OCR
RECOGNISING ACHIEVEMENT

GCSE

Design & Technology (Graphic Products)

General Certificate of Secondary Education **GCSE J303**

General Certificate of Secondary Education (Short Course) **GCSE J043**

Reports on the Units

June 2010

J303/J043/R/10

OCR (Oxford Cambridge and RSA) is a leading UK awarding body, providing a wide range of qualifications to meet the needs of pupils of all ages and abilities. OCR qualifications include AS/A Levels, Diplomas, GCSEs, OCR Nationals, 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.

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General Certificate of Secondary Education Graphic Products (J303)

General Certificate of Secondary Education (Short Course) Graphic Products (J043)

REPORTS ON THE UNITS

Chief Examiner's Report

This report provides an overview of the work seen in the written examination Units 2 and 4 and the Controlled Assessment Units 1 and 3, for candidates who took the examination during this series. It precedes a more detailed report to centres from each subject area within the Innovator Suite and highlights general issues that have occurred across the suite of specifications.

This report has been prepared by the Chief Examiner, Assistant Chief Examiners, Principal Examiners and Principal Moderators and covers all specifications within the Innovator Suite. It should be read in conjunction with the examination papers, the mark schemes, and the marking criteria for assessment given in the specification booklets.

This is the second examination series in the first year for the new Innovator Suite.

An important point for teachers to remember is about the Terminal Rule in relation to this suite of specifications and re-sits.

The terminal rule is a QCDA requirement. Candidates must be entered for at least two units out of the four (full course) at the time that they certificate. i.e. the end of the course.

Please be aware that the QCDA rule states that marks scored for terminal units will be the marks used in the calculation of candidate grades. Therefore, if one of the candidate's terminal units is a re-sit and the mark is poorer than the original mark, the poorer mark will be used to calculate the final grade for that candidate.

The terminal unit marks are then added to the highest marks scored in the other units making up the certificate.

Teachers are reminded that it is also a requirement of QCDA that candidates are now credited for their accurate use of spelling, punctuation and grammar across all four units.

It is pleasing to see that centres and candidates have responded well to the new style of examination approach, especially when the nature of the work between subject areas within the suite is so varied. Centres are to be commended for this.

WRITTEN EXAMINATION – UNITS 2 AND 4

Unit 2 - For this examination series of the new GCSE Innovator suite entries were seen from all six subject specialisms:

A512 Electronic and Systems Control
A522 Food Technology
A532 Graphics
A542 Industrial Technology
A562 Resistant Materials
A572 Textile Technology

The overall performance and range of results for Unit 2 varied considerably. Many of the candidates demonstrated a general awareness of the main points and issues linked to sustainable design, but often failed to answer in sufficient depth to gain the higher marks.

In **Unit 2 - Section A** of the papers most candidates across the suite attempted to answer some of the questions, some candidates however did give 'no response' (NR) answers. Candidates need to be encouraged to give an answer for the multiple choice style of questions.

With reference to Section A of the paper it was noticeable that:

- at times, candidates had not read the instructions correctly, centres would benefit from explaining the correct examination procedures and requirements to the candidates;
- candidates need to be able to identify signs and symbols giving information about materials, products and safety issues in relation to environmental and design factors;
- candidates must take greater care when circling their answers in Section A, they should not circle more than one answer and should completely clear incorrect circles to eradicate confusion in marking.

Unit 2 - Section B of the papers showed more varied responses and teachers need to ensure that they read the subject specific reports for further detailed feedback on specific issues and individual question performance. Many candidates did manage to use subject specific 'terms' in their answers, but at times theier answers lacked sufficient depth and tended to be generally weak. Occasionally candidate answers were merely taken from the question itself and care needs to be taken here. For example, where two reasons or an explanation was required the same point was made twice with a slight variation in the words

Candidates need to be made aware of the importance of the wording for each question and have struggled to answer specific questions in regards to 'explain' or 'describe'. Many candidates did not score marks on these questions, because they gave a list of unrelated points instead of developing one of these.

The questions marked with an asterisk * provided candidates with an opportunity to give a detailed written answer combining good subject knowledge with an ability to produce a structured response. The range of responses varied considerably in the specific subject areas and it is advisable that guidance is sought from the subject report within this document.

Hand writing, at times, was difficult to decipher and candidates need to be prepared to make an effort with their hand writing, particularly on the banded mark question * and questions requiring a detailed explanation or discussion of points.

Centres are reminded that candidates are marked on spelling, punctuation and grammar on the banded mark scheme question. It is also important to note that candidates need to write legibly and within the areas set out on the papers.

Unit 4 - For this examination series of the new GCSE Innovator suite entries were seen from the following subject specialisms:

A514 Electronic and Systems Control
A524 Food Technology
A534 Graphics
A544 Industrial Technology
A564 Resistant Materials

On the whole candidates responded well to this Unit across the suite of subjects, with very few questions showing 'no response' (NR), which was encouraging. Candidates should be reminded that it is always better to attempt an answer, rather than leave a blank space with a guaranteed zero.

It is still apparent this series that candidates need to be practiced in examination technique; reading the questions carefully, responding to the instructions given in the questions and having an awareness of the full range of question formats.

All candidates seemed to have sufficient time to complete the paper and were able to access most parts of all the questions, which is encouraging.

Centres are to be reminded that questions marked with an **asterisk*** provide candidates with the opportunity to give detailed written answers combining good subject knowledge with an ability to produce structured, coherent responses. This type of question format still requires practice, although candidate performance was much improved this series.

CONTROLLED ASSESSMENT – Units 1 and 3

This series has seen portfolios for all subject areas submitted through both postal and repository pathways. Most centres have been prompt in the despatch of documentation to OCR and moderators, which is to be commended.

In general, centres have been successful in applying the marking criteria for both Units 1 and 3. However, it was noticeable that some candidates were being awarded full marks for work that lacked rigour and depth of analysis. Words highlighted on the marking criteria grids such as 'appropriate', 'fully evaluated', 'detailed' and 'critical', which appear in the top mark band, were not always adhered to.

Centres are reminded to apply the mark scheme on a 'best fit' basis. For each of the marking criteria, one of the descriptors provided in the marking grid, that most closely describes the quality of the work being marked, should be selected. Marks should be positive, rewarding achievement rather than penalising failure or omissions.

It was noticeable this series that a significant proportion of portfolios, particularly for Unit 1, resembled the legacy format. Care must be taken here to ensure that the marking criteria and format for the Innovator Suite is not confused with the legacy approach.

It is important that centres encourage candidates to organise the portfolio according to the different marking criteria strands as it enables the candidates to produce work that clearly shows an understanding of the controlled assessment requirements. Portfolios should be clearly labelled with the Candidate and Centre name and number, with the Unit code and title also evident. (*Specification - 5.3.5 Presentation of work*.) This is particularly important when the Centre submits work via the OCR Repository, where individual files are used to store portfolio work. Centres need to ensure that candidates clearly label each file using the marking criteria section headings; this facilitates a more effective completion of the moderation process.

Centres are also reminded to ensure that the OCR cover sheet is evident on each portfolio of work, outlining the theme and the starting point chosen by the candidate.

Many candidates included a bibliography or referenced their research sources, which was pleasing to see. It is good practice to ensure that candidates acknowledge sources of information used for the development of their portfolio work.

There was still some evidence this series of strong teacher guidance influencing candidate portfolios. Where this was evident it greatly hampered the candidate's ability to show flair and creativity, and therefore achieve the higher marks. Centres should avoid the over-reliance on writing frames for candidates work. It is essential that candidates have the opportunity to show flair and creativity in the way they approach the various aspects of these units.

Centres are to be reminded that the '*controlled assessment task must NOT be used as practice material and then as the actual live assessment material. Centres should devise their own*

practice material using the OCR specimen controlled assessment task as guidance.'
Specification - Section 5.2.2 Using Controlled Assessment Tasks.

It was noticeable this series that some candidate's failed to provide any visual evidence of practical work within their portfolio. Centres are reminded to ensure that candidates provide clear photographic images in both portfolios for Units 1 and 3, particularly within the making and evaluation sections.

It was noticeable that where candidates had scored the high marks, they had used specialist terms appropriately and correctly and had presented their portfolio using a structured format.

Centres are to be commended on the amount of work produced for the portfolios in Units 1 and 3, which has been realistic in terms of the amount produced and the time allocated to this unit – 20 hours.

Unit 1 – specific areas of importance

Centres are to be reminded that Themes for Unit 1 are based around 'environmental awareness' and 'sustainable resources/processes'. Therefore, it is considered good practice for teachers to encourage candidates to consider 'eco-design and sustainability' when making decisions and combining skills with knowledge and understanding, in order to design and make a prototype product. This knowledge base also acts as a 'spring board' to active learning for Unit 2.

It was evident through the portfolio that candidates struggled with the critical evaluation section of the marking criteria. Unit 1 requires that the candidate evaluates the processes and subsequent modifications involved in the designing and making of the final prototype ONLY. Too many references were made to the performance of the prototype against the specification, which meant that candidates' marks were compromised. (Not applicable to Food Technology)

Unit 3 – specific areas of importance

Due to the low number of entries for this Unit specific guidance is limited. However, centres need to ensure that candidates complete a quality product for Unit 3. The weighting of marks available for the making section therefore, must be reflected in the time available for the candidates to complete a quality outcome.

A531 – Introduction to Designing & Making – Controlled Assessment

Overview

The Standard of work presented for moderation this session has generally been very good, with the outcomes produced being suitable for the OCR D&T: Graphics Unit A531 Introduction to Designing & Making. This was the second assessment of this unit.

Almost all candidates had chosen one of the Themes and Starting Points from the specification. In a few cases candidates has chosen a Theme but then adopted their own starting point. Candidates need to be advised that they must adopt one of the Themes and its respective Starting Point. Most centres used compliant graphic materials as outlined in the specification for D & T: Graphics, Unit A531. The compliant materials are outlined on page 16 of the specification.

Not all centres provided the minimum two photographs of the completed prototype product. Centres are requested to ensure they provide photographs that are of a sufficient size to provide full detail of the prototype product. Centres provided both hard copies of folders, folders scanned to disc and uploaded folders on the OCR Repository for moderation.

The outcome of this unit is a prototype product, and most candidates were able to complete this task.

Centres were reasonably successful in applying the marking criteria for this Unit. Centres are reminded to apply the mark scheme on a 'best fit' basis. For each of the assessment criteria, one of the descriptors provided in the marking grid, that most closely describes the quality of the work being marked, should be selected. Marks should be positive, rewarding achievement rather than penalising failure or omissions. When teachers select the most appropriate mark within the descriptor, they should use the following guidance:

- Where the candidate's work convincingly meets the statement, the highest mark should be awarded.
- Where the candidate's work adequately meets the statement, the most appropriate mark in the middle range should be awarded.

Where the candidate's work just meets the statement, the lowest mark should be awarded. Centres are reminded that the OCR GCSE D & T: Graphics assessment scheme is based upon numerical values and not grades. Each value is related to a description of an activity undertaken by the candidate. Evidence to support the awarding of marks should be contained within the design folder, or clearly evident through the modelling and construction of the final prototype product. Centres are advised to take a more objective approach and mark the folder of evidence and not simply the candidate.

The use of CAD/CAM was evident throughout all the candidates work submitted for moderation. It is pleasing to see that candidates showed evidence of their understanding and ownership of design work generated and manufactured using this method. There was some evidence of prototype products manufactured using CAM suddenly 'appearing' with no supporting evidence within the candidates design folder. Screen shots provide evidence of the development of ideas using CAD/CAM and are evidence of modelling being undertaken by candidates.

There was evidence of teacher guidance strongly influencing some candidate's folders. Teachers need to take great care when making the distinction between guidance and prescription. Centres should avoid the over-reliance on writing frames for candidate's work. It is essential that candidates have the opportunity to show flair and creativity in the way they approach the various aspects of this unit.

Centres are reminded that there are a number of subject specific support systems in place to aid teachers in the delivery of this specification, ranging from written advice on coursework proposals to a full program of In-Service Training meetings.

Administration

Communication with Centres was satisfactory and all assessment material reached the moderators in plenty of time. All centres had provided individual Controlled Assessment Cover Sheets for each candidate. Centres are reminded that moderators will still need to receive the Centre Authentication form CSS160 with the MS1 which is sent to the moderator.

In nearly all the centres that were moderated there was evidence that internal moderation and standardisation had taken place. Centres are reminded to allow sufficient time to carry out effective internal standardisation prior to the submission of marks.

There were few inaccuracies in Centre paperwork. The provision of annotated coursework mark sheets on individual candidates work was appreciated by moderators and aided the smooth running of the moderation process.

Centres are reminded that there is a full range of documentation, including downloadable forms and other subject specific support materials on OCR's website: www.ocr.org.uk.

Content

Most folders were of between 12-15 pages of A3 or equivalent. There was little use of writing frames though in some centres the format of each candidate's folder was very similar. Unit 531 is a controlled assessment which should be completed in 20 hours. It was apparent that most candidates had produced their folders within the allocated time. Guidance regarding editing, suitability of content and concise presentation is still required by some candidates. With such a tight time allowance it is essential that candidates are encourage to edit their content and avoid duplication or irrelevant material.

Performance of Candidates

The more successful candidates showed evidence of having used the Controlled Assessment Mark Scheme for A531, as printed in the specification, to guide their content.

Centres are advised to plan the amount of time that they allow candidates to spend on each of the Creativity, Designing, Making and Evaluation strands.

CREATIVITY

Candidates clearly need guidance to complete the Creativity strand. From the Theme and starting point candidates need to identify a maximum of two appropriate existing products to analyse. From this analysis they will need to establish an understanding of what are the principles of good design for the product and then identify the trends in the design of the existing products. From these findings they should then demonstrate that they have an understanding of the needs of the users. With all this information to hand they should produce a clear concise and precise design brief.

Successful Candidates gave examples of users and the user's needs. They carried out a thorough analysis of two existing products identifying what made them good designs and explained the significance of any trends in these existing products. They used sketches and photographs to illustrate their findings and briefly analysed the information gathered before using this to generate a concise Design Brief that clearly identified the product and users.

DESIGNING

Candidates should start this strand by analysing their design brief. They then need to produce a suitable specification for their prototype product. Candidates are advised to make clear links between their analysis of the design brief and the Design Specification.

The design specifications produced by candidates varied in content and detail. Some candidates produced simple lists that were vague and generic and which could well have applied to most prototype products. Other candidates provided unique detailed specifications that clearly applied to the prototype product they intended to make. A good design specification forms an essential checklist that will guide the candidate through this controlled assessment.

Most candidates used freehand sketching to illustrate their initial design ideas. Some candidates generated and developed detailed ideas which were fully explained with notes. Others provided simple sketches with little detail or explanation. Most candidates identified a chosen idea but few fully explained their choice of idea.

To illustrate their chosen prototype design most candidates produced an orthographic drawing and provided further detail of prototype, its construction and materials to be used. Many candidates used ICT to present their detailed drawings and surface graphics. At this stage some candidates clearly used ICT to produce a final design for their prototype using ICT but failed to include in their folders the developmental work that they had clearly undertaken using ICT. A series of screenshots of the work they had undertaken would have seen them gain greater credit.

Successful Candidates briefly analysed their design brief and drew conclusions from this work. This was then incorporated into a structured, detailed, bullet pointed design specification. They presented their design ideas using pencil sketches to generate a range of free-flowing ideas which were then fully explained with annotation and then further explained fully, with reasons, their choice of prototype product. Candidates then produced a detailed scale drawing of the prototype product giving full details of possible materials, likely construction methods and processes, and of surface graphics. They communicate their designs using appropriate skills and techniques including ICT.

MAKING

Most candidates successfully produced a prototype product. Overall, this was the most successful aspect of the work seen. Most candidates appeared to have worked skilfully and safely to produce prototype products of reasonable to high quality.

Few candidates, however, provided any real evidence of modelling in their folders. Clearly modelling must have taken place as products had developed from earlier designs. It is essential that candidates include evidence of modelling in their folders in order to gain credit. Modelling evidence might include cut and paste examples of models, photographic images, and screenshots showing how their design was modelled using ICT.

Surface graphics were successfully applied to most prototype products seen using both traditional rending methods and the extensive use of ICT.

Most candidates had chosen compliant materials for Graphics for their prototype products and had made sound choices of tools and equipment. Furthermore, all candidates had chosen and used facilities appropriate to Graphics.

Most candidates were able to show through their folder and the prototype product that they had effectively solved technical problems as they had arisen.

Almost all candidates had planned the making of their prototype product. Most candidates had then included a record of the key stages in making the prototype product using notes, sketches and photographic images. Many had highlighted difficulties and problems they had encountered and how they had overcome them.

Successful Candidates use modelling to identify problems and make appropriate modifications. They clearly assess the suitability of the prototype considering in detail the needs of the user. Candidates make appropriate choices of materials, tools and equipment, work skilfully and safely to produce a high quality prototype product suitable for the intended user which has surface graphics applied that demonstrate a high level of competency. Throughout their folder they assess and apply knowledge appropriate for Graphics. Successful candidates clearly demonstrate their ability to solve problems effectively and efficiently as they arise, record the key stages in the creation of the prototype product providing comprehensive notes and visual evidence.

EVALUATION

Many candidates based their evaluation on their prototype product and specification. In many cases the modifications candidates outlined were improvements to the prototype product. The Specification for Unit A531 clearly states that the evaluation should be of the designing and making process. Furthermore that any modifications proposed by the candidate should be of ways to improve the designing and making process. The record that candidates will have kept of the creation of the prototype (in the Making strand) together with the recording of any technical problems the candidate had overcome (also in the Making strand) should form the basis of their evaluation.

Moderators felt that some centres may well have run short of time and this could have further contributed to very limited evaluations in many folders.

Successful Candidates produce a critical evaluation that evaluates the processes involved in designing and making their prototype product. Through reference to their planning and recording of the stages in making their prototype product they are able to reflect and suggest modifications to improve the modelling and prototyping processes.

QUALITY OF WRITTEN COMMUNICATION

Most Centres applied this mark fairly and accurately. Candidates should be encouraged to use appropriate specialist terms throughout their folder.

A532 – Sustainable Design

1 General Comments

This paper proved to be accessible to all candidates and a good range of responses were seen to all of the questions.

The vast majority of candidates attempted to answer all of the questions and there was no evidence to suggest that they did not have sufficient time to complete the paper.

They demonstrated a good understanding of the terminologies involved but were often let down by poor examination techniques, by misunderstanding or misinterpreting the question. Many of the answers showed a lack of maturity, a lack of specific knowledge, and a lack of KS4 exam technique. Occasionally candidates' answers were merely taken from the question itself and where two reasons or an explanation were required the same point was made twice with slight word variations. Candidates often gained only 1 mark from a 2 mark question because they failed to explain or reason their response.

Some candidates handwriting was very difficult to decipher: candidates should be prepared to make an effort with their writing in an examination situation.

A lot of candidates lost marks by not reading the question carefully enough: giving interesting and accurate information about sustainability issues, but not the answer to the set question.

The paper provided plenty of opportunities for all levels of candidate to access the questions and gain marks.

2 Comments on Individual Questions

Q1 - Well answered, majority of candidates correctly selected 'return it to working use.'

Q2 - Almost all candidates correctly answered 'moral issue.'

Q3 - Well answered, majority of candidates correctly selected 'using less materials.'

Q4 - Well answered, majority of candidates correctly selected 'can be recycled'. Where candidates answered incorrectly they usually ticked the opposite answer 'cannot be recycled.'

Q5 - Virtually all candidates correctly identified that 'eye protection must be worn.'

Q6 - A good proportion of candidates were able to state that the term redundant related to 'no longer of use' although many candidates incorrectly stated 'something that no longer works.'

Q7 - Very few candidates were able to correctly explain that a renewable material can be replaced within a short period of time, majority of answers stated that it was a material that could used 'over and over' or that it would 'never run out.'

Q8 - Almost all candidates were able to correctly explain disposal as 'to get rid of' or 'to throw away.'

Q9 - Very few candidates correctly identified the 'European Eco Label' there was a very wide and varied range of responses which showed that most candidates guessed the answer.

Q10 - The majority of candidates were able to identify a suitable renewable source such as 'solar or wind power', a few candidates simply stated wood or trees with no explanation.

Q11 - 15 A very large proportion of candidates were able to correctly identify the correct true and false answers with Q.14 and 15 being the most inaccurately answered.

Q16a - This part of the question required the identification of a property of pulp fibres (for example: low tech production, biodegradable, can be recycled, etc) and then a reason why this property makes pulp fibre environmentally friendly (lower CO2 emissions, rots naturally without harming the environment, can be recycled again, etc.) Many candidates scored only one of the two marks available for each of the three required examples as they failed to explain a reason. Candidates that scored well identified a property and then explained using 'because, therefore or so that' as a prompt to explaining their property.

Q16b - The second part of this question required answers relating to the suitability of the material (polystyrene) for an egg box. Answers relating to the shock absorbing qualities of polystyrene, the weight of the material, and the stiffness (maintains its shape) did score marks. References to the box, the lid or the compartments attracted no marks. References to recycling, disposal or re-use attracted no marks. This is a typical example of where candidates need to read the question very carefully to determine what is being asked. Again Candidates that scored well identified a suitability of the material and then explained using 'because, ‘therefore’ or ‘so that' as a prompt to explaining the suitability to the egg packaging.

Q16c - This part of this question was essentially about the excessive packaging and the use of two materials that may increase the cost and may make the package more difficult to recycle - a large proportion of candidates were able to identify this. Candidates also made creditable points about the hardness of the vacuum formed plastic and the poor shaping for the egg holding recesses which both may have meant less protection for the eggs. Like the first part of this question, these answers required explanations (a feature of the package for the first mark and then a reason why that feature may not appeal to customers). Again, the three answer lines and the bracketed 2 should have given the clue as to what was required. Candidates that scored well identified a problem with the packaging and then explained using 'because, therefore or so that' as a prompt to explaining the reason why customers may refuse the egg packaging.

16d - This question was either very well answered or candidates scored zero because they had not shown how their design would be suitable for the partially sighted. Large bold lettering, clear transparent lids and the use of Braille were common responses.

As this was the only answer on the whole paper requiring a graphic response, it was disappointing that there were so many poor sketches.

17ai - Surprisingly, a number of candidates gave the response 'cardboard' or 'thick card' even though 'card' was mentioned in the question. Candidates need to give more specific answers in questions of this nature.

17aii - The performance characteristics of the card used for the playhouse included lightweight, stiffness/strength for standing up, easy to cut, shape and join, and a surface that will take colour/print. Generally this was well answered, although some responses referred to cost and environmental advantages that were not performance characteristics.

17b - Very well answered, many candidates were able to obtain all three marks explaining that the sign meant 'flammable' and that it meant that the 'product could catch light/fire' and consumers would need to know this to 'prevent harm to the child.'

17c - The advantages of manufacturing locally were not generally well known and not well articulated in the responses. It was common for candidates to score only one of the available three marks and to sometimes not attempt to give a third advantage. There was much confusion in some of the responses with some answers relating to 'jobs for local people, use of local resources, less petrol used, able to return faulty products more easily/quickly', without any reference to an environmental advantage as asked for in the question. Candidates are advised to read the question carefully and determine the point being asked.

17d - The final part of this question that related to Health and Safety Issues was extremely well attempted with many responses attracting the full two marks for each of the three explanations. Most answers identified a particular hazard (e.g. getting something in the eyes when using a machine), and then went on to provide reference to the H&S requirement (e.g. wear goggles).

18ai,ii,iii - The three types of recycling were either all well known and explained, or very vaguely confused.

Candidates need to know these three terms and be able to explain and exemplify them.

Primary recycling is the second hand use or re-use of a product without any processing or changes, typically by giving the item to someone else, to a charity shop, or selling on the internet.

Secondary recycling is when a product is turned into another product, usually by cutting up and reforming, typically turning an estate agent sign into plant labels, or cutting up an old CD making it into a decoration (lampshade for example.)

Tertiary recycling is when a product is completely broken down into its original material and reformulated, chemically, for example when plastic bottles are broken down and re-spun into fibres for the manufacture of a textile for thermal jackets, or car tyres being broken down and reformulated into computer mouse mats.

As with previous questions, the provision of six lines and the bracketed 3 for each answer should encourage candidates to provide very comprehensive responses that refer to a number of linked points. Candidates that scored highly gave an explanation of the term then gave one or two well explained examples of the term.

18b - It was pleasing to see that almost all candidates attempted this question although very few achieved full marks. A number of the answers focussed on the same basic issue which was exemplified in two or three different ways, without argument or conclusion.

Higher scoring candidates clearly identified and explained distinctly different issues, used specialist terms and structured their answers well. A lot of the technical terms and environmental references that could have been woven into an answer for part (b) are scattered throughout the whole paper. Candidates need to be encouraged to write about three paragraphs for their answer; within each paragraph to identify one specific issue, and using specialist terms, accurate spelling, punctuation and grammar, to analyse and exemplify the issue as a balanced argument with some form of simple conclusion.

Candidates answers mainly focused on deforestation, bleaching of paper, transportation and disposing of paper.

A533 – Making Quality Products – Controlled Assessment

Overview

The Standard of work presented for moderation this session has generally been good, with the outcomes produced being suitable for the OCR D&T: Graphics Unit A533 Making Quality Products. This was the first assessment of this unit. Almost all candidates had chosen one of the Themes and starting points from the specification. In a few cases candidates has chosen a Theme but then adopted their own starting point. Candidates need to be advised that they must adopt one of the Themes and its respective starting point (see page 51 of the specification). Most centres used compliant graphic materials as outlined in the specification for D & T: Graphics, Unit A533. The compliant materials are detailed on page 16 of the specification.

Not all centres provided the minimum two photographs of the completed prototype product. Centres are requested to ensure they provide photographs that are of a sufficient size to provide full detail of the prototype product. Centres provided both hard copies of folders, folders scanned to disc and uploaded folders on the OCR Repository for moderation.

The outcome of this unit is a quality product, and most candidates were able to complete this task.

Centres were fairly successful in applying the marking criteria for this Unit. Centres are reminded to apply the mark scheme on a 'best fit' basis. For each of the assessment criteria, one of the descriptors provided in the marking grid, that most closely describes the quality of the work being marked, should be selected. Marks should be positive, rewarding achievement rather than penalising failure or omissions. When teachers select the most appropriate mark within the descriptor, they should use the following guidance:

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- Where the candidate's work adequately meets the statement, the most appropriate mark in the middle range should be awarded.
- Where the candidate's work just meets the statement, the lowest mark should be awarded.

Centres are reminded that the OCR GCSE D & T: Graphics mark scheme is based upon numerical values and not grades. Each value is related to a description of an activity undertaken by the candidate. Evidence to support the awarding of marks should be contained within the design folder, or clearly evident through the modelling and construction of the final prototype product. Centres are advised to take a more objective approach and mark the folder of evidence and not simply the candidate.

The use of CAD/CAM was evident throughout all the candidates work submitted for moderation. It is pleasing to see that candidates showed evidence of their understanding and ownership of design work generated and manufactured using this method. There was some evidence of prototype products manufactured using CAM suddenly 'appearing' with no supporting evidence within the candidates design folder. Screen shots provide evidence of the development of ideas using CAD/CAM and are evidence of modelling being undertaken by candidates.

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essential that candidates have the opportunity to show flair and creativity in the way they approach the various aspects of this unit.

Centres are reminded that there are a number of subject specific support systems in place to aid teachers in the delivery of this specification, ranging from written advice on coursework proposals to a full program of In-Service Training meetings.

Administration

Communication with Centres was satisfactory and all assessment material reached the moderators in plenty of time. All centres had provided individual Controlled Assessment Cover Sheets for each candidate. Centres are reminded that moderators will still need to receive the Centre Authentication form CSS160 with the MS1 which is sent to the moderator.

In all the centres that were moderated there was evidence that internal moderation and standardisation had taken place. Centres are reminded to allow sufficient time to carry out effective internal standardisation prior to the submission of marks.

There were few inaccuracies in Centre paperwork. The provision of annotated coursework mark sheets on individual candidates work was appreciated by moderators and aided the smooth running of the moderation process.

Centres are reminded that there is a full range of documentation, including downloadable forms and other subject specific support materials on OCR's website: www.ocr.org.uk.

Content

Most folders were of between 12-15 pages of A3 or equivalent. There was little use of writing frames though in some centres the format of each candidate's folder was very similar. Unit A533 is a controlled assessment which should be completed in 20 hours. It was apparent that most candidates had produced their folders within the allocated time. Guidance regarding editing, suitability of content and concise presentation is still required by some candidates. With such a tight time allowance it is essential that candidates are encouraged to edit their content and avoid duplication or irrelevant material.

Performance of Candidates

The more successful candidates showed evidence of having used the Controlled Assessment Mark Scheme for A533, as printed in the specification, to guide their content.

Centres are advised to plan the amount of time that they allow candidates to spend on each of the Designing, Making and Evaluation strands.

DESIGNING

Candidates should start this strand by stating and analysing their design brief. They then need to produce a suitable specification for their product. Candidates are advised to make clear links between their analysis of the design brief and the Design Specification.

The design specifications produced by candidates varied in content and detail. Some candidates produced simple lists that were vague and generic and which could well have applied to most prototype products. Other candidates provided unique detailed specifications that clearly applied to the prototype product they intended to make. A good design specification forms an essential checklist that will guide the candidate through this controlled assessment.

Most candidates used freehand sketching to illustrate their initial design ideas. Some candidates generated and developed detailed ideas which were fully explained with notes. Others provided simple sketches with little detail or explanation. Most candidates identified a chosen idea but few fully explained their choice of idea.

To illustrate their chosen prototype design most candidates produced an orthographic drawing and provided further detail of prototype, its construction and materials to be used. Many candidates used ICT to present their detailed drawings and surface graphics. At this stage some candidates clearly used ICT to produce a final design for their prototype using ICT but failed to include in their folders the developmental work that they had clearly undertaken using ICT. A series of screenshots of the work they had undertaken would have seen them gain greater credit.

Successful Candidates briefly analysed their design brief and drew conclusions from this work. This was then incorporated into a structured, detailed, bullet pointed design specification. They presented their design ideas using pencil sketches to generate a range of free-flowing ideas which were then fully explained with annotation and then explained fully, with reasons, their choice of prototype product. Candidates then produced a detailed scale drawing of the prototype product giving full details of possible materials, likely construction methods and processes, and of surface graphics. Candidates should communicate their designs using appropriate skills and techniques including ICT.

MAKING

Most candidates successfully produced a product. Overall, this was the most successful aspect of the work seen. Most candidates appeared to have worked skilfully and safely to produce prototype products of reasonable to high quality.

Few candidates, however, provided any real evidence of modelling in their folders. Clearly modelling must have taken place as products had developed from earlier designs. It is essential that candidates include evidence of modelling in their folders in order to gain credit. Modelling evidence might include cut and paste examples of models, photographic images, and screenshots showing how their design was modelled using ICT.

Surface graphics were successfully applied to most prototype products seen using both traditional rending methods and the extensive use of ICT.

Most candidates had chosen compliant materials for Graphics for their prototype products and had made sound choices of tools and equipment. Furthermore, all candidates had chosen and used facilities appropriate to Graphics.

Most candidates were able to show through their folder and the prototype product that they had effectively solved technical problems as they had arisen.

Almost all candidates had planned the making of their prototype product. Most candidates had then included a record of the key stages in making the prototype product using notes, sketches and photographic images. Many had highlighted difficulties and problems they had encountered and how they had overcome them.

Successful Candidates use modelling to identify problems and make appropriate modifications. They clearly assess the suitability of the prototype considering in detail the needs of the user and make appropriate choices of materials, tools and equipment. Successful candidates work skilfully and safely to produce a high quality prototype product suitable for the intended user which has surface graphics applied that demonstrate a high level of competency. Throughout their folder they assess and apply knowledge appropriate for Graphics and clearly demonstrate

their ability to solve problems effectively and efficiently as they arise, recording the key stages in the creation of the prototype product providing comprehensive notes and visual evidence.

EVALUATION

All candidates based their evaluation on their product and specification. Few candidates carried out detailed testing and were able to draw conclusions and propose modifications to the product. Most testing was superficial and moderators felt that centres may well have run short of time and this could have further contributed to very limited evaluations in many folders.

Successful Candidates produce a critical evaluation that evaluates the product against the specification. They undertake detailed testing and draw conclusions that lead to modifications that will improve the product.

QUALITY OF WRITTEN COMMUNICATION

Most Centres applied this mark fairly and accurately. Candidates should be encouraged to use appropriate specialist terms throughout their folder.

A534 – The technical aspects of designing and making

The paper performed as anticipated and almost all candidates attempted all questions. There was no evidence to suggest that candidates did not have sufficient time to complete the questions.

The range of responses provided good evidence of the understanding of the technical aspects of designing and making. It was clear that candidates had been well prepared for the examination.

Question 1(a)

A good range of responses were seen to this question with most candidates scoring at least one mark by adding some tone to the given drawing. A number of excellent responses were seen that scored maximum marks. A small number of candidates incorrectly added shadows and highlights to the drawing.

Question 1 (b)

Almost all candidates successfully named a colour for the paper. The majority of candidates were also able to correctly name a size of paper, such as A3, or give a specific size such as 297mm x 210mm. Very few candidates were able to give a weight for the paper, such as 80gsm. Common incorrect answers were light or heavy.

Question 1 (c)

A good range of responses were seen to this question with most candidates stating, in some form or another, that a thermo chromic ink would change colour in response to a change in temperature. Common incorrect answers were based upon light sensitive materials.

Question 1 (d)

The majority of candidates were able to name at least one finish that is listed in the specification. Varnishing and laminating were the most common correct answers.

Question 1 (e)

Many candidates scored one mark by stating that the paper would be recycled but failed to score the second mark by explaining how this would take place.

Question 2 (a)

Very few candidates were able to add the third angle projection symbol and in fact the majority failed to attempt this part of the question. The end view was generally completed to a good standard by adding a vertical and a diagonal line. The front view was also completed to a good standard. The marking scheme allowed both ‘hipped’ and ‘pitched’ roofs to score maximum marks.

Question 2 (b)

The majority of candidates correctly identified the scale as 1:100. Answers that correctly identified the scale with a dot, cross or other method were awarded the mark. Candidates should be discouraged from identifying two answers as this scores zero marks, even if one of them is correct. Candidate answers with 'corrections' are only credited if the correct answer is clearly identified.

Question 2 (c)

Candidates had a good understanding of why a model would be built. The most common correct answers were to do with 'visualising' or seeing what the house would look like before it is built.

Question 2 (d)

Many candidates correctly indicated that the solvent would melt the polystyrene. A small number of candidates gave incorrect answers linked to solvent abuse.

Question 2 (e)

Good responses were seen to this question. The most common correct answers were to do with checking how well the adhesive would work or whether it would be suitable.

Question 2 (f)

Many candidates demonstrated a reasonably good understanding of foam board by using sketches and notes to show that it could be partly cut and then the remaining piece of card used as a hinge. Very few candidates scored the second mark by showing how a 'V' slot could be cut out of the foam board.

Question 3 (a)

Most candidates correctly identified one shape as a rectangle or an oblong although a few incorrectly stated a square. Rather surprisingly, the majority of candidates correctly named the second shape as an equilateral triangle rather than just a triangle.

Question 3 (b)

A number of candidates incorrectly produced answers that described a quality of the text, such as clear or easy to read, rather than a 'decision' when selecting a text such as type, colour, size or style.

Question 3 (c)

The majority of candidates were able to name a property of corriflute. The most common correct answers were lightweight or waterproof.

Question 3 (d)

Many candidates correctly identified a method of printing onto the corriflute signs as digital printing or screen printing. Common incorrect answers were to do with applying self adhesive vinyl. Whilst this is a perfectly acceptable method of adding surface graphics to the sign it was considered an incorrect answer as it is not a printing method.

Question 3 (e)

The majority of candidates clearly had a good understanding of the term copyright, in terms of it protecting an image, but were less clear about how this would benefit the estate agency or the customer. A small number of excellent answers were seen that clearly outlined the benefits. The quality of written communication was variable.

Question 4 (a)

Many candidates correctly identified two functions of the brochure for the estate agency. The most common correct answers were to do with giving information and to help sell houses. Common incorrect answers were to list the information, such as telephone numbers or fax numbers, rather than state a function.

Question 4 (b)

A significant number of candidates correctly named a data presentation method from the specification, such as graph, pie chart, bar chart, pictograph or histogram. Common incorrect answers were drawings, charts and diagrams.

Question 4 (c)

A very good range of sketches and notes were seen in response to this question. The majority of candidates were able to show how the brochure would be folded and a suitable shape for the mechanism or house. Candidates were less successful at showing how the mechanism would be attached to the brochure and use notes and sketches to clearly show a fully functioning solution. Solutions that used no additional material, because they correctly cut the brochure so that a house shape would 'pop out' were allowed to score maximum marks.

Question 4 (d)

The majority of the candidates correctly identified the first piece of information as a website address and were able to give a reason, usually to do with contacting or finding out information, for including it on the brochure.

Very few candidates were able to identify the Mobius loop and to state that it was included to show the amount of recycled material included in the material used to make the brochure or that it would show that the company was environmentally friendly. Common incorrect answers were to state that the symbol was a recycling symbol and it showed the material could be recycled.

Question 5

A good range of design solutions were seen to this question. Almost all candidates produced one idea, as instructed by the question. The quality of the sketches and notes was variable. In order to score the marks each of the specification points had to be addressed. Most candidates managed to show a hexagonal shape although a small number based their designs upon a pentagon. In some cases the five parts did not lock together and would simply fall apart. The letters of the word SMITH' were usually added but not always in a form that could be read (letters in the incorrect order or orientation) when the puzzle was assembled. The most common method of attaching the puzzle to the fridge was a magnet.

Question 5 (b)

The majority of candidates were able to give some indication of what is meant by quality of design although the examples they used were not always explained particularly well. For example, a quality design has the correct sizes or will work well, does not really explain what is meant by quality of design.

Candidates were more successful in describing quality of manufacture as they focussed on the making aspect and clearly indicated that there might be blemishes in the finish or the parts would not fit together well if the quality of manufacture were poor.

The differences between quality of design and quality of manufacture were often inferred rather than concisely stated. Nevertheless, a number of excellent answers were seen and the quality of written communication was usually of at least a reasonable standard.

Conclusions

There was only a small entry for this examination and the cohort may not have represented the full ability range. Nevertheless, the responses were pleasing and demonstrated that many candidates have a very good understanding of the technical aspects of designing and making.

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