.

Q5b Many candidates did not appreciate the need to give a specific group of people or did not give a risk associated with global warming. Common errors were references to animals or breathing difficulties and asthma due to the carbon dioxide in the air or damage to the ozone layer.

Q6a 'Absorbed' was often correct but a large number swapped 'emitted' with 'transmitted'

Q6b 'Use more water' proved to be a distracter as many candidates ticked the first column.

Q7 The best responses were ones which were context led and well structured, clearly identifying 'home, workplace and nationally'. Unfortunately, the majority of responses were ones that did not refer to a specific context but concentrated on domestic examples and the weaker candidates simply referred to several examples of turning things off. The question was about reducing energy demand, so the many answers discussing renewable sources without realising this will not reduce demand gained no marks. Turning things off and using energy saving bulbs were common whilst better home insulation etc got mentioned far less.

Q8 This was a very poorly answered question.

Q8a The most common answer was B, presumably because it was a 1 litre kettle.

Q8b Very few knew 3 seconds to be the correct answer.

Q8c Most candidates ignored the reference to kettle C in the stem of the question and those that did use this data often ignored the time used and had a power of ten error, so that it was quite common for a kettle of water to cost 75p or even £7.50 to boil.

A181/02 – Twenty First Century Science Physics A (P1, P2, P3) Higher Tier

Section 1 – General comments:

Overall this paper proved challenging to candidates with few scoring very high marks. There was no evidence of candidates running out of time.

The six-mark extended-writing questions continue to prove difficult for candidates although in general they were answered better than last summer. In many cases the quality of written communication is poor. Candidates would benefit from more practice. The standard of spelling was often poor and candidates lost marks because of poor communication.

In the questions involving 'tick boxes' several candidates lost marks because they indicated too many responses. At this level they are often not told how many boxes to tick and this requires them to read the question and responses carefully.

In questions which require a calculated answer candidates must set out their working carefully. An incorrect answer with no working automatically scores zero, whereas the candidate who sets the answer clearly out can possibly get credit for intermediate steps, for example Question 2biii.

Section 2 – Comments on individual questions:

Q1 Too many candidates failed to actually state a conclusion. The idea of Wegener not being a geologist was well known but too many candidates who did say other geologists were correct in rejecting him, came up with a very one sided argument against Wegener. They knew which factors to mention in support or against Wegner, but didn't explain it clearly, for example: "there were fossils and land bridges", with no detail to go with it. The reason candidates failed to gain full marks was generally because they didn't provide sufficient evidence from either side of the debate or gave a one-sided argument.

Q2ai Most commonly redshift and parallax were confused. Other incorrect responses were 'in light-years' or 'using distance and time'

Q2aii Usually either both were correct or both wrong/not answered. Those gaining 1 mark generally calculated 0.131 correctly.

Q2bi This was poorly answered. Very few got the correct answer and of those who did get 990, many forgot to include the "million". 990 million light years, was another common error.

Q2bii This part was quite well answered, although many of them expressed themselves poorly. Quite a few suggested that it takes 8 minutes for the light to travel to us in this section, so got confused with the sun and ignored what they have just worked out in bi. Weaker candidates confused time with distance.

Q2biii This calculation was targeted at the A/A* level. There were a lot of incorrect calculations, commonly 15000 x 990. The majority gaining any marks did so by correctly arriving at 50.5 (million light-years) but failed to add it, considering it their final answer. Many candidates provided a numerical response without showing their working.

Q2biv Some candidates got the mark for the expanding universe, not many got the marks for the varying speed of the galaxy. Weaker candidates often suggested this was due to difficulties of measurement.

Q3ai This was generally very poorly answered. Most candidates correctly drew from A to B but failed to show that the wave stopped by the liquid core. Common errors were the wave going through the core, curving around the core or reflecting from the surface.

Q3aii Most candidates ticked the correct number of boxes – but often the wrong ones. There was no noticeable pattern to the errors.

Q3b Many candidates got the idea of plate interaction (although a small number just referred to plates moving). A very small number recognised the need for longitudinal motion.

Q4 Most candidates recognised that digital signals suffered less as a result of interference than analogue signals. They also commonly knew that digital signals were made up of 1s and 0s. However, few gave detail on the nature of digital signals other than this. Many also attempted to explain why digital signals were easier to 'clean up', but these explanations were often poorly expressed. Only a small number referred to processing and storage by computers or were able to give further detail of the nature of digital signals. The weakest candidates often just referred to televisions and mobile phones, often saying the signals travelled faster.

Q5a The most common correct response was recognising that the graph shows an increase in carbon dioxide levels. Many referred to population increase, burning fossil fuels and the industrial revolution. Many correctly quoted figures from the graph to back up what they are saying. The mark most often missed was the one for the correlation between carbon dioxide and human activity.

Q5b This was answered correctly by most candidates.

Q5c Most common correct responses were 'will only be a problem after their lifetime' and 'don't want to change their lifestyles'. The most common insufficient responses were 'they don't care' or 'they will be glad that it will be warmer'.

Q6a The most common correct idea was that the water (or the beaker) absorbed the radiation. This was closely following by the 'heater emits the radiation'. Transmission ideas caused the most problems as they often did not specify where it was transmitted from or to. Many tried to use the words in the order they were provided in the question (absorbed, emitted and transmitted) and so correctly stated that the water absorbs the radiation which was emitted from the heater but then linked transmission to a stage beyond this e.g. then the heat is transmitted back or the heat sensor then transmits the radiation. Weak candidates did not follow the instructions and used the words 'emit', 'transmit' and absorb'.

Q6bi This was generally answered correctly.

Q6bii A lot of candidates seem to have the general idea but were not specific enough, e.g. saying that the intensity will go up or down depending on whether the beaker is closer or further away. Fewer candidates mentioned the spreading out or absorption of radiation/photons.

Q7ai Most candidates were able to calculate the value for the cooling tower as 630 MJ and state the 1000 MJ input. The most common error was in mixing up the '300' and '70' as they had not looked at (or not recognised the significance of) the relative sizes of the arrows on the Sankey diagram.

Q7aii Generally well answered. Incorrect responses were usually as a result of picking out one of the other numbers (e.g. 63% or 70%)

Q7b Many candidates only ticked one of the correct boxes and so gained 0 marks or added an extra tick in 'solar'.

Q8a This question was usually answered correctly. The most common incorrect responses were '2', '6' and '12'. Most seemed to recognise that the power rating was relevant, but didn't know how to relate this to energy.

Q8bi There were a whole range of incorrect answers. Probably the most common was A

Q8bii Many just stated facts from the table and so reference to power was not comparative (e.g. it has a power of 3kW as opposed to the highest power.). A very small number were able to explain why C would be faster than A. Many incorrectly suggested that A would be faster as it holds less water and so the power would be more effective on that smaller volume.

Q8c Many candidates were unable to correctly rearrange the formula and so inverted power and voltage (230/1.5) or multiplied power and voltage. Of those able to rearrange, many left the power in kilowatt without converting to watts and so could only gain 1 mark. It is clear that most candidates do not appreciate the sizes of currents flowing in various appliances.

Q9 The majority gave a list of factors (most commonly 'pollution' 'sustainability' and 'cost'), usually correct. Many went on to provide examples or context (Carbon dioxide emissions and global warming were common). Very few candidates provided an idea of comparing or balancing factors.

A182/01 – Twenty First Century Science Physics A (P4, P5, P6) Foundation Tier

Section 1 – General comments:

A number of the marks on this paper were awarded to objective type questions and candidates should be encouraged to make sure that a response to all these questions is made. In general, candidates performed well on these objective type questions.

Questions 2, 4 and 8, which were marked on the quality of written communication as well as the physics content of the answer, proved rather difficult with candidates often not directly answering the question or not using the data given in the question. Some answers were hindered by the poor use of English. More detail to specific good practice is given below.

There was no evidence of candidates having time difficulties, with the vast majority completing all questions in the time allowed.

Section 2 – Comments on individual questions:

Q1a Both parts (i) and (ii) were answered well by most candidates. At least two pairs of boxes were linked correctly by the majority of candidates in part (i) thus gaining at least 1 mark. In part (ii), though the majority of candidates compared the forces given in the data to gain the marks, a few failed to do so, using expressions such as 'the driving force is increasing' and therefore got no credit.

Q1b This question was answered correctly by the vast majority of candidates.

Q1c This question was also answered correctly by the majority of candidates.

Q2 This was the first Level of Response question in the paper. The question was about correlation and cause using the data presented in the graphs and about the physics of how motorcycle helmets work to save lives. It was common between this paper and the higher tier paper and therefore a higher level of response was required to reach level 3 as well as the use of clear English expression. To reach level 3 (5 or 6 marks) candidates had to address both these issues in some detail. For level 2 (3 or 4 marks) candidates were required to treat one of the issues in detail. A few answers did achieve level 2. The majority of answers that were awarded marks were at level 1. For this level candidates needed to make a correct statement about one of the issues. Answers that gained level 1 were usually one of these: comparing helmets to crumple zones; stating that the time of collision was longer; stating that there was a smaller force on the head; giving an alternative reason for the change in the number of deaths, such as speed of motorcycle or number of motorcycles. Many candidates used phrases that were wrong or not specific enough or confused regarding the physics such as 'helmets stop force getting to the head', or 'head does not move', or 'helmets stop head hitting the floor'. Few candidates connected longer time of collision to smaller force. In regard to correlation and cause few candidates looked at the full range of the data given by the graphs. Many answers did the same as the politician and just considered one year. Candidates should be advised to read the question carefully to establish what needs to be in their answer and then use the data given appropriately.

Q3a Part (i) was answered correctly by many candidates. The most common incorrect answer was '20'. In part (ii) many candidates correctly identified the correct answer, but there was a sizeable number who chose 'kinetic'. These candidates then also chose the wrong answer in Q3b(ii).

Q3b Most candidates achieved at least 1 mark in part (i) usually by mentioning either gravity or weight. Unfortunately in this part some candidates confused forces and energy giving gravitational potential as an incorrect answer. Others gave lists in the hope some were correct and included both gravity and weight. Air resistance or drag was not often given in addition to weight for the second mark. Some candidates gave 'reaction' which did not gain a mark. Part (ii) was not answered as well. Those who chose 'kinetic' in Q3a(ii) incorrectly chose 'gravitational potential' here.

Q3c The two most common correct answers given were 'less surface area' and 'less air resistance'. However, most candidates only gave one of these and so those achieving 2 or 3 marks were very few in numbers. A third point regarding either same weight or resultant force was rarely made. The majority of candidates wrongly thought that the weight of the paper increased when it was squashed into a ball.

Q4 This Level of Response question was about commenting on a statement about correlation and cause using data from an investigation. Many candidates recognised a positive correlation and were able to describe this qualitatively and thus gained level 1. Few were able to use the data to give a quantitative description as required for levels 2 and 3. Just quoting the data did not achieve these levels; it required some analysis. Some candidates achieved level 2 by linking power to energy supplied. A description of energy transfer in the circuit from electrical to kinetic energy, needed for level 3, was rarely given. Some mistook the readings for repeats rather than a change in the independent variable. Others confused their answers by describing the correlation qualitatively (e.g. rotations increase as power increases) but then said 'there is no correlation', probably by confusing correlation with proportionality, but that was not stated.

Q5a In part (i) most candidates were able to get two or all three correct choices. 'Electromagnetic induction' was well known as the third answer. The second answer 'goes into' was less well known with incorrect answers spread equally between the distracters. Many candidates were able to identify a correct change to increase the voltage in part (ii). Those who did not gain marks included those using phrases such as 'bigger or larger magnets' or 'more wire'. Candidates need to use more specific terms to this sort of question. However, most did use the qualifiers 'greater' or 'more' rather than just 'change'.

Q5b Most candidates chose the correct answer in part (i). Part (ii) was not answered well. The phrase 'the electricity is greater from the power station', given by many candidates, did not gain a mark. Those who did give a correct answer usually said that the voltage would be greater. Very few candidates mentioned anything about frequency, production time or alternating current, so few were able to achieve both marks.

Q6a Most candidates gave two correct answers. Those who did not get these marks either got the links the wrong way round or drew more than one line from each box.

Q6b This was slightly better answered than part (a). Wrong answers were similar to part (a).

Q6c This question was not answered well. Very few candidates stated that the wires had little or no resistance. Some candidates did achieve a mark by saying that the voltage or current stayed the same or the components did not change, though their answers were not succinct. Answers such as 'power stays the same' or 'energy does not change' were not given credit.

Q7a The first two parts of this question were answered well. Candidates showed that they knew the meaning of half life in part (i) and were able to identify the correct materials in part (ii). Technetium-99 proved a distracter for the longest time material. About half the candidates were able to read a value of about 60 from the graph. The most common

incorrect answer was 12, which suggests that these candidates misread the question and found the time to decay by a quarter rather than to a quarter.

Q7b Most candidates achieved at least one mark in part (i) and gave the correct answer in part (ii). Answers to part (iii) were hindered by imprecise wording. Candidates did not always give enough detail in answers such as 'the radiation can get out of aluminium' or 'it can leak from aluminium'. To achieve marks candidate need to be explicit. Few candidates gave two points worthy of marks.

Q8 This Level of Response question was about using data in the bar chart to compare risks and benefits. A few candidates achieved level 3 by demonstrating an understanding of the chart or compared risks or benefits using data from the chart. Others achieved level 2 by stating a risk or benefit related to data in the chart (e.g. radiographer receives half the yearly dose linked to increased cancer risk) or showed some understanding of part of the data. Level 1 was achieved by making a valid comment about the topic not necessarily using the data, such as 'helping others by treating cancer' or 'radiographer wears protective clothing'. Many answers failed to reach level 1 because they were just a paraphrase of the chart or question and made no comment or comparison. Some answers showed a misunderstanding of the idea of dose and others thought it would be good to get the 0.4Sv dose in a short time so that you could build up immunity.

Q9a Many candidates were able to give an effect of radon such as causing cancer, but less related this to the action of breathing in the gas for the second mark.

Q9b This question was not answered well. Many just quoted data from the table or said that the government paid for the installation, which was in the question. Some had not recognised the phrase 'this change' in the question or chose to ignore it. Answers that did gain credit by answering the question included: increased taxes so government could pay; reduced risk of cancer; disruption to residents during installation; work for installers. Answers were not succinct and many only provided one valid comment, though the mark for the question was clearly stated as 3.

A182/02 – Twenty First Century Science Physics A (P4, P5, P6) Higher Tier

General Comments:

The paper was generally well attempted and produced a good spread of marks across most of the questions. It is to be hoped that with increased familiarity with the requirements of this specification, more candidates will be able to access the top range of marks in future sessions.

The six-mark extended-writing questions in this unit are still relatively new to candidates. There will always be one for each of P4, P5 and P6. The vast majority of candidates made a reasonable attempt to tackle these questions and the outcomes produced showed a fair level of differentiation, although performance at level 3 was relatively rare.

Most candidates seemed well prepared for the calculations on this paper, with evidence that the majority made good use of the formulae at the front of the paper.

The majority of candidates showed evidence of using their time well, with no evidence of time being an issue with regard to completion of the paper.

Comments on Individual Questions:

Question 1

This question considered aspects of the P4 topic, including resultant force and acceleration. Part (a) of the question was well answered by the majority of candidates, although some weaker candidates confused reaction force for counter force. In part (b) more able candidates had no difficulty in calculating the change in speed and using this to arrive at a value for the initial speed. A significant number of candidates stopped after calculating the change in speed, presenting this as their final answer. Weaker candidates commonly identified graph A as representing constant acceleration in part (c) of this question.

Question 2

This was a six-mark extended-writing question examining ideas about correlation in data sets as well as applying knowledge of car safety features to a novel context. The question was targeted at grades up to C. This question differentiated well in terms of ability. Weaker candidates tended to present answers using their general knowledge rather than the data provided. Very few candidates carried out a correct analysis of the graphs as a whole. The majority of candidates failed to compare the trend between two points e.g. 2004 to 2008, instead referring to a single point e.g. “in 2008 % who used helmets was high and rider deaths were high”. This capped their performance in terms of the correct use of data. Many candidates were able to relate the operation of the motorcycle helmet in reducing injury to the physics involved in car safety, although very few explained that the momentum change would be the same with or without the helmet.

Question 3

This question involved ideas of energy transfer. Part (a) posed few problems for most candidates. A significant number of weaker candidates incorrectly multiplied the values for height and work done in an attempt to calculate the weight. Almost all candidates knew that gravitational potential energy was transferred to kinetic energy as the paper fell, but surprisingly

few mentioned that some of the gravitational potential energy would also be transferred to heat energy during the fall. Part (c) of this question defeated all but the most able. In (c i) the rearrangement of the kinetic energy formula was rarely seen, although some candidates could correctly state that they were to assume that initial gravitational potential energy equalled the final kinetic energy. Most candidates misinterpreted the instruction for (c ii) and only discussed issues with one experiment rather than both separately.

Question 4

This was a six mark extended writing question targeted up to grade A. Very few candidates displayed any understanding of the term proportionality, with almost all of them using the term interchangeably with positive correlation. It is important that candidates are reminded of the correct use of this term and how to use data to confirm proportionality or otherwise. More able candidates could describe a mechanism for resistive heating, but often failed to provide a convincing explanation as to why this should lead to the wire getting hot when it is shorter. Most candidates simply described the general trend in the data i.e. " as the wire gets longer the resistance will get larger".

Question 5

Overall, this question produced a good spread of marks. Almost all candidates could identify the cause of the voltage in the coil in part (a). There were a range of responses to part (b), with able candidates usually producing good answers, although a significant minority lost out by not clearly comparing the power station to the coil in the experiment. Part (c) started well for most, but the sequencing of stages in the operation of a transformer proved too challenging for most candidates.

Question 6

The descriptions of current and potential difference in part (a) and the calculations in part (b) were consistently answered correctly by all but the very weakest candidates. Understanding of parallel circuits in part (c) was very weak, with many candidates unable to differentiate between the voltage and the current correctly. Almost no responses were seen which considered the effect on the overall resistance of the circuit.

Question 7

This question was themed around the topic of radioactive waste. More able candidates produced good descriptions of half-life in part (a) and this had clearly been well covered in schools, along with the calculation of half-life from a graph as required for (a ii). The most able could produce the correct nuclear equation in part (b) and those that could not usually ensured that the equation balanced and therefore received some credit. Part (c) was well answered, although a single slip could cost this mark. In part (d) a majority of candidates included X-rays in their selection, often with the other three answers correctly selected.

Question 8

This question on radioactivity seemed to differentiate well. In part (a) most candidates knew the harmful effects of alpha radiation, but fewer explained the increased risk only being significant when the radon gas was inhaled/ taken into the body. Weaker candidates did not pick up on the detail of the proposal in part (b), often mixing the groups who would benefit and those that would not. More able candidates put together a clear argument, usually identifying a benefit to a group and a drawback to a group but often missed out on a third marking point.

Question 9

This question was a six mark extended writing question targeted at grades up to A*. A limited range of responses were seen, with most candidates operating at Level 1. Very few candidates displayed appropriate awareness of ionising radiation and its effects as applied to this specific context. Only a minority of the most able managed to evaluate the data presented in the article correctly and use this to form a coherent argument. This style of question is to be expected as part of this examination series and candidates of all abilities would hopefully benefit from the opportunity to reflect on examples from this paper and from exemplar materials to help in their preparation.

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Customer Contact Centre

Education and Learning
Telephone: 01223 553998
Facsimile: 01223 552627
Email: general.qualifications@ocr.org.uk

www.ocr.org.uk

For staff training purposes and as part of our quality assurance programme your call may be recorded or monitored

Oxford Cambridge and RSA Examinations
is a Company Limited by Guarantee
Registered in England
Registered Office; 1 Hills Road, Cambridge, CB1 2EU
Registered Company Number: 3484466
OCR is an exempt Charity

OCR (Oxford Cambridge and RSA Examinations)
Head office
Telephone: 01223 552552
Facsimile: 01223 552553